# 1998 Calendar

## January
1. New Year's Day
5. Swinburne reopens
6. H.Ed. re-enrolment period ends
26. Australia Day
27. H.Ed. and TAFE enrolment period begins for Round 1 offers through VTAC

Access, Community and Language Programs commence

## February
2. Diploma of Community Services (Child Care) 2nd, 3rd & 4th year part-time course commences
9. Diploma of Community Services (Child Care) 2nd year full-time course commences
10. All other TAFE courses commence
13. H.Ed. and TAFE enrolment period begins for Round 2 offers through VTAC

## March
2. H.Ed classes commence
9. Labour Day
31. H.Ed. classes end for Easter break

## April
8. H.Ed. classes end for Easter break
9. TAFE classes end for Easter break
10. Good Friday
13. Easter Monday
15. H.Ed. classes resume after Easter break
20. TAFE classes resume after Easter break
25. Anzac Day

## May
30. H.Ed. last day for application for awards for students completing courses in semester 1, 1998

## June
8. Queen's Birthday
12. H.Ed. semester 1 exam period begins
15. TAFE semester 1 exam period begins
26. TAFE semester 1 exam period ends
30. H.Ed semester 1 exam period ends

TAFE last day for applications for awards for students completing courses in semester 1, 1998

## July
3. H.Ed. semester 1 ends
13. TAFE semester 2 classes commence
20. H.Ed. semester 2 classes commence

## August
2. OPEN DAY
31. H.Ed. Census date for HECS (semester 2)
H.Ed. last day for withdrawal of a second semester subject, unit or course without penalty of failure
TAFE last day for subject variations to enrolments for semester 2 without penalty
H.Ed. and TAFE last day for applications for refund of second semester's General Service Fee

## September
16. TAFE classes end for mid-semester break
25. H.Ed. classes end for mid-semester break

## October
5. H.Ed. and TAFE classes resume after mid-semester break
30. H.Ed. last day for applications for awards for students completing courses in semester 2, 1998

H.Ed. semester 2 exam period begins

## November
3. Melbourne Cup Day
17. H.Ed. semester 2 exam period ends
23. TAFE semester 2 exam period begins
30. TAFE last day for application for awards for students completing courses in semester 2, 1998

## December
4. TAFE semester 2 exam period ends
24. Swinburne closes for Christmas break

H.Ed.: Swinburne Higher Education Sector
TAFE: Swinburne TAFE Division

* Students should be aware that some Schools have an earlier deadline for addition of new subjects. Students should consult their School or Divisional office.
The Higher Education Handbook is published each year. Students should carefully read all official correspondence, the student newspaper 'The Swine', and University noticeboards to be aware of changes to this information.

Caution
While Swinburne University of Technology has used all reasonable care and skill in collating or presenting the information, the University cannot guarantee or take responsibility for the accuracy of the information provided. The information contained in this Handbook is as correct as possible at the date of publication, being October 1997.

The Freedom of Information Act 1982 ("the Act"), which came into force on 5 July 1983, applies to Swinburne University of Technology. The purpose of the Act is to extend the right of access to information to persons requesting a document held by an agency. Applicants are required to lodge their request in writing to the Freedom of Information Officer. It is the policy of the University to conform with the spirit and intent of the Act with regard to disclosure.

Swinburne University of Technology is committed to providing a learning and working environment that is based on equality of opportunity for all.

There has been a total ban on smoking in all University buildings and vehicles since 1 January 1991.

How to use this Handbook
The Swinburne Handbooks, TAFE and Higher Education, are complete references for prospective and current students to the University's academic programs and structures.

This Handbook is ordered into four main areas: general Swinburne information; undergraduate course information; postgraduate course information and subject details.

To locate a specific course, consult the main contents page, opposite, and identify the course title and page reference you require. An alphabetical index exists at the back of the handbook for quick reference. All subject details for all courses are contained in the final chapter in alphanumeric order.

General Information
All general information about Swinburne services, facilities and administration is listed in the first chapter.

Course descriptions
Courses are listed in alphabetical order within subject area. Each course description outlines a course structure which includes a list of required subjects.

Subject details
All subjects or modules may be found in the final chapter of the Handbook. All subjects are allocated a code and are listed in this order. The code is made up of letters and/or numbers. Alternatively, if the subject title is known, consult the Subject Index at the end of the Subject Details section.

Alphabetical indexes
A General and Subject Index are located at the back of the Handbook for quick reference.

Policies and Procedures
A separate publication, Policies and Procedures, contains official policies, procedures and regulations relating to students. It is freely available from administration offices.
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Coat of Arms

The coat of arms, conferred on Swinburne by the College of Arms on 25 June 1969, is based on the coat of arms of the Swinburne family.

At a period during the 12th-13th centuries, when the northern counties of England were ruled by the Scots, a knight of France came to the aid of Queen Margaret of Scotland. She rewarded him with a grant of land in what is now Northumberland, on the banks of the Swinburn, a small river that flows into the North Tyne, where he built a castle. He became known as William Swinburn(e) and soon the county reverted to the crown of England.

The Swinburne family coat of arms in medieval times was silver with three boars' heads in triangular formation. In the 17th century, during the wars between the Stuart Kings and the Parliament of England, the Swinburnes fought for the royallists. After the restoration of Charles II in 1660, the head of the family was created a baronet for his services. The crest became a baronet's coronet, with the boar's head rising from it and the coat of arms, divided horizontally red and silver, was charged three cinquefoils counter-charged.

Swinburne holds a unique place among educational institutions in Australia in the link that persists between it and the founder and his family. The conferring of a modification of the family's coat of arms preserves and strengthens that link.

The arms: the basic colours of red and white, and the cinquefoils charged on the shield, commemorate the arms of the Swinburne family. The omission of the third cinquefoil which appears in the family coat and the addition of the Baruteau and the Mullett's (Stars) are what are known heraldically as 'differences', which may often serve to indicate an association with another armigerous body or family. The four Mulletts in Cross symbolise the Southern Cross.

The crest: the demi-Boar and the cinquefoil perpetuate the Swinburne connection; the book is symbolic of learning.

The motto: the College of Arms' translation of the motto is: Achievement through learning

A proud history

The 1982 proclamation by the Parliament of Victoria of the Swinburne University of Technology Act marked not only recognition of its distinguished history, but the beginning of a new period of growth and innovation for Swinburne. From its establishment in 1965 in Melbourne's eastern suburb of Hawthorn, Swinburne has grown from being a local provider of technical education into a multidisciplinary, multicampus provider of higher education of national and international significance.

Swinburne was established as the Eastern Suburbs Technical College by George Swinburne and the first students were enrolled in 1909, when classes began in carpentry, plumbing and blacksmithing. Soon afterwards, a boys' junior technical school and the first girls' technical school in Victoria, were established.

In 1913 the Institution changed its name to Swinburne Technical College, to commemorate the Honourable George Swinburne, a former Mayor of Hawthorn and a member of the Parliament of Victoria who was responsible for the initial establishment of the college.

In 1985 Swinburne affiliated with the Victoria Institute of Colleges, which was established in that year by an Act of the Parliament of Victoria, to foster the development and improvement of tertiary education in technical, agricultural, commercial and other fields of learning (including the liberal arts and the humanities) in institutions other than in the universities of Victoria.

The range of courses and the various levels at which they were offered grew to such an extent that in 1969, the boys' and girls' technical schools were taken over by the Victorian Education Department while the college remained as an autonomous institution.

An extensive reorganisation of advanced education took place in Victoria in the period 1976-78 culminating in the passing of the Victorian Post-Secondary Education Act. Under the Act the Victoria Institute of Colleges was dissolved and the Victorian Post-Secondary Education Commission established. Under the new arrangements, Swinburne Council was given power to grant bachelor degrees. The first of these was awarded at a conferring ceremony held on Thursday 21 May 1981 at the Camberwell Civic Centre.

Swinburne University of Technology was proclaimed on 1 July 1982. Noted Australian businessman Mr Richard Pratt AO was installed as Swinburne's Foundation Chancellor on 15 March 1982.

Swinburne today

Swinburne has a strong reputation in Australia and overseas as a provider of career oriented education and as a University with a commitment to research. The University maintains a strong technology base and important links with industry, complemented by a number of innovative specialist research centres which attract a great deal of international interest.

A feature of many Swinburne undergraduate courses is the applied vocational emphasis and direct industry application through Industry Based Learning (IBL) programs. Swinburne was a pioneer of IBL, a program which places students directly in industry for vocational employment as an integral part of the course structure. Swinburne is now one of a few Australian universities whose responsibilities span the range of programs from apprenticeships to PhDs. In keeping with this breadth of involvement, the University continues to play a leading role in creating new approaches to integration between sectors.

The creation of study pathways between sectors and courses is firmly in place at Swinburne. Current pathways involve moving either from the TAFE sector into Higher Education or from TAFE based VCE studies into full TAFE courses. A limited number of pathways are available for students to move from degree courses into TAFE studies, and this will increase in the future. This process of articulation provides students with greater flexibility to complete tertiary qualifications.

Teaching and learning enhancement is a strategic priority for the University, and Swinburne is committed to the transfer of lifelong learning skills.

Swinburne was founded to provide expanded and more convenient educational opportunities to the residents in the 'outer east' of Melbourne. Due to expansion of the city during the intervening years between establishment and transition to university status, Swinburne's operations are now conducted at three campuses: Hawthorn, Lilydale, and Prahran. While focusing on its regional responsibilities, Swinburne is heavily involved in international initiatives and plays a significant part in the internationalisation of Australia's tertiary education system.
Mission statement
Swinburne University of Technology’s mission is to be a leading, intersectoral university offering high quality education, training, research and consultancy focused on the needs of industry, business, government and the local, national and international communities.

University Assembly
The University Assembly provides a regular open forum for the discussion of issues and ideas of significant interest to the University community.

The University statute formally establishing the University Assembly sets out its membership and terms of reference. Its membership includes all staff and students of the University.

Meetings of the University Assembly are normally held twice a year. Notice of each meeting and an invitation to submit items for discussion are conveyed to the University community at least one month before the meeting. Details are usually published in the The Swine, the newspaper published by the Swinburne Student Union.

Teaching Sectors
Swinburne has two teaching sectors under the control of one Council, Higher Education and Technical and Further Education (TAFE).

Higher Education
The Higher Education Sector offers professional qualifications ranging from degrees of Bachelor to graduate qualifications (certificates, diplomas and degrees of Master and PhD).

The Higher Education Sector comprises two divisions: the Higher Education Division (Hawthorn/Prahran) and Swinburne at Lilydale Division.

A total of 11,007 students were enrolled in the Higher Education Sector in 1997, made up of 6,550 full-time students and 4,457 part-time students.

Technical and Further Education (TAFE)
The TAFE Sector offers courses at professional and para-professional level covering diploma, certificate, apprenticeship, VCE and access programs. A number of specialist courses are also provided for industry and the community.

The TAFE Sector comprises three schools: the School of Commerce and Industry, the School of Science, Engineering and Computing and the School of Social Sciences and Arts.

A total of 13,000 students were enrolled into TAFE courses in 1996, made up of 3,000 full-time and 10,000 part-time students.
Location map of Swinburne campuses
Hawthorn Campus

General enquiries: (03) 9214 8000

Hawthorn, Swinburne’s original campus, is home to the central administration, and the bulk of its undergraduate and postgraduate programs. It is also the site of many of Swinburne’s research and training centres.

The Hawthorn campus offers a wide variety of short courses through the Centre for Business Development and Training, and also through the various schools, departments and centres of the Higher Education and TAFE Divisions.

The campus has expanded from its original single building of 1908 to cover a sizeable area from Burwood Road to Park Street in the north, and across to Henry Street in the east. It has four impressive new TAFE buildings with excellent student computer laboratories, practical science laboratories and major engineering technological facilities.

Both TAFE and Higher Education students enjoy the extensive four-storey library, the bookshop, cafes, sports centre, Student Union and other services. A student residence and carpark includes an 86-bedroom residential college, 38 two and three bedroom apartments and parking for 680 cars.

The Hawthorn Campus is located seven kilometres east of the city, and is easily accessible by train and tram. The campus is situated in the heart of Hawthorn and is close to restaurants, cafes and shops.
Prahran Campus

General enquiries: (03) 9214 6700

Prahran campus (formerly Prahran College of TAFE) joined Swinburne University of Technology in 1992. It offers TAFE courses in business, social sciences and arts and houses the Higher Education Division's School of Design.

The School of Business and Information Systems and the School of Social Science and Arts offer diploma and certificate courses via full-time or part-time enrolment. The School of Design offers a range of graphic, industrial and interior/exhibition design courses up to postgraduate level.

A large number of fee-for-service short courses are also offered in the areas of entertainment, arts, language, fitness, business, computing and information technology. External study options are also available through the Off-Campus Centre.

The campus is ideally situated in cosmopolitan Prahran close to the market, shops and cafes. It is small and friendly with a mixture of modern and historic buildings. Major redevelopments have been undertaken on the campus, including a refurbished School of Design building, a new Performing Arts complex and a new building housing social sciences, library, student facilities and cafeteria. Only five kilometres south of Melbourne, Prahran campus is easily accessible by train, tram and bus.
Swinburne at Lilydale

General enquiries: (03) 9215 7000

The Lilydale campus is located on 24 hectares on a hillside overlooking Lilydale Lake and within three quarters of a kilometre from Lilydale railway station. The campus has been established to provide for the higher education needs of Melbourne's outer east into the 21st century. A modern campus with approaches to teaching and learning well ahead of its time, the campus has been specially designed as a hub of the learning community. The campus is close to train and bus routes and for those who choose to drive, ample parking is available.

The campus offers undergraduate degree programs in the areas of business, social science, applied science, and tourism and enterprise management. The Bachelor of Business offers majors in Accounting and Marketing, the Bachelor of Applied Science offers a major in Computing and the Bachelor of Social Science offers majors in Psychology, Sociology or Media Studies. Students are able, within the constraints of timetabling, to take both a major and a co-major, across degree programs if so desired.

The campus is an integral part of the University as a whole and as such students have access to the full range of resources of the multi-campus university, while enjoying a high degree of amenity and facility on the Lilydale site. The campus is fully equipped with library facilities, student cafes, microcomputer laboratories, student services, student lounge and bookshop. Emphasis is placed on the use of appropriate technologies as tools and means for teaching and learning.

[Map of Swinburne at Lilydale]
University Council

Membership as at May 1997

**Chancellor**

R. Pratt, AO

**Appointed by the Governor-in-Council**

W.G. Elms, FCA, AFAIM
N.J. Maughan, MLA
S.M. Nguyen, MLC
R. Varty, MLC
K.N. Watson, AM, BA, BEd(Melb)
S. Lipski, AM, BA(Melb)

One vacancy

**Appointed by the Minister for Tertiary Education and Training**

D.J. Allen, BCom, BE(Adel), MA, EdD(UCB)

**Appointed by the University Council**

J. Austin, BA, DipEd(Shef)
T.W. Brown, FCA (Deputy Chancellor)
P. Eng, MB, BS(N.S.W.)
J. King, BA(Murd)

One vacancy

**Member ex officio**

Professor J.G. Wallace, MA, MEd(Glas), PhD(Brist), FASSA (Vice-Chancellor)

**Chair of the Academic Board**

Associate Professor J.H. Randle, BEd(Melb), MSc(Hons), ARACI, MRSC, MACA

**Chair of the Board of Technical Studies**

D. Bennett, BA, MEd(Melb), MACE

**Elected by Higher Education Academic Staff**

P.J. Roberts, BE(Hons), MIEAust, CPEng

**Elected by TAFE Academic Staff**

J. Cashion, DipEd, MEd(Adel), GradDipEdAdmin

**Elected by General Staff**

V.C. Deeker, CMA(Hons), GradDipEdAdmin

**Elected by Higher Education Students**

S. Murray

**Elected by TAFE students**

D.C. Lila

**Council Secretariat**

Secretary

F.G. Bannock, BCom(Melb), FCPA, ACIS, ACIM, ACA

Executive Officer

A.J. Miles, BSc(Melb), BEd(Mon)

Registrar

A.R. Gragg, BA(Hons), BEd(Tas)

Professor Emeritus

J.H. Perry, BSc(Tech)(NSW), PhD(Ston)

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**Chancellor**

R. Pratt, AO

**Vice-Chancellor**

Professor J.G. Wallace, MA, MEd(Glas), PhD(Brist), FASSA

**Deputy Vice-Chancellor**

P.B. Bannan, BCom(Melb), FCPA, ACIS, ACIM, LCA

**Deputy Vice-Chancellor (Higher Education Division)**

Professor I. Goulart, BE(Hons), MSc(Hons), FIEAust, FTSE

**Deputy Vice-Chancellor (Swinburne at Lilydale Division)**

Professor B. van Ernst, AM, BA, BEd(Melb), TPTC, MACE

**Deputy Vice-Chancellor (TAFE Division)**

V. Simmons, BA, DipEd, GradDipEdAdmin

**Pro Vice-Chancellor (Academic), Industry and Business Liaison**

Professor M. Gillen, AM, Dr.Ped(Hons), BMedSci, MEngSc, PhD(Melb), ASMSB(Flat), FTSE, FIEAust, FIPENZ, FAIA, FACE, FWACE

**Pro Vice-Chancellor, Research**

Professor K.C. Pratt, BE(Chem), PhD(Melb), FICE, FIEAust, FTS

**Manager, Planning & Information Systems**

R.D. Sharma, BSc(Tas), DipEd(Tas), GradDipOptRes(RMIT), MEdAdm(NewEng), PhD

**Executive Officer to the Vice-Chancellor**

S.P. Jervis, BA(Adel)

**Executive Officer to the Deputy Vice-Chancellor**

S. Murby, BSc(Hons)(LaT), GradDipEd(Adel), FRSA

**Corporate Services**

**Registrar's Department**

Registrar

A.R. Grigg, BA(Hons), BEd(Tas)

**Finance Department**

Director

J.F. Read, DipComm(FIT), AASA, CPA

Systems Accountant

J.F. Reymen, BSc(Melb), DipEd(Melb)

Accounting Manager

P. Hotchin, BA(Deakin), GradDipBusAdmin(SIT), AASA, CPA

**Facilities and Services Group**

Director

M. Orsborn, BE(Hons), MEd, MEngSci(Melb), FIEAust, CPEng

Manager Maintenance (Hawthorn/Lilydale)

D. Baker

Manager, Property and Services

D. Sharp

Staff Architect

S. Bartlett, BArch(Melb), RIBA, ARRAIA
Equity Unit
Manager (Acting)
E. Shave, BEd(Rusden), GradDipEdAdmin(SIT)

Human Resources Department
Director
S.J. Beall

Deputy Manager
A. McFarland, BAILaT, GradDipBusHRM(VicColI)

Safety Coordinator
A. Skotnicki, BAppScFIT, GradDipInd Hygiene(Deakin)

Security Department
Chief Security Officer
N. Burge

Student and Residential Services
Director
Z. Burgess, BA(Mon), GradDipEdPsych(Men), MEd(LaT), MAPs, VAFT, AIM

International Office
Dean
I.A. McCormick, BComm(Melb), MA(Human Resources)

Director, International Student Unit
C. Chu, BA(Mon), GradDipBusAdmin(UT)

Manager, Offshore Education
P. Di Virgilio, BBus(CIT), MBA(Charlton)

Graduate Research School
Pro Vice-Chancellor
Professor K.C. Pratt, BE(Chem), PhD(Perth), FIEAus, FTSE

General Manager
J. Baird, BA(Hons), BCom(Bus), MBA(RMIT)

External Affairs
Executive Director
S. Davies, BA(Hons), DipMktCIM, CPM

Director, Alumni and Development
Associate Professor B.C. McDonald, BCom, DipEd(Melb), FCPA

Manager, Swinburne Press
L. Scheuch-Evans, BS in Foreign Service(G'town)

Information Services
Pro Vice-Chancellor
H. Gunn, GradDip(Perth), MBA(Deakin), MSc, PhD(Otago)

Information Technology Services
Director
A. Young, BE(Eng), MEng, MIRE

Computer and Network Services
Manager
J. McDaniel, BSc, MBA(Mon), PhD(LaT)

Applications Management Services
Manager
H.J. Uffindell, GradDipEdAdmin(Haw)

Library and Information Services
Director
F. Hegarty, BA(UNewEng), DipLib(GIT), BEd(LaT), AAILA

Multimedia and Training
Manager
Bee Denkin, DipArts(STIT), GradDipEd(Haw)

Office for Quality and Educational Development
Head
R. Carmichael, BA(Mon), BEd(LaT), TSTC(MonTC)

Higher Education Division (Hawthorn/Prahran)

Deputy Vice-Chancellor
Professor I. Goulter, BE(Hons), MS(III), PhD(III), FIEAust, RPEQ

Head, School of Biophysical Sciences and Electrical Engineering
Associate Professor O. Murphy, BE(Mon), MSc(Lond), DPhil(Oxon), FIEAust, CPEng

Head, School of Business
B. Cargill, BA(Melb), MA(Human Resources), MEd(Melb), MAHR

Head, School of Design
Professor H. Lveskien, GradDip(Industrial Design)RMIT, DipEd(haw), MDIA, AADM

Head, School of Engineering and Science
I.K. Jones, BAgSc, DipEd, PhD(Melb), FRACI

Head, School of Information Technology
Associate Professor D.O. Grant, MSc(Melb), PhD(Reading)

Head, School of Mathematical Sciences
P.L. Jones, DipEd(Mon), BSc(Melb), PhD(Mon)

Head, School of Social and Behavioural Sciences
Associate Professor K.J. Heiskan, BA(Hons), MA(Dublin), PhD(Dublin), DPsych, AFPH, MA(Human Resources)

Head, Swinburne Graduate School of Management
Professor J.O. Millar, AO, BA, BCom(Melb), PhD(Mon), FCA, FAICD

Swinburne at Lilydale Division

Deputy Vice-Chancellor
Professor B. van Ernst, AM, BA(Mon), PhD(LaT), MACE

Course Directors
Bachelor of Business
R. Smith, BA(Hons), DipEd, DipComEd(UIT), GradDipBIT(SIT), MCom(NSW)

Bachelor of Social Science
A. Seitz, DipRetailBusAdmin(Munich), BA(Hons), MBA(Mon)

Bachelor of Applied Science
B. Calway, GradDip(Mgmt)SSTI, BBus(ITT), MACS

Bachelor of Tourism and Enterprise Management
J. Kelly, BEd(Lerwick), GradDip(AsianStudies)(ArmadaleCAE), GradDipTourism(JCU), MA(Bus), MAT, MACSH

TAFE Division

Divisional Deputy Vice-Chancellor Designate
V. Simmons, BA, DipEd, GradDipEdAdmin

Acting Director
D. Bennett, BA, DipEd, BEd, MEd(Melb), MACE

Deputy Director (Operations)
P. Lohurt, BSc(Bio)(LaT)

Assistant Director (Planning and Educational Services)(Acting)
G. Wickes, AssDipPA(RMIT), GradCertEntMan(STIT)

Assistant Director (Resources)
R. Cruse, BBus, GradDip, BIT, AAIM, MAAKS

Senior Executive Officer
J. Johnston, BSc(Ed)(Melb)

Head, Centre for Business Development and Training
M. Knopp, BusAdminDipl, BComm(UF A)

Head, School of Commerce and Industry
R. Con, BBus(ITT), DipEd(Mon), CPA

Head, School of Science, Engineering and Computing
R. Falla, BSc(Mon), DipEd(Mon), Comp Aust

Head, School of Social Sciences and Arts
J. Blaisland, BA(Hons), GradDipChDev, GradDipEd, MA, MEd

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Governance Structure

Council

Statutory Boards of the University

- Academic Board
  - Higher Degrees Committee
  - Degree and Diploma Review Committee
  - Finance & Resources Committee
  - Academic Policy & Planning Committee

- Divisional Advisory Boards:
  - TAFE
  - Higher Education (Hawthorn/Prahran)
  - Swinburne at Lilydale

- Board of Technical Studies

School Boards

- Academic Development Committee

Committees of Council

- Joint Planning and Resources (JPRC)
  - Finance
  - Staffing
  - Campus Planning & Building
  - Legislation
  - Executive
  - Search
  - Honorary Degrees
  - Professor Emeritus
  - Remuneration
  - Ethics Committees
The aims of the Alumni Association are as follows:

The Alumni Association enables you to stay in touch with friends made at Swinburne.

Tuition may be short-term to overcome a specific difficulty or arranged on a weekly basis over a longer period of time.

This service is available from the houses located at TD345 in Hawthorn and room PK312 at Prahran. Understanding staff are available to discuss people's problems in English and/or mathematics and follow up with appropriate tuition.

The Alumni Association

Who are the Alumni?

Former students, former and current staff, and friends of the University.

What is the Alumni Association?

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- to provide forums for alumni to network with their peers;
- to encourage alumni to become involved in policy making within the University;
- to raise funds to support current educational programs, thus enhancing the University's status and maintaining the continuing value of Swinburne qualifications.

On payment of a fee, alumni can use the library, sports association, tool library and bookshop.

For further information contact: Narelle Chenery, Telephone: (03) 9214 8705

For information about chapter groups, consult divisional entries.

Access Education Services

Access Education is part of the Department of Access, Community and Language Programs. Several services and programs are available.

Compensatory Education

Teacher in charge

R. Thomas, (03) 9214 8816

Secretary

H. Heathcock, (03) 9214 8834

Individual assistance in English and mathematics is available to students enrolled in courses at Swinburne. The need for tuition may be related to a student's problems with a mathematics and/or English subject. Alternatively, difficulties in English or mathematics may affect a student's progress in a range of subjects of their particular course of study. Particular attention is given to the provision of English tuition to students from non-English speaking backgrounds, including international students.

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Community Access Programs

Telephone: (03) 9214 8834

Staff are also responsible for providing access to any members of the community who wish to improve their English and/or mathematics skills.

Consequently, a variety of courses in mathematics and English are available at a range of different skill levels from one-to-one tuition to small group classes. Two return-to-study programs cater for those who wish to enter either a science or humanities course. In addition, courses are provided with appropriate mathematics and English content to cater for students interested in sitting an entrance examination in nursing, the police force, ambulance service or the fire brigade.

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Bookshops

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For information about chapter groups, consult divisional entries.

Bookshops

(Staff Bookshop Co-operative Limited)

Manager

R. Williams, (03) 9214 8225

General enquiries

(03) 9214 8428/8225

Location

Hawthorn

The bookshop is located on the second level of the Bookshop/Cafeteria building (Student Union building).

Prahran

The bookshop is located on the ground floor of the Union Building (U Building), 160 High St, Prahran.

Lilydale

The bookshop is located in the LA Building next to the library and cafeteria.

Normal trading hours

Hawthorn

Monday-Thursday 9.30am-7.30pm

Friday 9.30am-5.00pm

Prahran

Monday-Thursday 9.00am-6.00pm

Friday 9.30am-5.00pm

Lilydale

Monday-Friday 9.00am-4.00pm

During semester breaks and other times please check the Bookshop noticeboard.

History

The co-operative began trading in February 1978. Its objective being to provide an efficient and convenient service to the Swinburne community.

The Bookshop was set up as a co-operative structure to raise working capital via the sale of shares and also to ensure that the control of the operation remained with the members who use the co-operative. The co-operative's profits remain with the organisation to ensure its continued growth and viability. No external beneficiaries exist.

Membership

For the co-operative to continue to operate successfully it must have members.

Members who buy shares and patronise the bookshop are in turn ensuring the Bookshop has an inflow of share capital for growth and ensures its viability.

In return the co-operative provides a convenient and efficient service on campus.

Members are also entitled to attend and vote at all Annual General Meetings and are also eligible to be elected as a board member of the co-operative as per the society's rules.

To become a member of the co-operative you simply fill in a share application form and pay $5.00 for 5 x $1.00 shares. You will then be issued with a membership card which should be presented when making a purchase at the co-operative to receive your discount.

How to make the best use of the services offered by your bookshop

Familiarise yourself with the many services offered by your bookshop. Here is a convenient list for your information.

We sell:

- Text and references, novels, secondhand books and general interest books
- Full range of stationery supplies
- Full range of office supplies
- Gifts, cards, wrapping paper and novelties
- Audio and video cassettes
- Film and film processing
- Art and craft supplies
- Calculators, electronic diaries
- Binding service for presentation of assignments etc.

You are also able to sell your used and unwanted books through the bookshop.

We suggest that if you are intending to purchase a required text or reference, you do so at the beginning of each semester. If you cannot afford to purchase it immediately, have it put aside. This will help to alert us to any possible shortages early in the semester. If you find the book is unavailable ask the staff when it will arrive and place a top-up order.

We also recommend that if you cannot afford to purchase a required text or reference, you do so at the beginning of each semester. If you cannot afford to purchase it immediately, have it put aside. This will help to alert us to any possible shortages early in the semester. If you find the book is unavailable ask the staff when it will arrive and place a top-up order.
Centre for Business Development and Training

Established in 1986, the Centre for Business Development and Training is Swinburne's premier business and industry training centre. The mission of the Centre is to offer the very best in professional development opportunities in order to assist individuals and the organisations they represent to be more effective, efficient and productive. When you invest in one or more of our courses, you can expect:

- relevant and practical training that you can apply immediately to your unique situation;
- stimulating learning sessions taught by highly qualified faculty and industry practitioners who are very effective communicators;
- classes that use the very latest in computer technology, curriculum materials and teaching methodology;
- comfortable and engaging learning environments with small class sizes to ensure close interaction among learners and participants;
- classes held at convenient times in order to accommodate the needs of those employed full time; and
- access to the combined resources of Australia's finest multi-sectorial university.

Some of the many services and programs offered by the Centre each year include:

- management skill development seminars, short courses and workshops;
- Microsoft and other computer applications software courses;
- Certified Novell Administrator (CNA) computer network training;
- Certified Novell Engineer (CNE) computer network training;
- Microsoft NT computer network training; and
- fully accredited Workplace Training and Workplace Assessor Training

Please contact us on (03) 9214 8164 to find out more on how we can be of assistance to you and your organisation.

Careers and Employment Unit

The Unit offers a range of services to assist with choice of a career, assessing interests and abilities, investigating course and employment options, improving job hunting skills, and establishing contact with potential employers.

Services include:

- careers advice
- assistance with cover letter and résumé writing
- employment interview preparation
- careers/employment information and resources
- professional links program
- vocational assessment
- campus interview program
- job register for graduates
- employment opportunities and information
- job boards and application forms
- vacation employment

Careers Library including:

- handbooks for universities and TAFES
- books on job hunting techniques, career planning, selection and trends
- employer profiles and opportunities
- handouts on preparing a resume, cover letter or interview
- videos on job hunting, employer details and careers
- computer programs - Ozjac, Scan-Plus, Gradlink
- course information
- career planning workshops and seminars

All services are available on the Hawthorn campus. Prahran and Lilydale have a smaller careers and employment program.

Hawthorn campus
465 Burwood Road, Hawthorn. Telephone: (03) 9214 8023 or (03) 9214 8521

For appointments and advice on the hours of availability for the Lilydale and Prahran campuses telephone:

Lilydale: (03) 9215 7101 or (03) 9215 7151
Prahran: (03) 9214 8734

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Chaplaincy

Hawthorn Campus

Chaplain
Mavis Payne

Office Location
473 Burwood Rd, Room 475B106 (alongside Student Health Centre)
Telephone: (03) 9214 8469

Available: Monday, Tuesday, Wednesday

Chaplain for International Students
Chris Gibson

Available: Thursday and Friday

Lilydale campus

Richard O'Brien is the visiting chaplain, and is on campus one lunch-time each week, or by appointment.
Telephone: (03) 9725 5370

Prahran campus

Howard Langmade is the visiting chaplain, and is available at St Matthew's church (opposite the campus) or by appointment. Telephone: (03) 9510 5450 or enquire via Student Union.

Chaplains are available to all students and staff regardless of their religious affiliation or lack of it. They are available to offer all sorts of pastoral care, bible studies and seminars. New students are particularly invited to meet the chaplains, who have information about student religious groups on campus, and local churches. All chaplains are recognised by their respective Christian churches, and authorised by the University.

International students

Christopher Gibson is especially available to all international students, regardless of their religious affiliation or lack of it. If you want to find people of your own language group, locate a church with a similar cultural background or want assistance in coping with Australia, contact Chris on (03) 9214 8489.

Visiting chaplains

For specific religious affiliations, visiting chaplains are available — Jews, Catholics, Orthodox, Lutheran, etc.

Student-run religious groups

There are a number of student-run religious groups, affiliated with the Student Union.

The Christian Union, Overseas Christian Fellowship, Indonesian Campus Ministries, Hillel: Foundation of Jewish Campus Life, and the Swinburne Islamic Society, all meet at Swinburne.

A quiet/prayer room and an Islamic Prayer room are both rooms set aside for use by students.

Child-care Centre (Hawthorn)

Coordinator
S. Somerville, (03) 9214 8519

A cooperative was formed in 1975 to provide child care facilities at Swinburne for parents in need of this service.

The primary objective of the Centre is to meet the needs of the children by providing a secure and happy atmosphere combined with experiences which will foster their development. The Centre aims to encourage beneficial contact that will produce an understanding of the needs of individual children and their family.

The Centre can cater for up to thirty-five children at one time with six caring staff. The children are not separated into age groups but form one large, if rather noisy, family. A combination of structured and free choice experiences have created a warm, relaxed program. The children are encouraged to go at their own pace, to develop their own style, to find their own solutions and enjoy their own creativity.

The Centre caters for children up to five years of age, not only from Swinburne parents, but other members of the community. A sliding scale of fees has been adopted. Early application for use of this service is advised as there is a waiting list.

Evening child-care

Evening care until 10.00pm is available for children between the ages of 0-14 years at reasonable rates on a casual basis. Please contact the Child-care Service on (03) 9214 8519.
The Centre is community based run by a Parent Committee of Management and
Telephone: (03) 9735 4691
The Centre’s aim is to provide a happy, warm and relaxed atmosphere. Staff are
friendly, caring and fully qualified and plan a daily program of fun and educational
activities for both indoor and outdoor play. Hourly, half-day or full-day sessions are
available at very competitive rates.

Children’s Centre Cooperative, Swinburne
Prahran Community
Coordinator
D. Avdyugin
131-133 Union Street, Prahran
Telephone: (03) 9521 4653 or (03) 951 4643
Fax: (03) 9521 4649
Opening Hours
Monday - Friday: 7.00am - 7.00pm
The Centre is community based run by a Parent Committee of Management and
provides long-day care for children aged infancy to six years on a sessional, part-time
or full-time basis. Vacancies are available for children from all areas. Child care
assistance is available, the Centre is also registered for the Commonwealth Cash
Robate Scheme. All meals are provided and are based on a vegetarian diet.

The Centre provides a program that is based on the individual child’s needs. The
children are offered a program in which they are free to make their own choices.
Simultaneous indoor/outdoor play, informal routines such as morning and afternoon
tea, lunchtimes and sleep/rest time are examples of this. The staff are committed to
offering a high quality child care service.

Computing Facilities
Open Access Computing Laboratories
Student access to computing laboratories is provided by Computer and Network
Services (CNS) at each campus.

Together with a team of student cadets, CNS manage and maintain the open access
computing laboratory in the West Wing (2nd floor, West Engineering Building,
Hawthorn) as well as several classrooms. One hundred PCs are provided in the West
Wing laboratory, running a range of software packages for all University students
and staff, and user manuals are available for loan. There is a student help desk in the
West Wing to provide software and hardware support to laboratory users, operate
the loans desk and provide a colour laser printing service. The West Wing help desk,
operated by the cadets, is open whenever the West Wing laboratory is open.

Opening hours – West Wing (during teaching periods)
Monday – Friday: 8.00am – 9.30pm
Saturday (some): 12.00pm – 5.00pm
Sundays (some): 12.00pm – 5.00pm
Enquiries: (03) 9214 8574

The West Wing is not open every weekend so please call to check before coming in.
CNS also manage the TAFE laboratories at Prahran (H831A) and Hawthorn (TC211),
which provide a wide range of software applications for DOS and Windows as well as
providing access to CD-ROM on some machines in the Library Studies area. JAC,
the Job and Course Explorer, is also available.

Opening hours – Hawthorn TAFE (TC211)
Monday – Friday: 8.00am – 8.00pm
Saturday: 9.00am – 2.00pm
Enquiries: (03) 9214 5141

Opening hours – Prahran TAFE (PH408)
Monday – Friday: 8.00am – 9.30am
Saturday: 9.00am – 4.00pm

Access after normal weekday hours must be arranged with your lecturer, who will
provide you with a memo giving permission.
Enquiries: (03) 9214 8705

Opening hours – Lilydale
Monday – Friday: 9.00am – 5.00pm

Laboratories at all campuses are open to both TAFE and Higher Education students
from all Swinburne campuses and each campus has several other classrooms which
students can use between scheduled classes.

Study Centres (Lilydale)
Study centres are off-campus centres near students’ homes. The study centres
provide a local alternative to coming to campus and are equipped with facilities such
as computers (including Internet access and the latest software), laser printers, audio
and video conferencing, meeting rooms, fax and photocopiers. Students are
encouraged to meet at the centres to discuss assignments, presentations or to just
study together.

Central computing facilities
CNS manage eight Digital AlphaServer 2100s, one of which supports general UNIX
teaching while another supports the ORACLE application exclusively.

The University network
Managing the University’s data network infrastructure is another of CNS’s major
responsibilities. The wide area network (WAN) currently consists of a high capacity
microwave link between the Hawthorn and Prahran campuses and the Hawthorn and
Lilydale campuses of the University. The network also provides all campuses with
access to the extensive services available through the Australian Academic and
Research Network (AARNet) and the worldwide Internet.

Swinburne’s Network is available for dial-in access via modem. Dial-in number is (03)
9214 5219 for 9600 modem and also for 1200/2400 bps modems. SLIP/PPP access is
now available; the dial-in number is (03) 9214 5109.

Help Desk
For assistance with any facilities supported by CNS contact the ISS central Help Desk
on (03) 9214 5000 or email helpdesk@swin.edu.au. The Help Desk is open
between 8.00am and 6.00pm Monday to Friday and is located in Room EN211A.

Network Access and Code of Practice document
All students using Swinburne’s computing facilities should be familiar with the
Network Access and Code of Practice document which explains the services
provided to users and the conditions governing their use. This document has been
reprinted in the separate publication, Policies and Procedures handbook and is also
available from the Help Desk and online through the Campus Wide Information
Service (CWIS). The Swinburne CWIS can be viewed through any World Wide Web
browser at URL: www.swin.edu.au

English Language for Migrants
Migrant Education Coordination
G. Gawenda
Prahran: (03) 9214 8957
Hawthorn: (03) 9214 5337

Swinburne offers a variety of courses and support programs for migrants, for whom
English is their second language, who are:
• preparing to enrol in Swinburne or other post-secondary courses
• currently enrolled in Swinburne courses
• wanting to develop language skills to improve study and work prospects.

Full-time courses
Preparation for further study and work — Hawthorn and Prahran campus.

Part-time, evening courses
Preparation for further study and work — Hawthorn and Prahran campus.

January summer school
English for academic purposes (full-time program) — Hawthorn campus.

Language support within a mainstream course
At both campuses, when circumstances allow, ESL students can have access to
English as a second language (ESL) trained teachers and extra tuition time if they are
enrolled in VCE, advanced certificate or associate diploma courses.

Independent learning
At both campuses students have access to materials for independent study (self-
access for language development purposes; audio, computer-based and text-based
materials are provided).
Non-permanent residents
Courses are run by the English Language Centre for international students and others who are in Australia on a temporary visa. Enquiries: International Student Unit, (03) 9214 8151.

Equity Unit
Manager (Acting)
E. Shaw
471 Burwood Road, Hawthorn, (03) 9214 6665
Building D, Room 105, Prahran, (03) 9214 6743
Level 2, Room 225, Lilydale (03) 9215 7168
Swinburne University of Technology is committed to providing a learning and working environment that is based on equality of opportunity for all staff and students. Discrimination on the following grounds is unlawful: age, disability, industrial activity, sexual orientation, marital/parental/carer status, physical features, political beliefs or activity, pregnancy, race, religious belief or activity, sex or to sexually harass another. The Equity Unit can provide information on state and federal anti-discrimination laws.

The International Office is the first point of contact for enquiries regarding Swinburne University of Technology. Staff and students.

Opening hours
Opening hours during teaching periods are:

Hawthorn campus
Telephone: (03) 9214 6300
Monday-Thursday: 8.15am-10pm
Friday: 8.15am-6.00pm
Most Saturdays, some Sundays, Labour Day, Anzac Day, Queen’s Birthday, Melbourne Cup Day.

Lilydale campus
Telephone: (03) 9215 7115
Monday-Thursday: 8.30am - 8.30pm
Friday: 8.30am - 5.00pm
Most Saturdays, Anzac Day, Queen’s Birthday, Melbourne Cup Day.

Prahran Campus
Telephone: (03) 9214 6988
Monday-Thursday: 8.15am-6.30pm
Friday: 8.15am-5.30pm
Anzac Day, Queen’s Birthday, Melbourne Cup Day, most Saturdays.

International Student Unit
The International Student Unit (ISU) provides a focal point for international students studying at Swinburne. ISU is responsible for international activities, and for formulating policy and guidelines on the conduct of these activities.

International Office
Dean
I.A. McCormick
473 Burwood Road, Hawthorn, (03) 9214 6151 or (03) 9214 6647
The International Office is the first point of contact for enquiries regarding Swinburne’s international activities. It is responsible for coordinating Swinburne’s international programs, and for formulating policy and guidelines on the conduct of these activities.

International Student Unit
Director
C. Chu
The International Student Unit (ISU) provides a focal point for international students at Swinburne. ISU is responsible for international activities relating to Swinburne’s University, TAFE and ELICOS courses. ISU is also responsible for the wellbeing of international students during their studies, and provides a range of support services. All prospective international students should contact ISU for information on studying at Swinburne. All applications by international students must be sent directly to ISU.

Offshore Business Education Programs
Director
P. Di Virgilio
Since 1993 Swinburne University of Technology has conducted training programs in Vietnam through the Offshore Business Education Program (OBEP). Within this program specially designed graduate certificates in business have been developed in the fields of accounting, marketing, human resource management and business administration. In addition, specialised programs have been developed for in-house delivery for joint venture and foreign owned companies.

Library
Libraries on each of the three campuses provide learning and information resources and services in support of Swinburne’s teaching and research programs.

The combined collections include over 200,000 books, 3,000 periodical titles, print and CD-ROM indexes and abstracts, and a large collection of audio and video tapes, slides, interactive videodiscs and computer software. All materials in the collections are available for use in the libraries, and most may be borrowed. Access to all collections is facilitated by an online catalogue and an inter-campus loan service. The range of resources available is extended through reciprocal borrowing arrangements with other Victorian university and TAFE libraries, and a number of networked access arrangements to electronic resources including Internet access.

Library staff work closely with teaching staff to develop collections and resources and help students to make best use of them. Programs designed to develop students’ information skills are an integral part of most courses. Individual assistance is provided at service desks on each campus during opening hours. A range of printed guides to library resources and services is also available.

Summary of Library borrowing regulations and conditions of use
Persons entitled to use the library
Each campus library is available for the use of all full-time and part-time students and staff of Swinburne University of Technology who accept the library regulations. Members of the general public, including past students and staff, are welcome to read or use the facilities within the library provided that they also accept the regulations. They may also borrow from the library on payment of a membership fee to the Swinburne Library Information Service or the Alumni Association.

The managers of campus libraries, or the senior staff member on the premises, may refuse entry to the library to any person not registered as a borrower.

Persons entitled to borrow from the library
Members of the Council and Board of TAFE of Swinburne.

Full-time and part-time staff members of Swinburne University of Technology.

Full-time and part-time students of Swinburne University of Technology.

Approved borrowers from other institutions with which Swinburne has reciprocal borrowing agreements.

Registered members of the Swinburne Library Information Service and Alumni Association.

Such other persons or organisations as the University Librarian or Campus Librarian may from time to time approve as borrowers.

Photocopying
Photocopying machines are available in the library. Users must note the relevant provisions of the Copyright Act and abide by them.

Borrowing
All material and equipment borrowed must be recorded at appropriate issue points before the patron enters the secure gate to leave the library. The borrower accepts responsibility for the care of any item borrowed and for its return in good condition on or before the due date and time. The library reserves the right to recall any item on loan before the expiration of the normal loan period.

Most library materials may be returned to any of the campus libraries. Equipment must be returned to the campus from which it was borrowed.

Identity cards
A current Swinburne identity card must be presented each time an item is borrowed, otherwise service will be refused. Cards are not transferable and lost identity cards must be reported and replaced immediately.

Borrowing periods
Students: the normal loan period for books is a fortnight. This period may be extended provided that the item has not been reserved by another user and that it is not overdue.

Staff: the normal loan period for staff members and higher degree students for books is four weeks. This period may be extended provided that the item has not been reserved by another user and that it is not overdue.
Reserve collections
Most material in these collections may be borrowed for a period of two hours for use within the library. A small number of items are available for overnight loan.

Items not available for home loan
These include material in the reference collection, rare books and archive collection, and any items marked ‘Not for loan’ or ‘Display’.

Periodicals and audiovisual material
Details of loan conditions for items from the periodicals and audiovisual collections are contained in the campus library guides.

Holds and intercampus requests
Students and staff members can reserve an item which is out on loan or request an item from another campus by placing a hold on it using the computer catalogue.

Lost or damaged material
If an item is lost or damaged this must be reported immediately. Borrowers are responsible for the cost of replacement or repair of damaged items, plus an administrative charge.

Penalties
Each campus library issues loans subject to the imposition of penalties for late return and non-return of items. When an item falls overdue, borrowing privileges are suspended at all campuses. Further details of these penalties are contained in the campus library guides. For students, the issuing of results and eligibility for re-enrollment is dependent upon the student having no overdue items. Conferring of awards is dependent upon all outstanding library penalties being resolved. For staff, all material on loan to them must be returned and all penalties resolved before they leave employment with Swinburne. Authorisation for reciprocal borrowing at other libraries will not be issued to or renewed for students or staff who have accrued fines in excess of $40.00 during the previous twelve months.

Use of Open Access Workstations and Electronic Resources
Use of the open access workstations at all campus libraries is governed by the Swinburne Network Access and Code of Practice Policy which is available at: www.swin.edu.au/col/condon.html

Students should also refer to the Computer and Network Student Disciplinary Code at: www.swin.edu.au/col/condon/spip.html

Both policies are also available at the library information desks.

Rules for general conduct
Eating, drinking and smoking are not permitted in the library.

Playing games is not permitted in the library.

Mobile phones must be switched off in the library.

Bags and cases may be brought into the library but must be upon request be presented for inspection at the library exit.

An atmosphere of quiet must be maintained in the library so that it is at all times a place conducive to independent study and quiet reading. Discussion is permitted only in designated areas.

Any person who, in the opinion of a library staff member and the senior staff member on the premises, repeatedly fails to observe any of the above rules, or who engages in anti-social behaviour or damages library property in any way, must produce a Swinburne identity card on request.

Offenders will be responsible for all damage caused, and will be subject to disciplinary action which may result in exclusion from the library and suspension of borrowing privileges.

If a student or staff member is dissatisfied with any punitive action taken by the library a request for it to be reviewed in accordance with Swinburne’s Official Grievance Procedures can be made.

Power to alter rules
One or more of the rules may be changed from time to time by the Vice-Chancellor or Deputy Vice-Chancellor, on the recommendation of the University Librarian.

At the discretion of the University Librarian one or more of the rules may, under special circumstances, be temporarily suspended. Any change to or suspension of any rule shall be reported at the earliest opportunity to the Vice-Chancellor or Deputy Vice-Chancellor.

Library services for students with disabilities
A range of specialized equipment to assist students with disabilities is available at Prahran and Hawthorn campus libraries. For example, a Kerox scanner with voice synthesizer and screen enlarger is available at Hawthorn, while Arctic Dictatalk Express voice synthesizer with Artic Magnus Deluxe Screen Enlargement software is available at both Prahran and Hawthorn to enable access to the catalogue and various Windows applications for those with visual disabilities. All levels of Prahran and Hawthorn and Lilydale libraries are wheelchair accessible, and several adjustable height tables are available for use at Prahran. Storage lockers are available on request and TVY telephones are located at the Information desk at both Prahran (03) 9214 6833 and Hawthorn (03) 9214 8840. For more information on these and other services, including assistance with searches and item retrieval, contact the disability liaison librarian at each campus:

Hawthorn: (03) 9214 8237
Prahran: (03) 9214 6785
Lilydale: (03) 9215 7115

Office for Quality Education (QEd.)
Originally established as the Office for Quality and Educational Development (QED) in 1990, the title of the Office was changed in 1997 to Quality Education (QEd.), following the decision by the University to devolve many of the educational development functions to the teaching areas of the University.

The Office for Quality Education retains responsibility for the following functions across the University:

Evaluation Services
The use of Teleform optical scanning technology for:

- student evaluation of subjects and courses;
- collecting data for the Graduate Careers Council of Australia’s graduate destinations surveys and course experience questionnaires;
- and for customer and staff satisfaction surveys.

Curriculum Renewal Projects
Annual grants to teaching staff by competitive tender to provide seed funding to assist staff to improve curricula content and encourage innovative approaches to teaching, learning and assessment methods.

CUTSD Coordination
In-house arrangements for the communication, selection and approval of applications for Committee for University Teaching and Staff Development (CUTSD) national teaching development and staff development grant schemes.

SQMS Coordination
The coordination of the quality review aspects of the Swinburne Quality Management System (SQMS) and related quality improvement initiatives.

Through these functions QEd. provides a range of projects, training programs and consultancy services to help the University to continuously improve the quality of its educational programs, related services and management processes.

The Office for Quality Education is located in room AU 206 in the Administration Building, Hawthorn Campus.

Telephone: (03) 9214 5404
Fax: (03) 9214 5483

Transport, Access and Parking
Public transport

Hawthorn campus
Swinburne’s Hawthorn campus is well served by public transport. Trains stop frequently at the Glenferrie Station, which is a two-minute walk from the campus. The station is on the Alamein, Belgrave and Lilydale lines and there are also frequent trains into the city.

Trams and buses also serve the area. The No. 60 tram travels along Glenferrie Road from Kew to St Kilda, and connects with several other tram lines, and bus services travel along Burwood Road (No. 732 to Box Hill) and Auburn Road (No. 524 from Kew to Chadstone Shopping Centre).

Prahran campus
Prahran campus is close to the Prahran Station, on the Sandringham line, with frequent trains into the city. It is also very well served by trams with the No. 16 Glen Iris tram stopping outside the door in High Street, as well as the North Richmond – Prahran, no. 78, 79 in nearby Chalmers Street.

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Swinburne at Lilydale
Lilydale campus is served by train and buses. The campus is on the Lilydale train line. Numerous buses leave from Lilydale Station.

Parking
Enquiries, Facilities and Services Group
Hawthorn campus
(03) 9214 8760/9214 8969
Lilydale campus
(03) 9215 7111
Prahran campus
(03) 9214 6748
Limited off-street parking facilities are provided for full-time and part-time students.

Conditions of use
Use of car parks is strictly at the owner's risk and is subject to:
- a current Swinburne parking permit or sticker valid for the car park in question being clearly displayed on the windscreen;
- availability of space in the car park;
- the car being within a marked bay;
- any fees or charges being paid;
- the driver's observance of parking signs or directions given by any of Swinburne Parking or Security Officers.

Parking permits
Available from Facilities and Services. Student identity card is required.

Part-time students
Evening and other part-time students may not leave cars in Swinburne car parks during the day while they attend work.

Short course students
Students require a parking permit issued by the office organising the course. Availability of space is not assured.

Hours of access
The main car parks open at 7.00am and close at 6.00pm. Parking Fees range from $1.00 for up to one hour, $2.00 up to two hours and $3.00 all day. Car parks on some campuses are open twenty-four hours. Students are warned against leaving cars in parks overnight.

Infringement of parking rules
Failure to comply with parking regulations could incur a Parking Infringement Notice of up to $40.00. Under the Road Safety Act 1986, the fines are enforceable in court. Those who abuse the system are also liable to have their parking privileges withdrawn and the parking permits for their cars revoked.

Students with disabilities
Consideration is given to the provision of reserved spaces for students with physical disabilities. Enquiries should be directed to the Equity Unit, Hawthorn (03) 9214 8665 and Prahran (03) 9214 6743.

Motorcycles and bicycles
Campus motorcycle parking and bicycle rack locations can be obtained from Facilities and Services at each campus.

Location of carparks
On-campus parking areas are indicated on the campus maps in this Handbook and on the reverse of parking applications and permits. Subject to change.

Multi-deck Carpark (Wakefield Street)
The complex provides parking for more than 800 cars. The five-deck car park will solve many of the problems local residents and the Swinburne community has faced at Swinburne has grown.
Health Service (Hawthorn)

Coordinator
J. Fischer
Room SH107, Lanelway behind library
Monday-Friday: 8.45am - 5.00pm
Telephone: (03) 9214 8903

Medical practitioners by appointment
Nursing staff available on a ‘drop-in’ basis

This is a confidential nursing and medical service covering:
- Emergencies
- Clinical care
- Health promotion

It is available to all Swinburne students and staff. We offer:
- Immunisation/general, overseas
- Hearing/vision testing
- Asthma management
- Full clinical assessment
- Health counselling
- Nutrition
- Contraception
- Sexually transmitted diseases
- Information programs

Housing, Part-time Employment & Finance (Hawthorn)

Coordinator (Housing & Part-time Employment)
S. Crozier, Room 463B203
Telephone: (03) 9214 8902
465 Burwood Road, Hawthorn (access via laneway behind library)
Monday-Friday: 9.00am - 5.00pm

Coordinator (Finance, Austudy & Student Loans)
B. Graham, Room 463B204
Telephone: (03) 9214 8953
465 Burwood Road, Hawthorn (access via laneway behind library)
Monday & Thursday: 9.00am -1.00pm & 1.15pm - 5.00pm
Wednesday: 9.00am - 1.00pm
Friday: 1.15pm - 5.00pm

This Service offers the following to students and staff:
- Independent advice on all aspects of housing
- Noticeboard of housing offers; share, self-contained, board
- Information on tenants’ rights
- Lists of real estate agents offering flats and houses
- Noticeboard of part-time employment offers
- Register for students interested in working part-time
- Tutor register for students looking for a tutor or offering to be a tutor
- Information on recommended rates of pay and work agreements
- Information and advice on Austudy (we have contacts within Austudy and can help sort out and speed up your Austudy application)
- Financial counselling, including student loans
- Assistance with fees
- Information on tax and budgeting

Financial Assistance Schemes

AUSTUDY

Austudy provides financial assistance to many students, but not all students are eligible and not all get the same amount. Whether you are eligible or how much you get depends on a lot of things, like:
- the value of the assets you and your family have when you applied, etc.

Helpful hints about AUSTUDY
- Pick up your application form and information booklet from Austudy, a CES office or from Student Services (financial adviser) on your campus.
- Read the information booklet carefully
- If having read the booklet you still have questions, then seek help from the financial adviser on your campus.
- If your friends, family or family accountant say you are not eligible, don’t assume they are correct — the eligibility criteria are complex and students’ circumstances vary. IF IN DOUBT PUT AN APPLICATION ANYWAY.
- Fill in your application form carefully — mistakes or omissions will mean delays in receiving your first payment.
- Supply all the documentation requested, otherwise delays will occur.
- Get your application in early — it always takes Austudy some weeks to process your application.
- If applying for first semester get your application in by 31 March, if you want to receive hardship pay by 1 January.
- Don’t accept a decision from Austudy if you think it is inaccurate or unfair. Ask your financial adviser on campus for assistance.
- If your circumstances change at any time throughout the year, you must let Austudy know immediately.

Some students (including part-time) in receipt of certain Department of Social Security benefits may also be entitled to a Pensioner Education Supplement.

The Student Homeless Rate may assist students who do not get any support from their families. Ask the financial adviser on your campus for more details.

Austudy offers a voluntary loan scheme which is referred to as the Austudy Supplement. Ask your financial adviser on campus for more information before taking up the Supplement option.

ABSTUDY

ABSTUDY provides financial help for Aboriginal and Torres Strait Islander students who want to do secondary or tertiary studies.

Department of Social Security Benefits (DSS)

There are various benefits from DSS that may be available to students, such as Family Allowance Supplement, Sole Parent Pension, Unemployment Benefits (part-time students) and Health Care Cards.

Students who qualify for Austudy may be eligible for a Health Care card, enabling them to receive a range of concessions.

Rent Assistance

Rent Assistance may be available to certain DSS beneficiaries and students in receipt of the Student Homeless Rate.

Bond Assistance Scheme

If you are looking for a place to live and you can’t afford the bond, the Department of Planning and Development may be able to help. Ask your housing officer on campus for more details.

Scholarships

There are various scholarships, prizes and trusts that may be available to students. Ask your financial adviser and your Divisional office for information and check in this handbook for details under the heading “Scholarships and Awards”.

Tutoring

Tutoring assistance may be available to you. Ask at Student Services.

Travel Concession

If you are a full-time student and wish to travel on the metropolitan transport network at concession rates you can purchase a Transport Concession Card from Met outfits. Also ask about concession cards for country and interstate rail travel. Application forms are available at Student Administration.

Concession tickets

Concession tickets are available for travel to and from Swinburne on public transport. Students who wish to purchase these tickets should go to the Student Administration Office to complete the necessary forms. Only full-time students are eligible for fare concessions. Concessions are not available to full-fee paying overseas students. Students must present their student card when applying for a concession form. Australian Airlines and Ansett Airlines concessions are available from the Contact Centre, Student Union, or from STA Travel Agencies. Full-time students are also eligible for an International student card, available from the Contact Centre, Student Union.
The shared facilities included:

- Emergency short-term loans are available to full-time and part-time students from the Student Union Aid Fund. For all loans, ask at Student Services on your campus.
- With the approval of the Loans Fund Committee, full-time students may obtain financial assistance from the following funds:
  - Commonwealth Help for Needy Students Fund
  - Special Assistance for Students Program
  - Student Aid Fund
  - Rotary Swinburne Loan Fund
  - Overseas Student Loan Fund

**Student Residences**

On-campus accommodation is available at the Hawthorn Campus. This consists of an 85-bedroom Residential College which offers hostel type accommodation and 36 two and three bedroom apartments. The Residential College would be of particular interest to first-year students who have not lived away from home before, while the apartments would suit students in the second year of their course or later, who have already lived away from home.

**Residential College**

The Residential College features individual rooms furnished with a single bed, built-in study desk and bookshelf, cupboards, chairs, wash basin and an electric jug. There is hydronic heating in each bedroom and computer cabling with access to the University Computer Network. The shared facilities include:

- Bathroom and toilets on each floor.
- Fully equipped with self-catering facilities.
- Recreation/TV Lounge areas.
- Landscaped outdoor BBQ area.
- Laundry facilities.
- Tutorial rooms.

**Apartments**

The Apartments are well appointed and feature:

- Bedrooms fitted with single beds.
- Bedrooms have a built-in desk with ergonomic chair and computer cabling with access to the University Computer Network.
- Gas heating.
- Kitchens with stove, oven and fridge.
- Dining table and chairs.
- Laundry with washing machine and dryer.
- Individual apartment and bedroom locks.
- Security entrance.

The Student Residences are located at 21 Wakefield Street, Hawthorn.

Further information and application forms can be obtained by contacting 103) 9214 5555.

**Student Loans**

With the approval of the Loans Fund Committee, full-time students may obtain financial assistance from the following funds:

- Commonwealth Help for Needy Students Fund
- Special Assistance for Students Program
- Student Aid Fund
- Rotary Swinburne Loan Fund
- Overseas Student Loan Fund

Management

At the time of writing, the representative structure of the student body is undergoing a thorough review with expectation that it will better reflect the decision-making flow of the University.

**Student Union**

The Student Union is the primary body offering support services to students at Swinburne, as well as playing an important role in facilitating the representation of student interests to the University. It is a legally incorporated company which all students contribute to through the payment of their General Service Fee to the University. Membership of the Student Union is free and involves filling out a Union membership form.

Membership of the organisation entitles students to stand and vote in elections; and all students are entitled to use services, whether they are members or not.

The Student Union has a solid history of achieving gains for students in the educational arena, through contribution to the University policy making process and assisting individual students who are experiencing problems. Considerable emphasis has been placed on the development of student friendly academic policy and regulations, workable processes and support programs where required.

At the same time a wide variety of services are offered to students on all campuses, which strive to offer quality at an affordable price and in many instances are free.

**Organisational aims**

The purposes for which the Union is established are:

- to advance the social, educational and general welfare of the student body of Swinburne and to provide services for the student body;
- to represent and safeguard the students in matters affecting their interests and privileges and to afford a recognised means of communication between the students and the authorities of Swinburne and other educational bodies;
- to promote, encourage and coordinate the activities of student committees and societies;
- to strive for wider recognition and greater appreciation of the standard of all academic awards of Swinburne.

**Student Union Support Services**

The Student Union offers a wide range of support services which all aim to improve the quality of the educational experiences of students and to foster a Swinburne community spirit. All services are funded partially or fully by the General Service Fee which students pay on enrolment. All services strive to meet the demands of students as a group, without losing sight of the individual student, and ensuring high standards are met.

**Union Office**

The Union's head office is located on the fourth level of the Union Building at Hawthorn. Union personnel located on this level include the president, administrative officer, manager, accountant and executive.

**Reception**

The Union provides a reception area on each campus. Contact details are as follows:

- **Hawthorn**
  - Level 2, Building PK, St John Street
  - Telephone: (03) 9214 5440
  - Facsimile: (03) 9214 6540

- **Prahran**
  - Level 1, Building LA
  - Telephone: (03) 9215 7181
  - Facsimile: (03) 9215 7182

- **Lilydale**
  - Level 1, Building LA
  - Telephone: (03) 9215 7181
  - Facsimile: (03) 9215 7182

The reception area on each campus provides various services, including room bookings, legal advisor bookings, insurance claims, facsimile, international student identity cards, and general information. Bookshop facilities for Lilydale are also housed at the Student Union reception.

**Other services offered**

**Book Vouchers**

Needy students can apply for book vouchers, which are jointly funded by the Student Union, Bookshop, and Chancellery. They are available from the University's Housing, Part time Employment, and Finance Department on each campus.
Telephone: (03) 9214 8953 (Hawthorn), (03) 9215 7181 (Lilydale), (03) 9214 6734 (Prahran).

**Halls and Meeting Rooms**

Halls and meeting rooms are available for bookings by students on each of three campuses. At the Hawthorn campus, Ethel Hall, the Fourth Floor Meeting Room, and SAASC meeting rooms are available, at Lilydale the Student Union Meeting Room on Level 1 of Building LA, and at Prahran the meeting room on Level 2 of Building PK. Telephone: (03) 9214 5440 (Hawthorn), (03) 9215 7181 (Lilydale), (03) 9214 6734 (Prahran).

**Student Lounge and Hawthorn Union Services Desk**

Each campus hosts one or more student lounges in which students can relax with friends or undertake work in a casual atmosphere. The Hawthorn E lounge is one space open to students, while the Hawthorn Union Services Desk, Prahran Level 2, and Lilydale Level 1 provide access to newspapers and magazines. The Hawthorn Union Services desk provides particular assistance for nearby TAFE students by responding to enquiries, approving notices for noticeboards, and supplying games and playing cards. Lilydale student lounge provides music, and contains a pool table for student use.

**Emergency Loans**

The Student Union provides funding for short-term emergency loans for students. Loans are allocated by the University’s Housing, Part-time Employment and Finance Department. Repayments can be made at the reception desk of each campus.

Telephone: (03) 9214 8953 (Hawthorn), (03) 9215 7181 (Lilydale), (03) 9214 6734 (Prahran).

**Legal Advisor**

The Student Union provides a free legal service for full and part-time students. The solicitor is available at the Hawthorn campus every Tuesday during the academic year. This service is available to students on all campuses. Students may contact reception on their respective campuses to make an appointment.

Telephone: (03) 9214 5440

**Personal Accident Insurance Scheme**

All students enrolled in Swinburne are automatically covered by personal accident insurance. This insurance scheme covers accidents, twenty-four hours a day on or off campus in the event that it relates to activity associated with Swinburne. For further details please contact the Accountant in the Union Office.

Telephone: (03) 9214 5442

**Tax Return Advice**

The Union has arranged for a tax consultant to answer student enquiries regarding preparation of their income tax returns. These one or one sessions are conducted in August, the dates being advertised in The Swine. Appointments can be made at Hawthorn reception.

Telephone: (03) 9214 5440

**Student Union Computing Facilities**

Computing facilities are available for student use on both the Hawthorn and Prahran campuses. Popular word processing, spreadsheet and DTP packages are networked for student use. Hawthorn computers are available on the fourth floor of the union building while at Prahran they are housed on the second level of Building PK.

**Laser Printing**

Users of the computing facilities have access to networked laser printers at low per page rates.

**Resume Typing**

The computer centres offer a professional resume service to word process and print resumes for students at reasonable cost. Information is also available at the service counters for those students who wish to have essays and assignments typed.

**Binding Service**

A thermal glue binding service is available at Hawthorn Computer Centre and Lilydale Union Services Desk at a reasonable cost. The covers are AA with a clear acetate cover.

Telephone: (03) 9214 5447 (Hawthorn), (03) 9215 7181 (Lilydale).

Cones binding is also available at all three bookshop outlets.

Telephone: (03) 9214 8255 (Hawthorn), (03) 9215 7181 (Lilydale), (03) 9214 6730 (Prahran).

**Student Advisory and Academic Support Services**

Student Advisory and Academic Support Services are delivered to students across each of the three campuses, from the SAASC (Student Advisory and Academic Support Centre) at Hawthorn, from the Union Services Desk, Level 2 Building PK Prahran, and from the Union Services Desk, Level 1, Building LA, Lilydale.

Each campus contact point provides a one-stop shop for a wide range of information regarding support services available on campus and in the wider community. A database is kept up to date with information on all University services and departments, as well as community services which students may access. This enables staff to deal with any student emergency arising, whether personal or academic, assuring appropriate referral in order to resolve the problem.

The professional staff employed to deliver these services are expert at dealing with academic problems, assisting students experiencing such problems to understand the correct avenues for resolution and helping them to find the best solution. Staff can also assist with the development of a student perspective on University policy areas, to ensure that the needs of students are not overlooked and hence help develop a University system which is effective.

A number of community projects are coordinated by the advisory and academic support staff to provide individual students with greater opportunities to foster the community spirit. In 1998 a student mentor scheme will be operational. It will give students the chance to be linked with experienced and trained returning students, in order to assist them with settling into university life and ensure they can access help if problems arise.

Student Orientation Supporters are returning students who help organise and run activities for new students so that the transition to Swinburne is smooth.

The Advisory and Academic Support staff also provide support to the constituencies which are groups of students who meet regularly to discuss their courses, concerns and the subsequent steps to take to ensure a satisfactory outcome. The Swinburne Youth Initiative, another project co-ordinated by this area, provides the opportunity for students to undertake paid tutoring with disadvantaged youth in the wider community.

The Union also runs an Award Scheme that has been designed to give students who participate in extra-curricular activities credit for their effort. It offers them access to training, to further enhance the skills they develop through their participation. It will assist students to plan out their areas of involvement and work through what they want to achieve for the year. Finally it will help them market their skills to future employers.

In addition to supporting projects, staff undertake student oriented research in order to provide quality statistical information to be fed into the policy process and to improve service delivery on campus.

**SAASC (Hawthorn) opening hours**

Monday - Thursday: 9.00am - 7.30pm,
Friday: 9.00am - 4.00pm
Telephone: (03) 9214 5450

**Student Union Services Desk, Prahran**

Monday - Thursday: 9.00am - 5.30pm,
Friday: 9.00am - 4.00pm
Telephone: (03) 9214 6729

**Student Union Services Desk, Lilydale**

Monday, Tuesday, Thursday: 9.00am - 6.30pm,
Wednesday, Friday: 9.00am - 5.00pm
Telephone: (03) 9215 7181

**Communications and Information**

**Publications**

The Student Union publishes a weekly newspaper called The Swine, which primarily carries news and information pertaining to students and Swinburne. It provides a forum for students and staff to present and discuss their views on relevant matters. During holidays and non-teaching periods, a smaller publication called Piglet keeps the flow of information going.

The Student Union also produces a free diary, Orientation Handbook and year planner which are available from Union Services Desk on each campus and at re-enrollment.

Telephone: (03) 9214 5650

**Student Publications**

Students publish a magazine called Tabula Rasa at least once per semester. Tabula Rasa also provides a medium for students to develop their publication skills and all students are welcome to contribute graphics, articles, and creative writing. If you would like to participate, contact the Rasa Writers Club or come to the Media Office.

Telephone: (03) 9214 5545

**Visual and Performing Arts (VPA)**

**Activities**

In conjunction with the Activities Management Committee, the VPA develops,
organises and presents the social programs for the year. A wide variety of events are planned, to suit the different types of students, including theatre, part-time's even highs and union nights. Students help to organise activities through the Activities Management Committee and welcome feedback regarding the types of functions students would like to experience on campus. VPA works closely with clubs and societies in order to promote activities jointly between clubs and the Student Union. The VPA office is located on Level 4 of the Union Building, Hawthorn campus.

Activities contacts:
Telephone: (03) 9214 5469 (Hawthorn), (03) 9214 7175 (Lilydale), (03) 9214 6729 (Prahran)

Clubs and Societies
Clubs and Societies promote the involvement of students in the Swinburne community through participation in groups with a common interest. Affiliated clubs receive funding from the Student Union and assistance with organizing events which suit their members. There are more than sixty clubs and societies for students at Swinburne to choose from and the ability to start more. High-quality meeting and storage facilities are available to be booked at the Hawthorn SAASC, the Prahran Union Services Desk, and the Lilydale Union Services Desk. A mini bus is available for clubs and societies to book via the Tool Library, with no charge except for a deposit, refundable upon return of an undamaged bus. The Clubs and Societies officer will assist with queries regarding the starting of clubs, affiliation and support with resources.

Telephone: (03) 9214 5461 (Hawthorn), (03) 9215 7150 (Lilydale), (03) 9214 6729 (Prahran)

Orientation
All new student are invited to attend the orientation program, which attempts to fast track the learning process about what is available on campus and what sort of things happen in a University environment. All the service departments of the University are involved in presenting information and theatre workshops are held to target specific groups of students with special needs. Orientation days are offered for full-time students, before classes start and there are evening functions for part-time students. After the commencement of classes there is a week of orientation activities, which are entertainment based, to help new students get to know each other better.

Tool Library
The Tool Library is located in the Contact Building at Hawthorn, however this service may also be accessed by students from the Lilydale and Prahran campuses. The Library hires a wide range of tools and equipment to students and staff. Hire prices are extremely low and the service aims to enable access to equipment, without making a profit, while offering a quality service with information and assistance. Catalogues are widely available and equipment for hire includes lawn-mowers, mulchers, whipper-snippers, engine turn-up kit, arc welder, wallpaper remover, carpet steamer - and a whole lot more.

Opening hours:
Monday - Friday 9.00am - 5.30pm
Telephone: (03) 9214 8859 (Hawthorn)
(03) 9215 7175 (Lilydale)
(03) 9214 6729 (Prahran)

Night Bus
To ensure safety after dark, a night bus service is offered by the union in conjunction with the university, on all three campuses. At Hawthorn, students can take the bus from outside the Corner Caf in Wakefield Street, at Prahran from outside the Security Hut in St John Street, and at Lilydale from the Atrium Bus Stop. Drivers are selected and trained to be safety conscious and to offer a quality service, which drops students at their cars or transport stops within the local area. The service runs from:
Hawthorn: Monday - Thursday 6.30pm - 10.15pm
Lilydale: Monday - Thursday 6.00pm - 9.00pm
Prahran: Monday - Thursday 6.30pm - 10.00pm

Photocopying
The Student Union operates photocopying services from the Services Desk, Comer Cafeteria - Hawthorn, Level 2 Building K, Prahran, and Level 1 Building LA, Lilydale. Copying on transparencies for overheads is also available at a very reasonable price, and there are staff present to assist in copying.
A copier and card machine with a charge of $2.00 and $5.00 cards is available for the use of Student Union photocopying.

Catering Department
Hawthorn campus
Courtyard Cafeteria
Located on the ground floor of the Union Building, this popular new cafeteria offers a wide variety of fresh sandwiches, focaccias, salads and fried foods. The cafeteria offers an Asian style of dining and is perfect for the student on a budget. Smokers are catered for in the undercover seating area and the environment is clean and inviting. Seats forty-eight inside and thirty-six outside.

Opening hours (during teaching semester times):
Monday - Thursday: 8.00am - 5.00pm
Friday: 8.00am - 4.00pm
Telephone: (03) 9214 9023

Ethel Caf
The Ethel Caf is the largest cafeteria on campus, located on the third floor of the Union Building adjacent to the Greenhouse Bar/Bistro. The Amusement Centre, offering pool tables, video games and pinball machines, is situated here and the food service offering a range of fast foods opens daily between 10.00am and 3.00pm to service players. This cafe offers a large space for student clubs to run special activities and seats about 250 people.

Telephone: (03) 9214 8247

Greenhouse Bar/Bistro
The Greenhouse is the place to be seen on campus. Enjoy a wine or beer with your meal, or relax with friends over a delicious cappuccino and cake. The Greenhouse is located on the third floor of the Union Building. The bar offers Victorian and boutique bottle bears, a large selection of spirits and cocktails and wines from the Yarra Valley. For diners who like to eat and drink in the fresh air, the outdoor terrace offers a garden retreat. Our Student Union Functions Department caters for weddings, twenty-firsts and other social events in the Greenhouse for both students and staff at competitive prices.

Opening hours:
Monday - Wednesday 9.00am - 6.00pm,
Thursday - Friday 9.00am until late and weekends depending on functions.
Seats 120 inside, 48 outside.
Telephone: (03) 9214 5463, (03) 9214 9174

Corner Caf
Located on the corner of John and Wakefield streets, this extremely popular cafeteria provides an upmarket range of salads, gourmet sandwiches and snacks at a reasonable price. The Corner Caf has a clean and pleasant environment and is convenient to both University and TAFE students and staff.

Seats 70.
Opening hours:
Monday - Thursday: 8.00am - 8.00pm,
Friday: 8.00am - 3.30pm
Telephone: (03) 9214 8389

Functions Department
If you are having a wedding, 21st, graduation party or maybe just a meeting, this department can offer clubs, students and staff a wide range of catering from buffets and sit-down meals, to light lunches, afternoon tea, cocktail parties and BBQs. The Functions Supervisor can advise you on menus and quantities. Please remember we do need two working days notice for refreshments and five working days for larger functions.
Telephone: (03) 9214 8174, (03) 9214 8247 or (03) 9214 8172

Catering - Lilydale
The Student Union also provides limited catering facilities at Lilydale. These can be found at the kiosk on the ground floor, set back from the Atrium next to the Student Union Services Desk. We offer a small range of hot and cold food, such as sandwiches, cakes, pies and snacks.

Opening hours:
Monday - Thursday 8.00am - 3.30pm
Friday 8.00am - 3.00pm
Telephone: (03) 9761 8390 or (03) 9215 7181.

Catering - Prahran
Located in Building PK on St John Street, the Caf is proving to be a match for any of the food on Chapel Street, offering a wide range of hot and cold gourmet foods, snacks, freshly made sandwiches, snacks and beverages. We also offer a catering service to clubs and internal departments.

Opening hours:
Monday - Thursday 8.00am - 8.00pm
Friday 8.00am - 3.30pm.
Telephone: (03) 9214 8201
Sports Association

Opening hours and contact

<table>
<thead>
<tr>
<th>Location</th>
<th>Monday-Friday</th>
<th>Saturday-Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawthorn</td>
<td>7.00am-10.00pm</td>
<td>12.00pm-5.00pm</td>
</tr>
</tbody>
</table>

Telephone: (03) 9214 8018

Prahran
Room Student Services, Building K
Monday - Friday 7.00am--10.00pm
Saturday-Sunday 12.00pm--5.00pm

Telephone: (03) 9214 6745

Lilydale
Monday-Friday 10.00am-4.00pm

Swinburne Sports Association is an autonomous body which aims to promote and encourage opportunities in sport, health and physical recreation to all members of the Swinburne community. All students are eligible to become a member of the Association on enrolment. Swinburne staff and alumni are also encouraged to join by paying a small annual fee.

The Association began in 1959. It is managed by students and has eight full-time employees across the three campuses.

Recreations

An extensive and exciting recreation program is offered continually throughout the year. Activities range in commitment and complexity. The easiest recreations are the 'one hit wonders'. These 'everyone has a go' activities are designed to give you a break and a bit of fun in-between classes.

The Sports Association offers over eighty short courses a year such as ballooning, rafting, scuba diving, snow skiing, sky-diving, bush walking and waterskiing. The Sports Association's club structure emphasises a beginner-up approach so that members of any skill level can have a go.

Over the last four years the number of clubs continued to grow, especially in the outer east and Prahran where the club system began in 1993. Such growth is indicative of the fun, challenge and enthusiasm obtained by joining a sports club.

Clubs

Some twenty different sporting and recreation clubs are affiliated and supported by the Sports Association. Clubs are managed by students who volunteer to work in a committee format to plan and prepare activities for their club. Types of clubs are wide ranging and include the more team-based and competitive sports such as Australian rules football, basketball, netball, tennis, kowen do, soccer and volleyball to the recreational based clubs such as hang-gliding, scuba diving, snow skiing, sky-diving, bush walking and waterskiing. The Sports Association's club structure emphasises a beginner-up approach so that members of any skill level can have a go.

The easiest recreations are the 'one hit wonders'. These 'everyone has a go' activities are designed to give you a break and a bit of fun in-between classes.

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Over the last four years the number of clubs continued to grow, especially in the outer east and Prahran where the club system began in 1993. Such growth is indicative of the fun, challenge and enthusiasm obtained by joining a sports club.

Fitness and health

The Sports Association provides fitness and health promotions at each campus. The Sports Centre has weight training, aerobics, nutrition counselling, massage and fitness testing areas in its Sports Centre. Subsidised membership deals with fitness centres in the local vicinity of the Lilydale and Prahran campuses are negotiated.

By unifying with the Student Health Unit and the Student Union the Sports Association creates on-campus awareness and promotion weeks such as Quit Smoking, Heart Week, Health and Sexuality, and Women and Equal Opportunity.

Intercampus and elite sport

At a university, Swinburne enters teams in local, state and national inter-university sporting events. The Sports Association supports the individuals and teams that wish to represent the University. In this spirit, ‘grudge’ matches between the three Swinburne campuses develop a healthy rivalry that assists in the preparation and selection of our teams to compete against other universities in the Victoria/Tasmania conference. Our goal at these conference challenges is to be highly ranked so that we can progress to the national university championships.

Students at Swinburne who are of world competition standard will be nominated and supported by the Sports Association for World Student Games.

Sports Association handbook and further information

By visiting the Sports Desk at your campus you can collect our handbook and detailed information on any of the clubs, recreations, facilities and services offered.

Swinburne Centres

Research Centres at Swinburne

In 1995, the University's Board of Research and Graduate Studies adopted a three-tier structure for research development and support. Tier 1 comprises major research centres and Institutes and Tier 2 comprises significant emerging research groups. Both Tier 1 and Tier 2 Centres receive central University infrastructure funding for their research. During 1995/96 two major research centres were granted the status of Institutes and the establishment of the first Tier 2 Centres was approved. For further information on Tier 1 and Tier 2 Centres, visit their websites at: www.swin.edu.au/ags/research.htm

Tier 1 Research Centres or Institutes

- Brain Sciences Institute (formerly the Swinburne Centre for Applied Neurosciences)
- Industrial Research Institute Swinburne (IRIS) (formerly the Centre for Computer Integrated Manufacturing)
- Centre for Applied Colloid and BioColloid Science
- Centre for Urban and Social Research

Tier 2 Recognised Research Centres

- Asia-Australia Research Centre
- Swinburne Computer Human Interaction Laboratory (SCHIL)

Centre for Applied Colloid and BioColloid Science (Tier 1 Research Centre)

Academic Head
Dr I. H. Harding
Email: iharding@swin.edu.au

Administrative Head
Dr P. Taneja
Email: ptaneja@swin.edu.au
Telephone: (03) 9214 8715
Fax: (03) 9891 0334

The Centre was established in 1980 for the development of applied research and contract research in applied colloid science. It provides an opportunity through research sponsorship and other collaboration for companies or organisations to make use of sophisticated equipment and applied research skills for the investigation of problems within this field. The base area of expertise in colloid science has been broadened to include some biochemistry. Major areas of applied research now include integrated projects combining diverse skills such as wastewater treatment (utilising adsorbing colloid flotation) for the removal of toxic heavy metals, anions and organics to biological techniques of cellular degradation for the complete treatment of toxic organics. Combined with more traditional areas of colloid science such as coal pelletisation and emulsion science, these and other multidiscipline projects provide an avenue for the teaching of colloid science at an advanced (postgraduate) level and has resulted in the training of a large number of postgraduate students.

The Centre also promotes the teaching of colloid science at all levels — undergraduate and postgraduate, coursework and research only degrees. It also acts as a contact point for visiting members of staff from other academic institutions, companies or government authorities, both local and overseas. Visitors often give lectures and discuss research activities, which prove advantageous to the quality of teaching at both undergraduate and postgraduate (particularly coursework postgraduate) levels as an integral part of their training.

Some of the work undertaken inevitably involves the development of equipment or processes which may be patented, covered under secrecy agreement or made available for publication in the international literature.

Asia-Australia Research Centre (AARC) (Tier 2 Research Centre)

Director
Professor K. Young

Deputy Director
Dr P. Taneja
Telephone: (03) 9214 5243 or (03) 9214 8100
Fax: (03) 9214 5515

The Centre was established in July 1996. The Asia Australia Research Centre (AARC) is a multi-disciplinary research group providing research, scholarship, teaching and...
commentary on Asia and Australia. Its specialists have expertise on China, India, Indonesia, Korea and Southeast Asia. The AARC's research and teaching deals with change in Asia and its consequences for Australia. The diverse societies and economies of the Asia-Pacific, including Australia, are being transformed through accelerated integration on a regional and global scale. The AARC aims to develop theoretically advanced, comparative and practical understandings of social change. It therefore investigates most aspects of globalization and change in contemporary Asia, political, economic, technological, urban and regional. It seeks to understand the emergence of new and influential modernities from the second half of the twentieth century into the next century, and millennium. The AARC's staff and students possess expertise from a range of social science and business disciplines. The staff provides services in research, consulting, supervision of research degrees, teaching in postgraduate programs, and the provision of advice, commentary and short courses for business and government. Its members have extensive contacts throughout Asia and Australia as well as with centres of excellence in Europe and North America.

The main objectives of the Centre are:

- to strengthen Swinburne's research expertise and activity on Asia and Australia-Asia relations, and to win national and international recognition for the excellence of our achievements in research;
- to develop postgraduate work on Asia and on Australia's role in the Asia Pacific by attracting research students of high calibre, and provide a quality environment for their training;
- to bring together academic, linguistic and business skills that will offer expert consultation and commentary for business, government and the media;
- to foster collaborative research links with research institutions with internationally recognised expertise on Asia, especially those in Asia itself, but also in Europe and America;
- to develop collaborative research within Swinburne, tapping diverse expertise with interests in Asia across the University;
- to nurture a research culture at Swinburne responsive to the highest international standards;
- to enhance the internationalisation of undergraduate teaching programs at Swinburne.

Centre for Biomedical Instrumentation

**Director**
Dr. A. Wood

**Telephone:** (03) 9214 8867

**Fax:** (03) 9214 8867

**Email:** andrewwood@swin.edu.au

The Centre was established to provide a focus for research and consulting activities related to instrumentation for medical and physiological use. The Centre draws on the strengths in instrumentation and biophysics within the School of Biophysical Sciences and Electrical Engineering and works in collaboration with the Brain Sciences Institute. At present, research activities include electrical impedance tomography, instrumentation for ambulatory monitoring, instrumentation for isometric muscle strength assessment, instrumentation for electron microscopic microscopy, applications of laser scanning confocal microscopy, Raman and Mossbauer spectroscopy, effects of electromagnetic fields on tissue and a fibre-optic based respiratory monitor. A number of additional projects are being undertaken in conjunction with local hospitals.

Other aims of the Centre include:

- to offer a facility enabling individuals to pursue postgraduate studies in biomedical instrumentation
- to offer short courses serving the needs of medical and health personnel and the biomedical instrumentation industry
- to assist in the teaching of biomedical instrumentation in undergraduate and postgraduate Swinburne programs
- to provide a contact point for visitors from other institutions or companies to undertake collaborative projects
- to promote the availability and commercial development of intellectual property originating within the Centre.

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**Brain Sciences Institute**
(formerly the Centre for Applied Neurosciences est. 1985) (Tier 1 Research Centre)

**Director**
Professor R.B. Silberstein

**Telephone:** (03) 9214 8822

**Fax:** (03) 9214 5525

**Email:** bsi@mind.scan.swin.edu.au

The Institute's primary purpose is to facilitate research into the relationship between human neurological states and measured brain activity. The Institute also undertakes contract research in areas consistent with its primary purpose. The Institute has extensive collaborative research links with Australian and international research centres.

At this stage, the Institute is engaged in research into:

- mechanisms underlying brain rhythmic activity
- modelling of brain electrical activity
- relationship between cognitive processes and brain activity
- brain electrical activity and the learning process
- brain electrical activity and schizophrenia
- ageing and brain electrical activity
- brain electrical activity and disorders of mood
- monitoring of awareness and anaesthetic depth using brain electrical activity.

Other aims of the Institute include:

- to assist in the teaching of the neurosciences in undergraduate and postgraduate Swinburne programs
- to offer a facility enabling individuals to pursue postgraduate studies in the neurosciences
- to promote the availability and commercial development of intellectual property originating within the Institute.

**COTAR (Victoria) Centre for Object Technology Applications and Research**

**Director**
Professor B. Henderson-Sellers

**Telephone:** (03) 9214 8524

**Fax:** (03) 9819 0823

The Centre for Object Technology Applications and Research, known as COTAR (Victoria), is an industry funded, university located centre of excellence focusing on object technology. Industry partners offer support in either cash or kind to create an active research and teaching environment into object technology (OT) - the leading edge of computer science and information systems thinking. Sponsored research produces results which can then flow back directly to industry for rapid utilization. Object technology is the newest approach to building software which offers substantial business benefits (e.g. flexibility, maintainability and higher quality of software) whilst incurring costs for retraining and restructuring current software practices. COTAR has the advancement of OT in an industry context as its focus.

COTAR aims to:

- foster collaboration and communication between universities and industry in order to accelerate the practical development of object technologies
- provide an Australian research centre in object technology
- provide tutorial professional development courses in object-oriented software engineering
- provide an Australian focus for the dissemination to industry of leading-edge knowledge in object technology.

Ongoing research projects include:

- development of the OOPEN methodology - in collaboration with over 30 key researchers worldwide
- product and process metrics, funded by government and industry
- usability, particularly of software CASE tools
- the use of formal methods - the FOOM project
- technical and organisational issues of reuse
- object-oriented project management
- metamodelling - the COMMA project
COTAR promotes and facilitates technology transfer to the object-oriented paradigm and serves as a focal point for local researchers, international visitors and industry partners. COTAR is also a member of the Object Management Group. Specifically, COTAR offers the following benefits to its industry partners:

- immediate access to modern ideas on software development
- advice on migrating to OT
- advice on object-oriented language choice
- networking to other companies adopting OT for similar projects
- priority access to in-house and public professional development courses
- hands-on access to a wide range of object-oriented CASE tools, language compilers and support tools for evaluation
- access to research students providing collaborative input to appropriate projects.

**Design Centre**

**Director Graphic Design**
S. Huxley
Telephone: (03) 9214 6899

**Director Industrial Design**
B. Quarranell
Telephone: (03) 9214 6873

The aim of the Swinburne Design Centre is to provide a professional design consultancy within an educational environment for postgraduate students completing a Bachelor of Design (honours) program.

The Centre's focus on design research and professional design consultancy enables design projects for industry, government instrumentalities and selected community-based clients to be undertaken. The Centre also facilitates the application of new technologies including Interactive Multimedia and CAD to generate innovative visual communication solutions in graphic, product and exhibition design.

**Centre for Industrial Democracy**

**Chair**
J. Morieson
Telephone: (03) 9214 6640

The Centre was established in 1982 to provide an advisory and referral service to manufacturers, government departments and unions who intend to incorporate aspects of industrial democracy, employee participation and cooperative management.

Consulting, the writing of occasional papers, organising workshops and seminars, preparation of video-taped and printed training materials are all part of the Centre's work.

The Centre is also involved with ongoing contact with current cooperative developments in Spain and Italy.

**IRIS - Industrial Research Institute Swinburne**

(incorporating the CIM Centre)

(Tier 1 Research Centre)

**Director**
Professor E. Siores
Telephone: (03) 9214 8900
Fax: (03) 9214 5950
Website: www.swin.edu.au/iris

Swinburne's first research institute was formed in 1985. The Institute focuses on applied research and technology transfer in collaboration with Industry. It incorporates the CIM Centre and other research groups. Major research interests are advanced materials and materials processing, robotics and automation, management and industrial engineering, CIM/CAD/CAM, simulation and modelling, numerical engineering, mechatronics, control systems, polymer processing, rapid prototyping, vision and non-contact inspection, artificial intelligence and expert systems and other related specialisations.

**Centre for Information Systems Research**

**Director**
Associate Professor P. Swatman
Telephone: (03) 9214 6249
Fax: (03) 9819 1240
Email: cisr@swin.edu.au
Website: www.cisr.swin.edu.au

The Centre for Information Systems Research (CISR) was established in November of 1984 as a focus for basic and applied research into Information Systems within an organisational or social context. Although its members were originally drawn primarily from the School of Information Systems, the projects undertaken by the Centre have attracted researchers from a wide range of backgrounds including Sociology, Philosophy, Economics, Multimedia Communications and Software Engineering.

Major projects at present include:

**Requirements Engineering/Object Oriented Methodology**

Requirements Engineering is a multi-disciplinary area of research that concerns acquisition, modelling and validation of requirements for information systems. In requirements engineering human and organisational factors are as important as technical factors. Reference disciplines include information systems, software engineering, sociology, cognitive and organisational psychology, human-computer interaction, compute-supported co-operative work, linguistics, and philosophy.

Both major requirements engineering research programmes within the CISR are linked to the object oriented approach. FOOM is an OOM requirements engineering method and there is active research into linkages between Object Role Modelling and Object Orientation.

The CISR currently undertakes two major programmes of research in the area of requirements engineering

(a) Formal Object-Oriented Methodology (FOOM)
(b) Application Oriented Conceptual Modelling (AOCM)

**Virtual Communities and Organisations/Electronic Commerce**

Modern telecommunications enable the emergence of new organisational forms (virtual organisational and s encouraging existing organisations to restructure internally. In turn, these changes to organisations and organisational forms enable electronic commerce (EC).

In 1997 CISR became a foundation member of Collaborative Electronic Commerce Technology and Research (CeFECTeR) an initiative of nine southern hemisphere universities which, through federation of research centres (one located at each institution), can provide both depth and breadth of expertise in Electronic Commerce.

**Information Systems Management**

Current research focuses on the impact of quality on management of IT, in particular:

- an examination of the quality of the investment decision process;
- the impact of quality management techniques on the software development process and product;
- and the applicability of externally recognised standards to internal IS development.

Research is also measurement in management of IT. Areas of interest include the evaluation of IT investments and how measurement can be used to assist in achieving the objectives of downsizing.

**Centre for Innovation and Enterprise Pty Ltd**

**Executive Chair**
Professor M. Gillin
Telephone: (03) 9214 6202

The Centre for Innovation and Enterprise Pty Ltd offers a range of postgraduate programs.

The Centre is a world leader in the teaching and research of innovative management practices. It was the first academic centre in the world to concentrate its postgraduate management programs exclusively on the process of innovation and the management of change. The Centre for Innovation and Enterprise Pty Ltd (CIE) has a growing network of national and international affiliations with innovation-oriented centres of teaching, research and practice.

Swinburne first offered a formal qualification (a Graduate Diploma) in entrepreneurship and innovation in 1988. Program offerings were broadened with the addition in 1993 of a Master of Enterprise Innovation (Coursework Masters) and in

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Swinburne University of Technology | 1998 Handbook
1992 a Graduate Certificate in Enterprise Management. In 1991 a School of Innovation and Enterprise was established and an existing Graduate Diploma in Management added to the suite of programs. The Graduate Certificate in Training Management was developed in 1992/3. Since 1990, CIE has also offered its programs in Singapore, and is now present in Israel.

In 1984 the structure of the University was revised and the School of Innovation and Enterprise became a Centre within the School of Management.

The CIE offers:

- accredited postgraduate programs in the areas of innovation, entrepreneurship, management, and training management in Australia and overseas;
- accredited postgraduate programs, short courses, and training in corporations or other organisations, both in Australia and overseas;
- contract consulting services.

The Centre for Innovation and Enterprise Pty Ltd is a specific example of Swinburne's general commitment to the provision of high calibre educational programs which are simultaneously at the academic leading edge and directly applicable to the specific needs of commerce and industry.

### Media and Telecommunications Centre

**Head**

Professor T. Barr

Telephone: (03) 9214 8106.

The Media and Telecommunications Centre is part of the Institute of Social Research in the School of Social and Behavioural Sciences. Its role is to initiate educational programs that will foster closer cooperative connections with industry and the wider community. The activities it has undertaken include:

- the Commercial Radio Course to provide training for those planning a career in commercial radio;
- in conjunction with media studies coursework in the Bachelor of Arts program, the production of Swinburne publications and publication of local community newsletters;
- the presentation of short courses on a variety of media-related subjects (such as media regulation, techniques of radio production, media in the classroom, media awareness) and desktop publishing skills;
- a publishing program of dossiers and monographs on film, television and general media subjects;
- research consultancies on telecommunications and media in the Pacific, Asia and Australia;
- a short course in international communications; economics and regulatory policy;
- High profile public speaking engagements, especially on major trends in the communications field. This also involves fee for service engagements to secondary schools involved with VCE/CATs on media subjects.
- Specialist research projects including studies on interactive online services and on telecommunications futures in association with the Centre for International Research in Communications and Information Technologies (CIRCIT).

### Modelling and Process Analysis Centre

**Director**

Associate Professor Y. Morsli

Telephone: (03) 9214 8646

Fax: (03) 9214 8679

Established in 1989, the Centre aims to provide a focus for research and teaching for the power generation, mineral and chemical process industries.

In meeting its obligations, the Centre is developing three major thrusts:

- development and application of numerical models such as manufacturing process models, finite element and finite difference models of thermo-fluid and material deformation processes;
- development of "leading edge" physical modelling diagnostic tools. In this area the centre is committed to the continuing development of its Laser/Doppler velocimeter as a non-intrusive technique for single and two-phase flow measurement and flow borne particle sizing;
- development of specially designed technical computing software.

### The National Centre for Women: Employment, Education and Training

**Manager**

Dr J. Learmont

Telephone: (03) 9214 8633

Fax: (03) 9214 8643

463 Burwood Road

The National Centre for Women (NCW) is an initiative of Swinburne University of Technology. Within a national framework the Centre aims to create innovative study and work environments that recognises and builds on gender and cultural diversity.

In order to meet this objective, the Centre provides, on a fee for service basis, a range of services, products and research findings which encourage the exchange of ideas and practices between industry and post-secondary education. The NCW can play a significant and supportive role by enhancing an organisations ability to respond to an increasingly diverse and dynamic set of business and educational challenges.

Our consultancy service has four inter-related emphases: research, design and development, project management, and profiling diversity.

### National Korean Studies Centre

**Manager**

L. Smith

Telephone: (03) 9214 8662

Website: www.monash.edu.au/nksc

The National Korean Studies Centre (established 1991) is a joint venture of Swinburne University, Monash University and the University of Melbourne. The mission of the centre is:

- to develop and expand teaching, research and associated activities in Korean Studies, including language, culture, politics, law, business, education and other relevant disciplines;
- to enhance the Australian community's knowledge and understanding of Korea;
- to support Australia's economic and other national development strategies.

Building on existing teaching programs conducted in consortium member institutions and in institutions Australia-wide, the Centre:

- fosters the design and delivery of vocationally and culturally relevant Korean language and studies courses in all sectors of the Australian education system;
- fosters and undertakes high quality research relevant to Korean Studies and to Australia-Korea relations;
- promotes greater mutual awareness of all aspects of the Australia-Korea business and trade relationship;
- promotes student and staff exchanges between Australian and Korean universities.

### Centre for Organisational and Strategic Studies

**Director**

Associate Professor C. Christodoulou

Telephone: (03) 9214 8403

Fax: (03) 9819 2117

Email: cchristodoulou@swin.edu.au

The Centre for Organisational and Strategic Studies (CCS) was established in 1996. The aim of this centre is to become a nationally and internationally recognised research centre of organisational and strategic studies. The centre aims to attract postgraduate research students of the highest calibre to facilitate links from internationally respected fellows, to develop collaborative ventures with other research groups worldwide, to disseminate its research findings to both the academic and the broader community, and to maintain an ongoing colloquium program.
Centre for Psychological Services

Manager
R. Cook
Telephone: (03) 9214 8503 Fax: (03) 9819 2117

The Centre for Psychological Services provides several major services to the wider community. These include personal counselling, psychodynamic programs, educational and training services and research consultancy, all of which are offered on a fee-for-service basis.

The Centre is staffed by experienced psychologists associated with the School of Social and Behavioural Sciences, and enhances the teaching resources of the School by providing a facility for the professional training and education of graduate students.

Initially the Centre has developed special services in:

- marriage and relationship counselling
- family therapy
- infertility counselling
- lifestyle management
- treatment of anxiety
- management of children and adolescents.

The Centre accepts referrals from a wide range of other professionals and from both private and government sponsored agencies.

Science Education Centre
(The Swinburne Travelling Science Show)

Coordinator
P. Loes
Telephone: (03) 9214 8503

The Swinburne Travelling Science Show is the major activity of the Science Education Centre. The series of programs produced by the Show is designed to promote science and engineering among school students and the general public. The activities of The Swinburne Travelling Science Show include:

- school based programs for years prep to 10 designed to stimulate an interest in science and engineering;
- a community based program for promotion of Swinburne University to the wider community;
- support for the teaching of science in schools by the provision of in-service training and technical support materials.

The centre also coordinates the Sienmen's Science School and participates in events such as the ANZAAS Junior Science and Technology festival.

Swinburne Computer Human Interaction Laboratory (SCHIL) (Tier 2 Research Centre)

Director
Professor P. Sanderson
Telephone: (03) 9214 5207
Email: psanderson@swin.edu.au

SCHIL has emerged as a laboratory that aims to understand and improve the nature of information technology from the perspective of the end users of that technology.

SCHIL was established in the early 1980s to meet the needs of the important research and consulting areas of usability and human factors in computing systems. SCHIL, located within the School of Information Technology, provides a 'centre of excellence' in the human issues which underpin information technology and the systems development process.

SCHIL is broad in its interest, but always focused on the usability of technology. The following list highlights key projects areas:

- Applying bi-focal displays to data visualisation
- Applying distortion-oriented presentation techniques to geographical information systems
- Cognitive systems engineering
- Comparative study of auditory, icons and cursors
- Design rationale in user interface design
- Designing a user interface for folding editors to support collaborative work
- Ecological interface design
- Interface evaluation process guidelines
- Implicit theory in design methodologies
- Multimedia user interface prototyping
- Opportunism in design
- Temporal aspects of usability
- Trade-off decision making in user interface design
- Usability and the Internet

Other activities of the Centre include the teaching of human computer interaction at undergraduate and postgraduate levels, the supervision of postgraduate research students, and the conduct of high level consultancy in the areas of usability and user interface design.

Taxation Research and Advisory Centre

Director
D. Vinen
Telephone: (03) 9214 8674
Fax: (03) 9819 2117
Email: divinen@swin.edu.au

The Taxation Research and Advisory Centre was formed in response to two trends: firstly the community's need for easy access to advice on a progressively complex and difficult area, and secondly, the University's growing awareness that its valuable resources should be made more readily available to the community.

Services offered
- short courses
- research for tax planning
- research for contesting tax assessments
- advice on interpreting income tax legislation and tax rulings
- assistance in compliance with Australian Tax Office administrative requirements
- research for preparing academic papers
- library searches

Facilities
- extensive computer hardware and software
- excellent library of journals and books on taxation
- experienced and qualified staff with legal, accounting, economic and computing backgrounds

Using the Centre
The Centre runs on a fee-for-service basis and as a matter of policy wishes its resources to be used extensively by the community. The range of services offered should appeal to:

- small and large businesses with specific problems
- accountants or lawyers who wish to offer their clients an extended service
- entrepreneurs
- investors
- salary earners
- retirees.

Centre for Urban and Social Research
(Tier 1 Research Centre)

Chair
J. Pidgeon
Telephone: (03) 9214 8306, (03) 9214 8255
Fax: (03) 9819 5349
Website: www.swin.edu.au/dbhss/cusr.htm

The Centre was established in 1974 in order to bring together Swinburne staff with a common interest in urban issues. Since the early 1980s the focus has been on applied and pure research, originally focusing on housing but extending into a wide range of urban and social issues including gender research. These research activities have extended to initiatives in citizenship, and public sector training and education, including the production of workplace training modules and short courses.

The Centre emphasises the demographic, social and economic dimensions of urban and social research, education and training and policy development. A wide range of skills and techniques is offered by the Centre including survey research, needs analysis, social impact analysis, policy and program evaluation, housing market.
analysis, community profiles, population forecasting and projections, development of training modules and training.

**Current Research and Training Themes of the Centre**

**Housing and Urban Research**
Housing and urban issues, particularly the affordability of housing, infrastructure provision and housing finance.

**Citizenship**
This concerns the right and responsibilities of members of Australian society, and translating these citizenship rights and responsibilities into benchmarks of best practice.

**Survey and Demographic Research**
Large scale survey research focuses on topics as diverse as medical ethics, home purchase decision-making and car and public transport usage. In addition the need for demographic research has been a consistent requirement for many of the consultancy and research projects.

**Gender**
Gender research is also conducted, particularly in relation to equal opportunity in and access to the workplace.

**Education and Training**
The Centre provides training and educational materials for a wider audience. Particular attention is given to public and community housing management and administration.
Undergraduate Courses
## Course Chart

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Campus</th>
<th>Duration</th>
<th>Course Duration</th>
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### Applied Science

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<td>H050</td>
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### Double Degrees

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<td>H</td>
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### Honours year

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<td>Z073</td>
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<td>Z072</td>
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<td>Z096</td>
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### Business

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<td>A044</td>
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### Double Degrees

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<td>A059</td>
<td>Bachelor of Business/Bachelor of Arts (Korean)</td>
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### Honours year

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<td>Bachelor of Business (Honours)</td>
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### Computing and Information Technology

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<td>Z090</td>
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<td>Z063</td>
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<td>4 yrs</td>
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<td></td>
<td>79</td>
</tr>
<tr>
<td>Z045</td>
<td>Bachelor of Applied Science (Computing and Advanced Technologies)</td>
<td>H</td>
<td>4 yrs</td>
<td>NA</td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>Z049</td>
<td>Bachelor of Applied Science (Mathematics and Computer Science)</td>
<td>H</td>
<td>4 yrs</td>
<td>NA</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>Z043</td>
<td>Bachelor of Applied Science (Multimedia Technology)</td>
<td>H</td>
<td>4 yrs</td>
<td>NA</td>
<td></td>
<td>83</td>
</tr>
<tr>
<td>E059</td>
<td>Bachelor of Engineering (Telecommunications &amp; Internet Technologies)</td>
<td>H</td>
<td>5 yrs</td>
<td>NA</td>
<td></td>
<td>97</td>
</tr>
<tr>
<td>A056</td>
<td>Bachelor of Information Systems</td>
<td>H</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td></td>
<td>84</td>
</tr>
<tr>
<td>1050</td>
<td>Bachelor of Information Technology</td>
<td>H</td>
<td>3 yrs</td>
<td>NA</td>
<td></td>
<td>84</td>
</tr>
<tr>
<td>Z044</td>
<td>Bachelor of Software Engineering</td>
<td>H</td>
<td>5 yrs</td>
<td>NA</td>
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### Double Degrees

<table>
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<tr>
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<th>Course Title</th>
<th>Campus</th>
<th>Duration</th>
<th>Course Duration</th>
<th>Part-time</th>
<th>Refer Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z032</td>
<td>Bachelor of Applied Science/Engineering (Multimedia Technology/Telecommunications &amp; Internet Technologies)</td>
<td>H</td>
<td>5 yrs</td>
<td>NA</td>
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<td>88</td>
</tr>
<tr>
<td>A057</td>
<td>Bachelor of Information Systems/Bachelor of Business</td>
<td>H</td>
<td>4 yrs</td>
<td>6 yrs</td>
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### Honours year

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<tr>
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<th>Part-time</th>
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<tbody>
<tr>
<td>Z065</td>
<td>Bachelor of Applied Science (Computer Science)</td>
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<td>1 yr</td>
<td>NA</td>
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</tr>
<tr>
<td>A056</td>
<td>Bachelor of Information Systems</td>
<td>H</td>
<td>1 yr</td>
<td>NA</td>
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## Course Chart

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Campus</th>
<th>Course Duration</th>
<th>CoL</th>
<th>Course Duration</th>
<th>Part-time</th>
<th>Refer Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>D020</td>
<td>Bachelor of Design (Graphic Design)</td>
<td>P</td>
<td>3 yrs</td>
<td>NA</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D060</td>
<td>Bachelor of Design (Industrial Design)</td>
<td>P</td>
<td>3 yrs</td>
<td>NA</td>
<td>89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IED10</td>
<td>Bachelor of Design (Interior/Exhibition Design)</td>
<td>P</td>
<td>4 yrs</td>
<td>NA</td>
<td>90</td>
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<td></td>
</tr>
<tr>
<td>P0550</td>
<td>Bachelor of Engineering (Product Design Engineering)</td>
<td>H &amp; P</td>
<td>5 yrs</td>
<td>NA</td>
<td>91</td>
<td></td>
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</tr>
<tr>
<td>D050</td>
<td>Bachelor of Design (Graphic Design) (Honours) (IBL)</td>
<td>P</td>
<td>4 yrs</td>
<td>NA</td>
<td>88</td>
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<tr>
<td>D060</td>
<td>Bachelor of Design (Graphic Design) (Honours) (Design Centre)</td>
<td>P</td>
<td>4 yrs</td>
<td>NA</td>
<td>88</td>
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</tr>
<tr>
<td>D061</td>
<td>Bachelor of Design (Industrial Design) (Honours)</td>
<td>P</td>
<td>4 yrs</td>
<td>NA</td>
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## Engineering and Technology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<th>Course Duration</th>
<th>CoL</th>
<th>Course Duration</th>
<th>Part-time</th>
<th>Refer Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH055</td>
<td>Bachelor of Engineering (Chemical and Bioprocessing)</td>
<td>H</td>
<td>5 yrs</td>
<td>10 yrs</td>
<td>92</td>
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<td></td>
</tr>
<tr>
<td>C050</td>
<td>Bachelor of Engineering (Civil)</td>
<td>H</td>
<td>5 yrs</td>
<td>10 yrs</td>
<td>92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E050</td>
<td>Bachelor of Engineering (Electrical and Electronic)</td>
<td>H</td>
<td>5 yrs</td>
<td>10 yrs</td>
<td>94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P050</td>
<td>Bachelor of Engineering (Manufacturing)</td>
<td>H</td>
<td>5 yrs</td>
<td>10 yrs</td>
<td>95</td>
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</tr>
<tr>
<td>M050</td>
<td>Bachelor of Engineering (Mechanical)</td>
<td>H</td>
<td>5 yrs</td>
<td>10 yrs</td>
<td>96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P0550</td>
<td>Bachelor of Engineering (Product Design Engineering)</td>
<td>H &amp; P</td>
<td>5 yrs</td>
<td>NA</td>
<td>97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R050</td>
<td>Bachelor of Engineering (Robotics and Mechatronics)</td>
<td>H</td>
<td>5 yrs</td>
<td>NA</td>
<td>98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E069</td>
<td>Bachelor of Engineering (Telecommunications &amp; Internet Technologies)</td>
<td>H</td>
<td>5 yrs</td>
<td>NA</td>
<td>84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z044</td>
<td>Bachelor of Software Engineering</td>
<td>H</td>
<td>5 yrs</td>
<td>NA</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M055</td>
<td>Bachelor of Technology (Aviation)</td>
<td>H</td>
<td>3 yrs</td>
<td>NA</td>
<td>99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C051</td>
<td>Bachelor of Technology (Building Surveying)</td>
<td>H</td>
<td>4 yrs</td>
<td>8 yrs</td>
<td>99</td>
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## Double Degrees

<table>
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<tr>
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<th>Campus</th>
<th>Course Duration</th>
<th>CoL</th>
<th>Course Duration</th>
<th>Part-time</th>
<th>Refer Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN00</td>
<td>Bachelor of Engineering/Bachelor of Arts (Chemical &amp; Bioprocess, Civil, Electrical, Manufacturing, Mechanical)</td>
<td>H</td>
<td>5 yrs</td>
<td>NA</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EA00</td>
<td>Bachelor of Engineering/Bachelor of Business (Chemical &amp; Bioprocessing, Civil, Electrical, Manufacturing, Mechanical &amp; any Business major)</td>
<td>H</td>
<td>5 yrs</td>
<td>NA</td>
<td>101</td>
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## Humanities and Social Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Campus</th>
<th>Course Duration</th>
<th>CoL</th>
<th>Course Duration</th>
<th>Part-time</th>
<th>Refer Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>N061</td>
<td>Certificate in Commercial Radio</td>
<td>H</td>
<td>6 mths</td>
<td>NA</td>
<td>102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N062</td>
<td>Associate Degree in Social Science</td>
<td>H</td>
<td>2 yrs</td>
<td>NA</td>
<td>103</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N050</td>
<td>Bachelor of Arts</td>
<td>H</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td>104</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N053</td>
<td>Bachelor of Arts (Media &amp; Communications)</td>
<td>H</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td>113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N051</td>
<td>Bachelor of Arts (Psychology/Psychophysiology)</td>
<td>H</td>
<td>3 yrs</td>
<td>NA</td>
<td>113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N056</td>
<td>Bachelor of Social Science</td>
<td>H</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td>114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N053</td>
<td>Bachelor of Social Science (Psychology)</td>
<td>H</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td>115</td>
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</tr>
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## Dual Qualification

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Campus</th>
<th>Course Duration</th>
<th>CoL</th>
<th>Course Duration</th>
<th>Part-time</th>
<th>Refer Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>N054</td>
<td>Bachelor of Arts/Diploma of Business (Office Management)</td>
<td>H</td>
<td>4 yrs</td>
<td>NA</td>
<td>115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N068</td>
<td>Bachelor of Social Science/Diploma of Community Services (Community Development)</td>
<td>P/H</td>
<td>4 yrs</td>
<td>8 yrs</td>
<td>115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N059</td>
<td>Bachelor of Social Science/Diploma of Community Services (Psychiatric Disability Support)</td>
<td>P/H</td>
<td>4 yrs</td>
<td>8 yrs</td>
<td>116</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N057</td>
<td>Bachelor of Social Science/Diploma of Community Services (Welfare Studies)</td>
<td>P/H</td>
<td>4 yrs</td>
<td>8 yrs</td>
<td>117</td>
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</tr>
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## Honours Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Campus</th>
<th>Course Duration</th>
<th>CoL</th>
<th>Course Duration</th>
<th>Part-time</th>
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<tbody>
<tr>
<td>N052</td>
<td>Bachelor of Arts (Honours)</td>
<td>H</td>
<td>1 yr</td>
<td>2 yrs</td>
<td>118</td>
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## Swinburne at Lilydale

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Campus</th>
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<th>CoL</th>
<th>Course Duration</th>
<th>Part-time</th>
<th>Refer Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>L060</td>
<td>Bachelor of Applied Science (Computing)</td>
<td>L</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td>122</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L055</td>
<td>Bachelor of Business</td>
<td>L</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td>123</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Plus Industry Based Learning)</td>
<td>L</td>
<td>4 yrs</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L050</td>
<td>Bachelor of Social Science</td>
<td>L</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td>125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L055</td>
<td>Bachelor of Tourism and Enterprise Management</td>
<td>L</td>
<td>3 yrs</td>
<td>6 yrs</td>
<td>127</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Abbreviations of undergraduate awards

The abbreviation for Swinburne University of Technology is SUT and should appear after a Swinburne award in parentheses. For example: BBus(SUT). Awards received from Swinburne Institute of Technology (i.e., pre-1993) should have the abbreviation SIT placed after the award.

Hawthorn Campus

Bachelor of Applied Science BAppSc
Biochemistry
Chemistry
Computer Science (Conversion)
Computer Science and Software Engineering
Computing and Advanced Technologies
Environmental Health
Mathematics and Computer Science
Medical Biophysics & Instrumentation
Multimedia Technology
Psychology/Biochemistry
Psychology/Psycho physiology

Bachelor of Applied Science/Bachelor of Engineering BAppSc/BEng
Medical Biophysics & Instrumentation/Electrical & Electronic Engineering
Multimedia Technology/Telecommunications and Internet Technologies

Bachelor of Applied Science (Honours) BAppSc(Hons)
Biochemistry
Chemistry
Computer Science
Environmental Health
Mathematics
Medical Biophysics & Instrumentation
Psychology/Psycho physiology

Bachelor of Arts BA
with majors in:
Asian Studies
Australian Studies
Cultural Studies
European Studies
Italian
Japanese
Korean
Literature
Media Studies
Philosophy and Cultural Inquiry
Vietnamese

Bachelor of Arts (Media and Communications) BA

Bachelor of Arts (Psychology/Psycho physiology) BA

Bachelor of Arts/Associate Diploma of Business (Office Administration) BA (and) AssDipBus

Bachelor of Arts (Honours) BA(Hons)
Cultural Studies
Industry and Community Studies
Languages
Psychology
Social Studies

Bachelor of Social Science BSocSc
with majors in:
Politics
Psychology
Sociology

Bachelor of Social Science (Psychology) BSocSc(Psychology)

Bachelor of Social Science/Diploma of Community Services Welfare Studies BSocScDipCs(Welfare)
Community Development BSocScDipCs(CommDev)
Psychiatric Disability Support BSocScDipCs(PsychDisab)

Certificate in Commercial Radio CertCommRadio

Bachelor of Business BBus
with majors/minors in:
Accounting
Business Law
Business Modelling
Economics
Finance
Human Resource Management/Organisation Behaviour
Information Systems
International Business
Management
Manufacturing Management
Marketing

Bachelor of Business (Accounting) BBus(Accounting)

Bachelor of Business (Human Resource Management) BBus(Human Resource Management)

Bachelor of Business (Marketing) BBus(Marketing)

Bachelor of Business/Bachelor of Arts (Language)

Bachelor of Business (Honours) BBus(Hons)

Business/Italian BBus/BA(Italian)
Business/Japanese BBus/BA(Japanese)
Business/Korean BBus/BA(Korean)
Business/Vietnamese BBus/BA(Vietnamese)
Bachelor of Engineering
- Chemical and Bioprocessing
- Civil
- Electrical & Electronic
- Manufacturing
- Mechanical
- Product Design Engineering
- Robotics and Mechatronics
- Telecommunications and Internet Technologies

Bachelor of Engineering/Bachelor of Arts
- Chemical & Bioprocess/Business Arts
  - Civil/Arts Major
  - Electrical/Arts Major
  - Manufacturing/Arts Major
  - Mechanical/Arts Major

Bachelor of Engineering/Bachelor of Business
- Chemical & Bioprocess/Business Major
- Civil/Business Major
- Electrical/Business Major
- Manufacturing/Business Major
- Mechanical/Business Major

Bachelor of Information Systems

Bachelor of Information Systems/Bachelor of Business

Bachelor of Information Technology

Bachelor of Software Engineering

Bachelor of Technology
- Aviation
- Building Surveying

Prahran Campus
Bachelor of Design
- Graphic Design
- Industrial Design
- Interior/Exhibition Design

Bachelor of Design (Honours)
- Graphic Design
- Industrial Design

Swinburne at Lilydale
Bachelor of Applied Science (Computing)

Bachelor of Business
- Accounting
- Business Computing
- Economics
- Economics/Finance
- Human Resource Management
- Marketing

Bachelor of Social Science
- Media Studies
- Psychology
- Sociology
- Social Statistics

Bachelor of Tourism and Enterprise Management
- Tourism
- Enterprise Management

General Student Information

Note: At the time of publishing this Handbook, policies and procedures of the Higher Education Division were under review. Students will be notified in writing of any changes as soon as they are finalised.

Admission with Advanced Standing
For details on Advanced Standing refer to the Swinburne Pathways Credit Transfer Guide. This Guide is freely available from the Swinburne Information Office.

Amendment to enrolment

Withdrawing from subjects
A student may withdraw from a subject without penalty of failure up to the dates shown below:

(a) for subjects concluding at the end of the first semester
   - 31 March 1998
(b) for subjects concluding at the end of the second semester
   - 31 August 1998

A withdrawal made after the dates set out above will result in a fail being recorded on the student’s academic record (the symbol NWD, not pass because of late withdrawal, will appear).

A student who believes that the failing result NWD should not be recorded must obtain the specific approval of the relevant school.

Circumstances supporting the application must be set out on the Amendment to Enrolment form on which the approval for the withdrawal is sought.

If, as a consequence of withdrawing from a subject or subjects, a student changes from full-time to part-time status, a refund of a portion of the general service fee will be made only if the withdrawal is made before 31 March 1998 for semester one, or for semester two, before 31 August 1998.

Adding subjects
No subject may be added to a student's enrolment without the approval of both the teaching and the awarding Schools. Students should be aware that some Schools have restrictions on the period during which subjects can be added.

Notwithstanding any Divisional rules, after 31 March 1998 for subjects concluding at the end of the first semester or 31 August 1998 for subjects concluding at the end of the second semester, an amendment will be permitted only where special circumstances exist and the approval of the relevant Head of School/Head of Studies and the Registrar has been given. A penalty fee of $30 per subject, up to a maximum of $250 per semester, may apply to students adding subjects after the census date.

Note: This penalty fee would be in addition to the late enrolment fee where applicable. (Refer Fees section)

Students should note that the addition of subjects may result in a change from part-time to full-time status. In such circumstances the amendment will only be recorded when an amount of money being the difference between the part-time and full-time general service fee paid has been paid. It is the responsibility of students to ensure that they are aware of any additional fees required and to arrange for their payment.

Amendments to personal details
A student who changes their name, address, telephone number or place of employment should complete an Amendment to Personal Details form which is available from the Student Administration Enquiries Office, School Office or the Divisional Office.

Students recollecting a change of name will be required to produce legal documentary evidence (e.g. marriage certificate, statutory declaration, deed poll certificate) in addition to completing an Amendment to Personal Details form.
Application procedure

**Full-time: First year**
Applications for entry to full-time study at the first year level must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. Students studying VCE in 1997 1997 VCE students apply for courses listed in the VTAC Guide on the VTAC Infoline. Students should consult the VTAC publication Guide to University and TAFE Courses.

**All other applicants**
All other applicants should use Form E to apply for courses. Copies of the form, and the Guide to University and TAFE Courses in which it is enclosed, are obtainable from VTAC.

**Alternative Category Entry**
(For applicants without VCE or equivalent)
Applications for all Higher Education full-time courses must be made to VTAC.

Applicants for some courses may be required to attend an interview or sit an aptitude test.

**Special Entry Category**
Applicants who do not have a year 12 qualifications or who have a non-competitive Year 12 score and no other tertiary study, and normally have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. However, Engineering and Applied Science applicants must have passed the subject prerequisites.

**Full-time: Second year and higher**
Applications for Applied Science, Arts, Business, Social Science and Tourism courses must be made to VTAC, 40 Park Street, South Melbourne 3205. Applications for Engineering should be made directly to Swinburne. Forms can be obtained from the Admissions Officer, (03) 9214 8389.

The closing date for full-time places in second and higher years in Engineering for 1998 is 16 January 1998.

**Part-time**
Applications for admission to listed part-time Arts, Business, Social Science and Tourism courses must be made through VTAC (closing date 30 September 1998). All applications for part-time Engineering courses must be made directly to Swinburne (closing date 16 January 1998). Application forms are obtained from the Admissions Office, (03) 9214 8388.

Part-time places are not offered in Applied Science or the Swinburne School of Design.

**International students**
Applications by international students for entry to all Swinburne courses must be made through the International Student Unit. Because of Australian government regulations, part-time study is not available to full-fee paying international students.

Telephone: (03) 9214 8151 or (03) 9214 8647.

**Assessment**
Assessment of student performance is carried out in accordance with Assessment Regulations.

Student performance is assessed by various methods, such as formal examinations, tests held during the semester, project work, assignments and laboratory reports. A statement of the workload requirements and the assessment program for each subject is given to all students by the second week of each semester.

Students enrolled in a Bachelor of Design program: each year of the program is taken as a whole and in order to qualify an overall pass must be achieved on the year's work.

The School Board is the final authority for determining the results in any of the assessments and has responsibility for the processing of academic awards for the School of Design.

**Assessment regulations**

1. **Student performance (Applied Science and Engineering)**

1.1 Unsatisfactory performance - Applied Science and Engineering programs.

A student whose performance is unsatisfactory will be required to repeat the failed subject(s) at the earliest opportunity. If a student has completed the necessary prerequisite subjects, they may also be permitted to enrol in additional subjects from the next stage of the program. This additional enrolment is conditional upon the timetable allowing attendance at all classes and no enrolment will be permitted in classes which overlap. If there is any change in the timetable which results in overlapping classes, it will be the responsibility of the student to notify the relevant School of the overlap and make the appropriate amendment to their enrolment. The existence of overlapping classes will not be accepted as an excuse for unsatisfactory performance.

Students who enrol in combinations of subjects where the combination involves only a small number of subjects must accept:

- Timetabling of classes may be less than ideal;
- Timetabling of examinations may involve successive examinations on the one day;
- The difficulties encountered in 1 and 2 above may not be cited as reasons for poor performance.

1.2 Conceded Pass

**Eligibility**
Science and Engineering undergraduate students will be awarded a Conceded Pass in any subject in which they achieve a result of 45-49%, provided they do not exceed the conditions outlined below.

**Maximum Number**
Conceded passes may be allocated to subjects comprising no more than 10% of the total credit points required for completion of the academic component of a student's degree, not including Industry Based Learning. For example, a student in a 300 credit point degree course can only have 30 credit points in Conceded Pass results. Once these 30 credit points have been used in Conceded Passes then the student must clearly pass all remaining subjects.

Where there are more subjects in the range of 45-49% than the student's remaining Conceded Pass eligibility quota, Conceded Passes will be awarded in the subject(s) with the highest marks, up to the student's limit.

Conceded Passes will be allocated at the end of each semester and retroactive adjustments will not be permitted.

The Divisional Courses Committee will be the final arbiter in all matters relating to the granting of all Conceded Passes.

In calculation of a student's Grade Point Average, where other passing grades attract a Grade score of 1.00, a Conceded Pass will be given a Grade score of 0.75.

**Standards of Progress**
When applying the Division's standards of progress, a Conceded Pass will be considered to be an academic pass.

**Current Students**
Those students who commenced their course prior to 1997 will be granted Conceded Passes on a pro rata basis.

**Assessment Review**
The full details and text regarding Assessment Reviews are contained under section 16 of the Higher Education Procedures Relating to Student Assessment and Appeals. (See separate Policies and Procedures Handbook)

Students who are dissatisfied with any aspect of their assessment should first contact the relevant member of the teaching staff to discuss the matter informally. This process should be completed within 20 working days of receipt by the student of the assessment.

A fee of $40.00 may be charged for each subject reassessment. This may be refunded under circumstances outlined in the Procedures.

**Austudy (Higher Education)**
Generally Austudy provides financial help, on an income and asset test basis, to students who are studying approved secondary or tertiary programs.

Application forms and information can be obtained from all Commonwealth Employment Service offices and from the University's Housing, Part-time Employment, and Finance Office.

Students applying for Austudy are required to provide details of their HECS load as calculated by Swinburne. The Confirmation of Enrolment provided to each enrolling and re-enrolling student gives details of this HECS load. Enquiries should be directed to the appropriate School Office.

Students must submit a new calculation of the HECS load which will be provided by the Division if their load changes after any Amendment to Enrolment.
Awards (application to receive qualification)

Students eligible to be admitted to a degree or to be awarded a diploma, graduate diploma or certificate are required to apply for the award on the form prescribed. Forms are available from and must be lodged at the Awards Office, Room AD127 Administration Building. Applications for all awards close on 30 May (for students completing their courses at the end of first semester) or 30 October (for students completing their courses in December) of the year in which the student anticipates completion of the academic work for the award.

Certification of official documents

Policy and Procedure

It is the policy of the University to certify official documents relating to individual students and graduates of the University. The purpose of certification is to authenticate photocopies of official documents of Swinburne University of Technology.

Only official documents which have originated from within the Registrar’s Department and from the administrative sections of the Divisions and Schools of the University will be certified.

Official documentation

The following are the various documents available from the University:

- Academic Statement
- Award letter
- Enrollment Status letter
- Exemption letter
- Result Certificate
- Testamur/Certificate

Certification

Only staff of the Student Administration Enquiries Section of the Registrar’s Department may certify documents.

Staff will certify copies of official documents only upon presentation of the original by the applicant.

Academic statements

1. Students automatically receive records of their academic progress. Result Certificates are posted to each student at the end of each semester.
2. Other statements are available, on request, at the fees shown:
   - (a) List of all results and a statement indicating completion of course if applicable. $15.00
   - (b) A list of all results plus a list of those remaining to be passed for the completion of the course. $25.00

These statements are normally produced five working days after the request has been made.

Confirmation of University records

The University recognises that errors can be made in the transcription of enrolment details from original copies of enrolment forms to the computer-held files. It also realises that such errors can cause a great deal of inconvenience to students (and staff) if not detected.

Students are therefore asked to check their confirmation of enrolment report at the time of enrolment.

Students who do not check their confirmation of enrolment report, or who do not by the due date notify the School Office of any errors existing in the records, will be required to pay a substantial fee for each amendment to be made. (Refer “Adding Subjects” under “Amendment to Enrolment” section)

Course requirements

The syllabus for all courses in the Higher Education Division may be found in the separate sections of this Handbook.

Provisional timetables for all courses in the Division will be displayed at enrolment. Students should note that these timetables are provisional only and may be changed depending on staff and facilities available. Where it is necessary to change a timetable, details will be posted on the division or school notice board, as appropriate.

Laboratory material and practical requirements

Students studying Chemistry are expected to provide laboratory coats, safety spectacles, practical notebooks, and mirror equipment such as spatulas. Other laboratory equipment such as a locker is provided for student use on payment of a deposit. Lockers are allocated by the Chemistry laboratory Manager to whom application for a locker must be made at the time of enrolment.

Laboratory & practical work in Applied Science

In all appropriate subjects a student must perform satisfactorily in practical or laboratory work in order to gain a pass. Each enrolled student must either complete adequately the laboratory work relevant to the current year, or obtain recognition for work previously completed at Swinburne or elsewhere. Students seeking such recognition should consult the lecturer in charge of the subject.

Practical work in Engineering

Practical work forms a significant part of most subjects in Engineering degree programs.

Students are expected to attend all practical work sessions (for example, laboratory work, drawing office and field work, excursions and site visits) and to complete all the practical work assignments set by the lecturers responsible for a particular subject. Assignments not submitted by the due dates may fail to count as practical work completed.

Students should approach their lecturers to find out the details of practical work requirements in each subject.

Examinations in Design

Students must enter for all subjects in a particular year of the program except where an exemption has been approved or electives offered.

The form of the examination and the content of the project work assessment will be determined by the panel of examiners and moderators appointed by the School Board.

General conditions in Design

Swinburne reserves the right to retain any work executed by students as part of their program studies. Work not required may be claimed by the student after it has been assessed.

The programs are not available for part-time or external study.

Mobile phones in classes

The Divisional policy for mobile phones is:

- All mobile phones should be silenced in classes and lectures;
- students talking on mobile phones or permitting a phone to ring will be asked to leave the room for the remainder of the lecture or class.

Engineering - Awarding of degree with honours

Each year the Higher Education Division will determine which graduating Engineering students should be awarded a degree with honours.

Four categories of honours will be awarded:

- Honours 1
- Honours 2A
- Honours 2B
- Honours 3

Account will be taken of performance over the later years of the program. The proportion of final ranking allocated to each year will be as follows:

- 5th year 40%
- 4th year 30%
- 3rd year 30%

Overall, no more than approximately forty per cent of completing students will be awarded a degree with honours, with approximately equal numbers in each category.

Only the first attempt at a subject will be taken into account in determining the weighted credit point score of a student for the purposes of the award of the degree with honours.

Each Engineering School submits the ranking lists for consideration at the Engineering Courses Committee.

Engineering feeder courses

An arrangement exists with La Trobe University College of Northern Victoria, Bendigo, which enables students to undertake part of a Swinburne engineering degree program at Bendigo. The equivalent of the first two years of the programs in manufacturing, mechanical and electrical engineering are currently available at Bendigo.

Swinburne University of Technology | 1998 Handbook
Students who complete these stages successfully are able to transfer to Swinburne with full credit. There is provision for students who commence their engineering studies at Bendigo to undertake the two six-month industrial experience components of their program in Bendigo.

Engineering mentor scheme
Each first-year undergraduate Engineering student is allocated to a particular member of staff who is known as the student’s mentor. These mentors are responsible for guidance on student difficulties, programs, exemptions and re-enrolments.

Enrolment
Definitions of Enrolment terms
In this section:
Enrolment includes ‘re-enrolment’.
Enrolment form includes ‘re-enrolment form’.
Subject means any one of study which is part of a course leading to an award and which has a title and code number in the subject register maintained by the University; the singular includes the plural.
Awarding School means the School or, where courses are organised on a divisional basis, the division responsible for the particular course, ‘head of awarding division’.
Deferred entry means an intending first-year student defers enrolment for up to one year on receipt of an offer of a place. Deferred is not automatic for some science and engineering courses.
Amendment to enrolment means the addition, deletion or changing of subject enrolments in a student’s course of study.
Abandonment means discontinuation of enrolment without formal notification.
Abandonment has a similar meaning, unless the contrary intention is expressed.

Although the Swinburne calendar is divided into two teaching semesters, students need enrol only once for the subjects they are undertaking in any one year. When it is necessary to change the list of subjects entered for at enrolment a student must complete an Amendment to Enrolment form available from the School office. Students should note that this must be obtained the approval of the head of their awarding school before amending their enrolment.

Applicants offered a place in any course in the Division will be expected to attend for enrolment in February. Successful applicants will be notified of enrolment times when they are offered a place.

Conditions of enrolment
Enrolment at Swinburne University of Technology is conditional upon:
• the information which is supplied by the applicant to the University, upon which an offer of a place in a course is based, being accurate and complete;
• the approval of the head of the awarding school (or his/hers nominee) of the subject concerned;
• the completion of the requisite enrolment and statistical information forms required by the University;
• the undertaking of the student to abide by the statutes, regulations, policies and procedures and standards of conduct of Swinburne University of Technology;
• the payment of any prescribed general service fee;
• the lodging of a Payment Options form in regard to the Higher Education Contribution Scheme (HECS) and, if appropriate, making an ‘up front’ payment.

Deferred entry
Students who are offered a place in a first year undergraduate program for 1998 may apply for a deferment until 1999. Applications must be addressed to the School Administration Manager, and must be made at the time an offer is received. Deferment is not automatic.
Students who have been granted deferment will be informed in writing.
The Deferment Procedures policy can be found in the separate publication Policies and Procedures.

Single subject enrolments
Under the conditions set out below, it is possible to study single subjects offered by the University without enrolling in a full degree or diploma course.
The minimum fee per semester for single subject (non-credit) enrolments in 1998 will be at the rate per weekly contact hour as set by the individual school, plus the appropriate general service fee.
The offering of places in single subjects is at the discretion of the School concerned and can be done only after full credit students have been accommodated. Therefore offers may be as late as the first week of teaching.

Application form is available from the Division or School Office concerned or the Admissions Officer.

Entrance requirements
The general criterion for consideration for entry to a Swinburne course is Swinburne’s assessment of an applicant’s ability to complete a chosen course.
1. To satisfy the general entrance requirements and to be considered for admission to the first year of a degree or diploma course a student must have satisfactorily completed the VCE including the satisfactory completion of the work requirements in Units 3 and 4 of English.

Any person offered a place at Swinburne may be required to present for a proficiency test in the English language. Applicants found to be below the necessary standard in this test may be required to undertake a remedial English course concurrently with their undergraduate course or may have their provisional offer of a place withdrawn.
In addition to meeting the general requirements above, applicants must also satisfy any prerequisite or special requirements specified by the Higher Education Division and listed in the Swinburne Handbook.
The Higher Education Division may specify criteria for special entry schemes, covering applicants who may not hold the necessary formal entry qualifications but who, in the course selection officer’s view, have the motivation and potential to successfully complete the course concerned.

Other qualifications
Applicants must have a qualification deemed to be the equivalent of VCE by the Victorian Board of Studies. Such qualifications may include interstate and overseas qualifications and associate diploma studies at a TAFE institution unless entering through a special entry scheme.

Alternative Category Entry
The Swinburne Alternative Category Entry program enables applicants with no VCE or equivalent qualification to be considered for acceptance into undergraduate courses.
The categories are:

Age and Education
There are no age restrictions. This category is for applicants with no VCE or equivalent. Selection is based on the personal history provided with the application for all courses except Business, which requires applicants to sit the Special Admissions Test administered by VTAC for the Australian Council for Educational Research.

Continuing Difficulties During Schooling, Applicants with Disabilities & Aborigines and Torres Strait Islanders
Applicants in these categories may provide additional information with their application form and contact the Swinburne Equity Unit for further assistance. Applicants who have passed VCE may also provide additional information with their applications.

In all cases, applicants for courses offered by Engineering and Science must have passed the course prerequisites.

Fees
General service fee
The General Service Fee is applied to the provision of amenities and services by the University. It does not confer membership of the Swinburne Student Union or any other student organisation.
All enrolling students are required to pay a general service fee. The fees for 1998 are:

<table>
<thead>
<tr>
<th>Student Status</th>
<th>Total GS Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time, full year</td>
<td>225.00</td>
</tr>
<tr>
<td>Full-time, semester</td>
<td>117.50</td>
</tr>
<tr>
<td>Part-time, full year</td>
<td>117.50</td>
</tr>
</tbody>
</table>


Part-time, semester 58.75
Industry Based Learning/Distance Education: full-time 47.00
Industry Based Learning/Distance Education: semester 29.50
Full-time student:
  1 semester IBL 25.00
  1 semester full-time 117.50
  Total 141.00
Part-time student:
  1 semester IBL 25.00
  1 semester part-time 82.25
  Total 107.25

International Students
Full-fee paying international students do not pay HECS fees. Please contact the International Student Unit for information on fees applicable to international students.

Part-time students
For all University purposes a part-time student is one enrolled for subjects which require a total class, tutorial and/or laboratory contact time of less than seventy-five per cent of the full-time course load.

Industry Based Learning
Students studying under the industry-based learning (cooperative) format are considered to be full-time students. They qualify for the special rate only in those years which include work experience. These are:
- Applied Science Degree After Semester 4
- Business Degree After Semester 4
- Graphic/Industrial Design Degrees After Semester 4
- Engineering Degree After Semester 5

Late re-enrolment fee
A late enrolment/payment fee may be applied in the following situations:
- Students who do not complete re-enrolment details by the date specified by the Division, e.g. failure to return forms required to facilitate confirmation of enrolment, will incur a $50 late enrolment/payment fee.
- Students who do not pay enrolment fees by the due date nominated by the Division as shown on the liability statement will incur a $50 late enrolment/payment fee.

Note: After the Higher Education Division census date the above fee would be in addition to individual subject penalty fees listed under Amendments to Enrolment.

Additional fees
A part-time student who adds any subject to those for which he or she was enrolled and thereby increases the course load involved in his or her course to more than seventy-five per cent of the full-time course load, will be required to pay the difference between the part-time and the full-time general service fee.

Refund of fees
A student who withdraws from a course may receive a refund of fees, if notice of withdrawal is lodged at the School Office before 31 March 1998 for semester one and 31 August 1998 for semester two.

No refunds of fees will be made where a student withdraws from study after 31 March 1998 for semester one and 31 August 1998 for semester two.

Higher Education Contribution Scheme (HECS)
The Higher Education Contribution Scheme (sometimes referred to as the graduate tax) came into effect on 1 January 1989. Unless exempt from the provisions of the Scheme, all students enrolled in the Higher Education Division have to make a contribution to the cost of their studies.

In 1997 the annual HECS contribution for a ‘Pre 1997’ or continuing student was $2478.00 for a full-time student (or $1239.00 for each full-time semester).

Students commencing Higher Education studies for the first time after 1 January 1997 are liable to pay HECS contributions at ‘Differential HECS’ rates. This means that HECS contribution charges will vary according to the subjects in which you enrol.

For example students enrolled in Band 1 subjects eg. Arts, Humanities will pay a maximum contribution of $3300 and students enrolled in Band 2 subjects eg. Business, Engineering, will pay a maximum of $4700. Part-time students pay a contribution in proportion to the full-time load.

HECS payment options
Students have the option of:
- (i) Paying the contribution on an "Upfront" basis (i.e. a lump sum payment attracting a 25% discount);
- (ii) Paying the contribution on an "Upfront" basis and authorising the 'Safety Net for Upfront' option (Swinburne will automatically convert the student status to the "Deferred" Option should the lump sum payment not be received by Census date);
- (iii) Paying the contribution on a "Deferred" basis through the taxation system; or
- (iv) Making one partial payment 'Upfront' (minimum $100) and having the balance collected via the taxation system. Partial payments will not attract a discount.

Any permission is given to make more than one partial payment a handling fee may be charged.

Note: Due to the proposed changes announced in the 1997 Budget, the procedure for making ‘Partial’ payments may be different in 1998.

Tax File Numbers
All students selecting (ii) ‘Upfront with the Safety Net’ or (iii) ‘Deferred’ options must provide their Tax File Number to the University at the time of their enrolment. Students who do not have a Tax File Number must apply to the Australian Tax Office before enrolment and submit their Tax File Number to the University before the census date. Failure to provide the University with a Tax File Number will result in cancellation of enrolment.

Change of HECS Payment Option
Students have the option of changing their option by completing a new Payment Options form before the census date for each semester. If in a new form, notifying a change of option, is not received by the HECS Office, the student’s HECS status remains unchanged and carries over into the following semester. Census dates:

HECS Exempt categories
Students exempt from the Scheme include:
- those who have paid fees to the University for a postgraduate course in accordance with Commonwealth guidelines;
- those enrolled in a non-award course;
- those fully sponsored under a foreign aid program;
- full-fee paying students;
- student otherwise subject to Overseas Student Charge arrangements;
- holders of a HECS postgraduate scholarship;
- holders of an undergraduate equity scholarship;
- those enrolled in a non-award single subject course excluding Overseas Students.

All exempt students must lodge a Payment Options form by completing the exemption declaration section on the form. Proof of exemption will be required. Further details about the Scheme are available from the University Administration Enquiries Office or by contacting the HECS Office on (03) 9214 8992.

HECS refunds
HECS refunds will be made to ‘Upfront’ payees where a student withdraws from the course on or before 31 March for semester one and 31 August for semester two. Students who require a refund must apply to their Division or School Administration Office. A copy of the receipt must be provided.

HECS liability
Students who withdraw from subjects or total enrolment after 31 March 1998 for subjects concluding at the end of the first semester and after 31 August 1998 for subjects concluding at the end of the second semester, will incur a HECS liability for that semester.

Students who withdraw from a full-year subject after 31 March 1998 will incur a HECS liability for semester 1. Students who withdraw from a full-year subject after 31 August 1998 will incur a HECS liability for two semesters.

HECS Exemption Scholarships (Undergraduate)
In 1998 the Commonwealth government will provide a small number of merit-based equity scholarships to help people with special needs undertake university study. These scholarships are administered by the University Equity Unit. Further information can be obtained by contacting the Equity Unit on (03) 9214 8855 or fax (03) 9214 8937.
Identity cards

When on campus, all enrolled students are required to carry, and to produce on request to a member of staff, the photographic identity card issued to them. The card, which has a maximum life of four years, must be presented for update/validation for the forthcoming year on re-enrolment. The card includes the authorisation for borrowing from the Swinburne Library.

A student who loses an identity card should notify the library as soon as the loss is detected. Cardholders are, under library rules, responsible for any transaction made on the card up to the time of notification of the loss. A replacement card can be issued at the Student Administration Enquiries Office for a fee of $10.00. Any student who has had their identity card stolen, will be issued with a free replacement identity card upon supplying a copy of a police report.

Industry Based Learning

Industry Based Learning (IBL) is a cornerstone of many of the academic programs in Higher Education at Swinburne. This cooperative education program is strongly supported throughout the Higher Education sector and is one of the significant illustrations of the many contacts that the University has with industry that benefit the student, Industry and the University. Cooperative education is a strategy of learning that moves the student participating in a paid placement in industry before the final year of their degree. The student receives support during the placement from both the employer and the University.

Whilst on IBL, students are supervised by their employers and a member of the Higher Education Division's academic staff who acts as the student's industrial tutor. The placements provide students with the valuable opportunity to apply the knowledge they have gained to that point while gaining confidence and experience in the workplace of their future profession. Students then have this 'hands-on' experience as a most significant reference in their final year of study. The experience places students at the front of the line for employment opportunities at the end of their degree.

Swinburne was a pioneer of Industry Based Learning (IBL) in Australia, with the first programs offered to Production Engineering students in 1963. Over the years the benefits of IBL have spread to other disciplines in the University and have been recognised by many other universities. Today, Swinburne is at the forefront of ensuring our IBL is accepted worldwide. At Swinburne IBL is generally optional and is normally taken for two semesters (or 48 weeks) between the second and third years of study. Swinburne places approximately 600 students each year into industry in the areas of:

<table>
<thead>
<tr>
<th>Area</th>
<th>IBL Coordinator</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Chemistry</td>
<td>Bob Laslett</td>
<td>(03) 9214 0369</td>
</tr>
<tr>
<td>Biophysical Sciences</td>
<td>Joe Corciani</td>
<td>(03) 9214 0363</td>
</tr>
<tr>
<td>Business</td>
<td>John Gerrard</td>
<td>(03) 9214 0475</td>
</tr>
<tr>
<td>Computer Science &amp; Software Engineering</td>
<td>Kon Mousaika</td>
<td>(03) 9214 9895</td>
</tr>
<tr>
<td>Engineering and Building Surveying</td>
<td>Karen Brown</td>
<td>(03) 9214 8394</td>
</tr>
<tr>
<td>Environmental Health</td>
<td>John Davis</td>
<td>(03) 9214 9890</td>
</tr>
<tr>
<td>Graphic Design</td>
<td>John Bassani</td>
<td>(03) 9214 6810</td>
</tr>
<tr>
<td>Information Systems</td>
<td>Paul Kindler</td>
<td>(03) 9214 8303</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Gerald Murphy</td>
<td>(03) 9214 8438</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Don Handley</td>
<td>(03) 9214 8214</td>
</tr>
<tr>
<td>Swinburne at Lilydale</td>
<td>Antoinette Clancy</td>
<td>(03) 9215 7027</td>
</tr>
</tbody>
</table>

Benefits to students

Students who undertake an IBL course derive many benefits from their involvement in the program. Some of these are:

- Academic performance is often seen to improve following industrial experience;
- Students work with professionals on real industrial problems under authentic conditions using theoretical concepts learnt in the classroom;
- Students are able to sample particular areas of the chosen branch of their profession before graduation;
- IBL, during the course is an advantage when graduates are seeking their first jobs;
- IBL gives students one year of practical experience, enabling them to learn about the working environment, to understand employers' expectations, ethics and relationships with colleagues;
- IBL gives students a head start to a successful future. As they have already had a point of comparison, career decisions are made easier and IBL students have more to offer to prospective employers;
- Students earn while they learn (recognised rates are paid during periods of IBL);
- There is the potential for IBL students to have a job waiting on graduation. Alternatively, part-time employment during final year of study may become available with the employer;
- Students have financial freedom through the opportunity to earn and save money.

Placement information

Swinburne makes every effort to place students in an appropriate industrial environment. Opportunities for placement are normally allocated based on academic merit. However, students may wish to take the initiative to secure their own IBL placement, and this must be with the approval of the appropriate IBL Coordinator.

In courses where IBL is compulsory and all reasonable effort to find an IBL position has been made by the Division and the student, but no placement has been found, the student may apply to the appropriate Head of School to consider the possibility of rescheduling the IBL component(s) of the course.

In courses where IBL is compulsory and no placement is found before the academic component of the course is completed and the requirement to complete IBL is waived, then the student will be allowed to graduate. The testamur, however, will not contain the wording 'a four/five year program in the cooperative education format'.

Students without permanent resident status should be aware that IBL may not be available for certain courses. In other courses, it is subject to the availability of industrial places and the achievement of a suitable level of English language skills. IBL is possible in a student's home country (subject to approval of the appropriate IBL Coordinator).

During and at the end of the IBL placement, students are required to successfully complete a detailed report on their IBL experience.

In some courses, students are permitted to study one subject per semester while working.

Support services

Assistance is given by Swinburne to secure an IBL position by way of information sessions, lectures on interview techniques and skills, resume writing, and general support in making sure that each participating student is placed.

Overseas IBL

Some Australian students have the opportunity to obtain work experience overseas. In such cases, academic staff from local educational institutions visit the student at their place of work. Countries where Swinburne students have recently undertaken IBL include England, USA, Canada, and Germany.

Employers and Swinburne

IBL can provide employers with the opportunity to assess potential employees in a work situation thereby defraying the costs of recruitment. At Swinburne there is a close liaison between participating companies and the University. Participating companies comprise large and small enterprises from all sectors of industry including manufacturing, finance, professional services and government. Swinburne University also have been supporting our own program for several years now and have students placed in Human Resources, Information Technology and Marketing.

Leave of absence

Students who have enrolled in a course and who wish to apply for a period of leave of absence must do so on a Leave of Absence/Withdrawal Form lodged with the relevant School. The application should clearly indicate the circumstances on which the request is based and the length of time for which leave is sought.

Each application will be considered within the guidelines of the Leave of Absence Procedures. (See separate Policies and Procedures Handbook)

Students who have been granted leave of absence will be notified in writing. Enrolment for all subjects for the duration of the leave will be cancelled.

Students who have been granted leave of absence will be eligible for a refund of their 1998 General Service fee only if their application is received before 31 March 1998 for semester one or 31 August 1998 for semester two.

Mobile phones in class

Students are requested, in consideration of others, to turn mobile phones off before entering a class.
Part-time study
Guidelines for part-time study
With changes in the programs of study leading to degree qualifications, some part-time students may be unsure of the subjects they are required to pass in order to qualify for an award.

The following guidelines which the relevant School Board has established should be used to determine the subject requirements for students undertaking programs (including conversion programs) on a part-time basis:

- In general, students who have not at some time discontinued their program without permission will follow the program of study in operation at the time of their initial enrolment. If this program is still available in the Higher Education Division of the University and as specified in the appropriate section of the Handbook for that year.
- Despite the above, students who are undertaking a program of study which has been unduly prolonged, or who would benefit from transfer to a later program of study, may be transferred by the school board on the advice of the head of the student's school.
- Students who discontinue study without permission and who later wish to renew their enrolment in the Higher Education Division of the University in that same program will be treated as new students but may receive such credit for the subjects previously passed as is determined by the school board on the advice of the head of the student's school.
- Where subjects have been discontinued since students' initial enrolment, students will be required to undertake the presently operating equivalent subjects. Information regarding superseded subject equivalents is available from the head of the student's school.
- As students will realise, there is often benefit in transferring from the program of study in operation at the time of enrolment to a later program of study. With the permission of the head of the student's school, students may transfer from the program of study for which they are enrolled to a later program of study but should recognise that such a transfer may involve the undertaking of some additional subjects.

Pathways: Articulation and credit transfer
The Pathways Program in place at Swinburne is designed to provide easy articulation between TAFE and Higher Education Division courses through defined credit transfer arrangements.

Credit transfer agreements have been completed with the Higher Education Sector. Articulation is possible both from TAFE to Higher Education courses and from Higher Education to TAFE.

Detailed information on the extent of credit transfer and specific additional requirements which would attract maximum credit is contained in the Swinburne Credit Transfer Guide which is available from the Information Office, Student Administration Office and within schools.

Students currently in the TAFE Division of Swinburne University must apply through VTAC but, are able to lodge an 'Expression of Interest' form for Higher Education courses and within schools.

Articulation is possible both from TAFE to Higher Education courses and from Higher Education to TAFE.

Detailed information on the extent of credit transfer and specific additional requirements which would attract maximum credit is contained in the Swinburne Credit Transfer Guide which is available from the Information Office, Student Administration Office and within schools.

Students currently in the TAFE Division of Swinburne University must apply through VTAC but, are able to lodge an 'Expression of Interest' form for Higher Education courses and within schools.

Prizes and scholarships
Scholarships offered by the School of Business
Annual Scholarships are made by the following donors:

Sir Reginald Ansett Memorial Scholarship
Awarded on interview, financial need and academic ability to a business student commencing full-time studies.

Boorne Griffiths & Swinburne Entrepreneurial Accountant Scholarship
Awarded on interview to a student entering final stage accounting.

William Buck Business Accounting Scholarship
Awarded for both academic achievement and other personal qualities to a business student who has completed at least two years of full-time study.

T.W. Higgins Scholarship
Awarded on the basis of need and academic performance to a full-time second or third stage student in the Bachelor of Business. Applications close in April.

Prizes for the Graduate School of Management and the School of Business
These Schools have been fortunate in obtaining a large number of prizes for their students mostly provided by Industry. There are to acknowledge and reward the academic excellence that the both Schools encourage at all times.

Corporate Prizes
The following prizes are made by corporate donors for the best Swinburne students in the course, study discipline or specific subjects.

Anz Bank
The best student in the BE335 International Finance subject.

Arthur Andersen Prize
The best student in the BC224 Financial Management subject.

Australian Chamber of Manufactures Prizes
The best student in the subjects:
- BE222 Industry and Government; and
- BE223 Industrial Relations.

Australian Human Resources Institute Prize
The best graduate student with a major in the Human Resource Management subject.

Australian Institute of Management Prizes
The best graduate student with a major in economics and marketing; and
The best graduate of Graduate Diploma in Business Administration.

Australian Society of Certified Practising Accountants Prizes
The best students in:
- BC336 Advanced Taxation;
- BL222 Marketing Law; and
- BL331 International Business Law

Carlton and United Breweries Prize
The best graduating student in Master of Business (Organisation Behaviour).

Coopers & Lybrand Prizes
The best students in the subject:
- BC222 Management Accounting I; and
- BC223 Management Accounting II.

DMR Consulting Group Prize
The best student in BT223 Information Systems subject.

Economic Society of Australia Prize
The best graduating student with a major in Economics.

ICI Prize
The best final year Computing student.

Martin Executive Solutions Prize
The best student in BL110 Law in Global Business subject.

National Australia Bank Prize
The best student in BE332 Economic Research subject.

National Mutual Prize
The best student in BHS096 Social Psychology in Organising subject.

P. Blaski & Sons Prize
The best graduate from Graduate Certificate in Business Administration.

Promax Pty Ltd Prize
The best student in BC110 Accounting 1 subject.

Siddons-Ramset Prize
The best student in BE336 Economics of Social Issues subject.

Siemens Prizes
The best students in the subjects:
- BL220 Contract Law; and
- BL225 Information Technology and Communications Law.
Gantas Airways Limited Prize  
The best student in BE110 Microeconomics subject.

Stockdale Memorial Prize  
For overall excellence in Japanese.

VicRoads Prize  
The best student in BH6001, leadership and Change in Organisations subject.

William Buck and Company Prize  
The ten best students in first year accounting (BC110 Accounting I & BC210 Accounting II).

Swinburne School of Business Prizes  
The following prizes are presented by different disciplines within the School of Business to the best student in the following course, study disciplines or specific subjects.

Economics Section of School of Business Prizes  
The best students in:
- BE220 Macroeconomics; and
- BE226 Macroeconomics Policy.

Italian and European Studies Section of School of Business Prizes  
The best students in:
- first year Italian;
- second year Italian;
- third year Italian; and
- AA212 The European Union subject.

Japanese Section of School of Business Prizes  
The best students in:
- first year Japanese;
- second year Japanese;
- third year Japanese,
- the most improved student in Japanese; and
- Study in Japan Scholarship.

Korean Section of School of Business Prizes  
The best students in:
- first year Korean;
- second year Korean.

Swinburne Graduate Society Prize  
The best student in Graduate Diploma in Business Administration.

Jim Watkins Memorial Prize  
The best student in BE227 Environmental Economics subject.

The T.W. Higgins Prize  
The best graduating student of the Bachelor of Business.

School of Engineering and Science  
Eric Bode Prize  
The best student in the final year of the degree courses in applied science. A bronze plaque and a cash prize, donated by Dr E.H. Bode, are awarded by the Divisional Boards.

IBM Prize  
The top final year applied science, engineering or design student. Awarded by IBM, the annual prize is usually a computer and monitor.

Miles Hancock Prize  
To an outstanding student in the area of postgraduate colloid science. The value of the prize is between $500-$1000 and is awarded on an occasional basis by the Colloid Centre.

T.G. Jordan Memorial Prize  
To the environmental health student with the highest overall result in the final year. Awarded by the Australian Institute of Environmental Health (Victorian Division) The annual prize is usually books or an attaché case to the value of $120.

Undergraduate Scholarships  
To students completing first year of the chemistry or biochemistry courses. A limited number of scholarships are available upon application. The scholarship value is $9000 per annum for three years.

School of Information Technology  
Postgraduate research scholarships  
Postgraduate research scholarships for Master of Applied Science, Master of Business or Doctor of Philosophy are available under the following two schemes. (Entry qualifications of at least an honours degree or equivalent are required.)

- Fee Exemption Scholarship  
Scholarships covering tuition fees only are available to students who are not Australian permanent residents. These scholarships are awarded for one year in the first instance and may be extended. Additional income from tutorial duties may be available to students with appropriate skills.

- School Scholarship  
This scheme provides a stipend of $12,000 p.a. In addition, a teaching assistantship may be negotiated up to an additional $5100 p.a. The successful candidate may hold the scholarship for up to two years for a Masters program or three years for a PhD program. Renewal of the teaching assistantship shall be subject to adequate performance of teaching duties.

A number of prizes are currently available to Computer Science students:

Aspect Computing Prize  
To a student in the final year of a computing degree course (not BIT).

The amount of $1000 will be awarded on the basis of results in second year computing subjects. The School nominates up to three students. Aspect Computing interviews these students and then awards the prize. (Note: Bachelor of Business (Computing) students also compete for this prize.)

Australian Computer Society Prize (2)  
To the "best" student on a degree accredited by the ACS at level one or two.

The amount of $150 will be awarded by the ACS to students who are evaluated on the basis of their aggregate performance on final year computing subjects. Also to the "best" student in the Graduate Diploma of Information Systems.

The amount of $1750 will be awarded by the ACS to students who are evaluated on the basis of their aggregate performance.

School of Information Technology Staff Prize  
To the student nominated by the School for the Eric Bode Prize.

An amount of up to $300 will be awarded by the School.

Darren Golden Memorial Prize  
To the most outstanding student in the final two years of the Bachelor of Information Technology. This prize is funded from the Darren Golden Memorial Trust. The award is based primarily on academic merit but extra-curricular performance in areas such as leadership and contribution to course activities will be taken into account.

School of Biophysical Sciences and Electrical Engineering  
Postgraduate Scholarship  
For students undertaking full-time postgraduate research in an area of study relevant to the School.

At least one twelve-month scholarship is normally provided, the value of which is determined by the Head of School. Scholarships may also be made available to international students engaged in full-time postgraduate research in an area of study relevant to the School.

Brain Sciences Institute Postgraduate Scholarship  
To a student undertaking full-time postgraduate research in an area of study relevant to the Centre. One scholarship is normally provided, the value and duration of which is determined by the Director of the Institute.

Kenneth Clarke Prize  
To the best student in the final year of the Medical Biophysics and Instrumentation course.

An amount of $200 and a plaque, The Kenneth Clarke prize is awarded based on the highest weighted average marks in final year. The award is sponsored by the School in recognition of Mr Kenneth Clarke, a former long service member of the Biophysics Advisory Committee.
SCAN Prize
To the best student in the final year of Psychology/Psychophysiology course.
The amount of $200 and a plaque are awarded based on the highest weighted average marks in final year. The award is sponsored by the Swinburne Centre for Applied Neurosciences (SCAN), a research centre within the school.

Intergraph Award Software from Intergraph Corporation
To the best student in the final year of Computing and Instrumentation course.
This prize, valued in excess of $5000, including a plaque is awarded based on the highest weighted average marks in final year. The award is sponsored by Intergraph Corporation, a major supporter of our industry-based learning program and employer of our graduates.

School of Mathematical Sciences
The ASOR Medal (Australian Society of Operations Research)
To the best final year (Research) student at the University.
Awarded by the Operations Research Society of Australia on the recommendation of the School of Mathematical Sciences.

Bachelor of Engineering Students
Industry Based Learning scholarships
To full-time engineering students in second and later years of their engineering degree course.
The Division in conjunction with industry, offers Industry based learning scholarships to the value of $8000 per annum. Interested students should apply to the Divisional office by November for the forthcoming year.

W.P. Brown Medal
To the best all-round student in the final year of an engineering course.
The award is a medal and a premium of $150. This is awarded by the Institution of Engineers, Australia.

Esso Prize
To the outstanding final-year mechanical engineering student.
A prize of $500 awarded annually.

F.W. Green Memorial Prize
To the most outstanding final-year engineering student graduating each year.
Books to the value of $50 are awarded.

James Smith Memorial Prize
To the best student in structural design in the final year of the civil engineering degree course.
Books to the value of approximately $50 are awarded.

Harold E.R. Steele Prize
To the best student in the course leading to the degree of Bachelor of Engineering with major studies in electrical power, communication and electronic, or computer systems engineering.
A prize of $100 is awarded.

Major Furnace and Engineering Prize
To the best managed final year project in mechanical engineering.
The award consists of $150 and an engraved pewter mug and is awarded.

Molyneux Medal
To the student in the final year of the manufacturing engineering degree, undertaking major studies in chemical engineering.
A silver medal and a prize of $300 are awarded to the student who submits the best project thesis.

Oscar Weigel Exhibitions in Engineering
Applicants for these awards must be qualified to enter the second or later years of an engineering degree course to be accepted as a candidate for the degree of Master.
Value up to $400 per year and tenable for a period not exceeding five years.

Postgraduate awards
The Commonwealth Department of Education provides awards for full-time research leading to the degree of Master. The closing date for applications is 31 October in any year.
Some industrial organisations also make available awards for full-time research leading to the degree of Master. Further information may be obtained from the School of Engineering and Science.

Swinburne at Lilydale Scholarships
Swinburne at Lilydale Scholarships may be available to selected students at Lilydale. Up to eight scholarships of $9,000 each are offered to students entering first year.

Reading guides
In most subjects, conveners will issue detailed reading guides during the first week of classes. Reading material is listed under individual subject entries according to the following definitions.
Recommended reading and textbooks: Students are advised not to purchase any books until classes have met.
References: Material referred to throughout the duration of the subject. Students are not required to purchase references and copies of the majority are available for borrowing from the library.

Re-enrolment
Continuing students will be sent a re-enrolling form in September/October, which needs to be completed and returned to the appropriate School. An enrolment advice form and liability statement will be sent to re-enrolling students in November/December. Students who need to amend their enrolment will need to attend an amendment session as determined by each School.
Re-enrolling students who require advice about their course should consult their School. If an old syllabus is being followed, changes may be necessary either to complete the old syllabus or to effect the changes to a new syllabus. Students who are in doubt about their course should consult their School before attempting to re-enroll.

Quotas - Bachelor of Engineering
As quotas exist for entry into second year of the Bachelor of Engineering the following criteria for continuance apply:
(a) all students who pass all subjects outright will be admitted to the program of their choice
(b) those students with Conceded Passes will be admitted to a discipline but not necessarily that of their choice.

Results
Students enrolled in subjects spread over both semesters should note that mid-year progress reports are displayed on divisional and school noticeboards by the end of the first week of second semester. These reports are not formally published results but are an indication of students' progress at mid-year.
Where a subject is completed in first semester, the assessment result is published as soon as possible after the end of semester.

Result categories and percentage scores
The relationship between result categories and normalised percentage score is:

<table>
<thead>
<tr>
<th>Result</th>
<th>Range of scores %</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD</td>
<td>85-100</td>
</tr>
<tr>
<td>D</td>
<td>75-84</td>
</tr>
<tr>
<td>C</td>
<td>65-74</td>
</tr>
<tr>
<td>P</td>
<td>50-64</td>
</tr>
<tr>
<td>N</td>
<td>0-49</td>
</tr>
<tr>
<td>NVD</td>
<td>No Attempt</td>
</tr>
<tr>
<td>Late Withdrawal/Fail</td>
<td></td>
</tr>
<tr>
<td>SPX</td>
<td>Special Exam</td>
</tr>
<tr>
<td>DEF</td>
<td>Deferred Result</td>
</tr>
<tr>
<td>CON</td>
<td>Continuing</td>
</tr>
<tr>
<td>SN</td>
<td>Fail at Supplementary</td>
</tr>
<tr>
<td>SP</td>
<td>Pass at Supplementary</td>
</tr>
</tbody>
</table>

It should be noted that the above table is used in determining result categories for all students enrolled in a subject.
Additional grades, for which percentage scores are not applicable, may be awarded. These are:
CP Conceded Pass (Engineering and Science students only)
PX Terminal Pass (Social & Behavioural Science students only)

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Selection

Selection is based primarily on academic merit as assessed by results achieved in Year 12 subjects, or their equivalent.

Consideration will be given to the full range of an applicant’s VCE studies and results, the level of performance in CATs in prerequisite studies and any other information available to the Selection Officer.

Applied Science

As standard entry requirements vary between each Applied Science program, refer to individual program entries in this Handbook.

Engineering

To be eligible for consideration for standard entry, you must have satisfactorily completed your VCE or equivalent in the following subjects (an average of Grade D or better is required):

1998 Prerequisites

Satisfactory completion of an appropriate Victorian Year 12 or its equivalent.

VCE prerequisites: Units 3 and 4 - Mathematical Method or Specialist Mathematics and one of Physics, Chemistry, Biology, Information Technology (Information Systems) or Psychology.

Associate diploma entry

Persons who have completed an associate diploma with very good results may be eligible for credit of one year or more in the degree program. All applications will be considered individually.

Design

Graphic Design

To be eligible for consideration, you must have satisfactorily completed your VCE or equivalent in the following subjects:

Prerequisite: A grade average of at least C in English

Note: Applicants are advised to undertake Art or any art related study in Units 3 & 4 to assist in the development of a folio.

Industrial Design

To be eligible for consideration, you must have satisfactorily completed your VCE or equivalent in the following subjects:

Prerequisite: A grade average of at least C in English

Note: It would be an advantage to take two units from Mathematics, Physics, Computer Science, Materials Technology, Technological Design and Development.

Applicants are advised to undertake Art or any art related study in Units 3 & 4 to assist in the development of a folio.

Interior/Exhibition Design

Same as for Graphic Design

Special requirements

All Design applicants, including those from interstate and overseas, must participate in a preselection program and attend an interview and folio presentation in December if required. This program requires applicants to submit copies of slides of work and a written response to questions. Applicants required for interview should bring a folio of their own work which indicates a preparation and ability to undertake this program and be able to demonstrate an awareness of the program content and career opportunities.

All applicants who specify either graphic design, industrial design or Interior/Exhibition Design must follow carefully the procedure for application which is given with dates and other details in the Victorian Tertiary Admissions Centre publication, Guide to Courses in Colleges and Universities.

All applicants without residential status must apply direct to the International Student Unit.

All applicants must be able to attend for interview, if required, in December.

Semester address for correspondence

Throughout the year information regarding HECS, examination results and other special notices are sent to students.

Students must provide a correct address otherwise they may jeopardise their chances of meeting deadlines and observing other special requirements.

If a student changes an address an Amendment to Personal Details form must be completed and lodged immediately at the School Office.

Standards of progress

All full-time and part-time students enrolled in undergraduate and postgraduate courses in the Division are expected to maintain a minimum academic standard to be allowed to continue their studies. Unless otherwise specified, these standards of progress apply to undergraduate and postgraduate students.

Arts and Business Courses

Completion of first year of undergraduate program

Bachelor of Arts

Full-time students are normally not permitted to enrol for second or third year subjects unless they have completed, or are concurrently completing, all outstanding core subjects. Where a student is enrolled for both first and second year subjects and wishes to withdraw from a subject, enrolment in first year subjects must be maintained. Part-time students may be permitted to complete a major sequence of study prior to first year electives providing permission is granted from the enrolment officer at the time of enrolment.

Bachelor of Business

For full-time and part-time students, the requirements are as for full-time students in the Bachelor of Arts.

Standard Enrolment Load

Bachelor of Arts

All full-time stage one students are expected to enrol in, and remain enrolled in, four subjects per semester.

All full-time stage two and three students are expected to enrol in, and remain enrolled in, three subjects per semester.

All part-time students are expected to enrol in, and remain enrolled in, two subjects each semester for the duration of the course.

Bachelor of Business

Full-time students are expected to enrol in, and remain enrolled in, four subjects per semester.

Part-time students are expected to enrol in, and remain enrolled in, two subjects per semester.

Variations to the standard enrolment load will only be permitted in exceptional circumstances, and will normally be varied for one semester only.

In the School of Business the last day to add a subject in any given semester is the last day of the second week of teaching.

Overload

Students will be permitted to enrol in one additional subject over the normal semester load, if they have passed all enrolled subjects in the previous semester and it is the student’s last semester of study. In exceptional circumstances approval may be given if a student has outstanding results. Applications must be made in writing to the relevant School Administrator before the scheduled re-enrolment period.

In the case of more than one additional subject, applications, in writing, must be made to the relevant Head of School at the time of re-enrolment.

To undertake less than the normal load: Applications should be made to the relevant School Administrator before the scheduled re-enrolment period, clearly stating reasons for the request. Underloading will normally be permitted for only one semester.

Change of enrolment status

Students wishing to change their enrolment status from full-time to part-time may do so at any time, subject to the conditions specified in course rules. Students must complete their degree program within nine years of their first enrolment in the course (excluding any periods of leave of absence).

Full-time students must complete their degree program within six years of their first enrolment in the course (excluding any periods of leave of absence). Part-time students must complete their degree program within nine years of their first enrolment in the course (excluding any periods of leave of absence).

Undergraduate courses

Full-time students must complete their degree program within six years of their first enrolment in the course (excluding any periods of leave of absence). Part-time students must complete their degree program within nine years of their first enrolment in the course (excluding any periods of leave of absence).

Postgraduate courses

Exceptional circumstances apply in postgraduate courses. Full-time students are normally expected to complete their course of study within a period equal to the minimum duration of the course plus one year (excluding any periods of leave of absence). Part-time students are normally expected to complete their course of study within a
The grades N, NA and NWD will count as fail grades for the purpose of this section.

Student-at-risk program - Business and Arts Programs

Students who fail fifty per cent or more of their enrolled load in any one semester will be identified as being at risk and will be advised of their status by letter within one week of the publication of results each semester. Students will be given the opportunity to discuss the situation with a member of the Student Advisory and Academic Support Centre (SAASC).

Attendance at these sessions is highly recommended, but not compulsory.

The grades N, NA and NWD will count as fail grades for the purpose of this section.

Unsatisfactory academic progress

The academic progress of a student will be considered to be unsatisfactory if:

- in the two most recent semesters in which the student was enrolled (excluding summer school), the student fails fifty per cent or more of the enrolled workload; or
- a Bachelor of Business student who fails a subject for the third time, or a Bachelor of Arts student who fails a subject for a second time; or
- the student fails to meet the conditions previously imposed by the Progress Review Committee.

The grades N, NA and NWD will count as fail for the purpose of this section.

Show cause applications

Students whose progress is considered unsatisfactory will be advised in writing of their status within one week of results being released, and advised that a recommendation has been made to the relevant School Board that they should be excluded from the course in which they are enrolled. Such students are entitled to make a show cause application to the Student Progress Review Committee stating why they should not be excluded. No student will be excluded from the course without first being given the opportunity to show cause to the Student Progress Review Committee. Failure to make contact with the Committee will result in the exclusion of the student before the beginning of the next academic semester. Show cause applications must be addressed to the Chair of the Student Progress Review Committee and lodged at the Student and Course Administration Office, as appropriate, by the date specified in the letter to students advising them of their status.

Student Progress Review Committee

Composition

There will be one committee for the Bachelor of Arts and one committee for the Bachelor of Business. Each will comprise nine members, eight of whom are nominated by Heads of School.

- The Chair and at least three members, all from academic staff teaching in the relevant courses.
- The Division’s International Student Liaison Officer for cases of show cause involving international students.
- Manager – Student Administration, or nominee.
- The relevant School Administrator (Secretary).
- The Student Union or nominee where requested by the student.

Procedure

Upon receipt of a show cause application from a student, the Chair and Secretary of the Student Progress Review Committee, on behalf of the Committee, will review the case and decide whether it will be necessary to interview the student.

Students will be advised whether their show cause application has been accepted without interview or whether an interview with the Student Progress Review Committee is required.

Additional information from appropriate academic staff about the student’s academic work may be sought by the Student Progress Review Committee before a decision is made.

Powers

The Student Progress Review Committee may, when considering a show cause application:

- accept the student’s show cause application and allow the student to re-enrol without condition;
- accept the student’s show cause application but place conditions upon the student’s enrolment in the following semester;
- in the case of a Bachelor of Arts student who fails a subject for the second time, the Committee may require the student to select another major course of study;
- require the student to take a leave of absence for a specified period; or
- exclude the student from the course for a minimum of two academic years.
- in cases where a Bachelor of Business or the language double degree student fails a subject for the third time the Committee may require the student to complete the equivalent subject at another higher education institution.

Enrolment conditions

The academic record of students placed on condition will be reviewed by the Student Progress Review Committee at the end of the following semester and a decision made to:

- permit the student to continue studying without further condition; or
- impose a further condition on the student for an additional semester; or
- require the student to show cause why they should not be excluded from the course for a minimum of two academic years (four semesters excluding summer semesters).

Appeals against decisions of the Student Progress Review Committee

These regulations are contained in the University Procedures Relating to Student Assessment and Appeals.

Period of exclusion

Students who are excluded from the course will not be permitted to re-enrol for a minimum period of two academic years (four semesters excluding summer semesters), unless the student was excluded from the Bachelor of Business after failing a subject for the third time.

Bachelor of Business students excluded after failing a subject for the third time will be permitted to re-enrol once a subject equivalent to the subject failed for the third time has been successfully completed at another higher education institution and the student has provided proof of passing the equivalent of that subject.

Should a Bachelor of Business student choose another major area of study for which the subject that has been failed for a third time is not mandatory the student is not required to repeat the failed subject at another higher education institution.

Re-enrolment after a period of exclusion

Students wishing to re-enrol after a period of exclusion must contact the relevant Course Administrator three months before the semester in which they wish to enrol to receive advice about appropriate procedures. Students seeking re-enrolment after a period of exclusion will normally be expected to make a written case to the Student Progress Review Committee outlining their activities since they were excluded before they would be permitted to re-enrol. Re-enrolment will be subject to the normal application and selection policies and procedures of the course.

Progress requirements

Full-time and part-time students are not permitted to enrol for a later year subject unless they have completed, or are concurrently completing, all outstanding subjects of the prior year.

Standard enrolment load

All full-time students are expected to enrol in, and remain enrolled in, a full-time load in each semester.

All part-time students are expected to enrol in, and remain enrolled in, a minimum of two subjects each semester for the duration of the course.

Variations to the standard enrolment load will only be permitted in, exceptional circumstances, and will normally be varied for one semester only.

Applied Science, Engineering and Design Courses

Unsatisfactory academic progress

Applied Science and Engineering

The academic progress of a student will be considered to be unsatisfactory in any of the following circumstances:

- Fifty per cent or more of the enrolled student load is failed in a semester;
- a repeated subject is failed.

Design

The academic progress of a student may be considered to be unsatisfactory if in an academic year they fail any subject.

Higher degree students

Students enrolled in a Master by Research or Doctor of Philosophy are governed by progress rules detailed in the University Statutes.
The procedure for considering students whose academic progress is unsatisfactory in the programs of Science, Engineering and Design is as follows:

- **Letter of appeal**
  Students who have not achieved the required standard of progress will receive a letter advising them that unless they can account for their unsatisfactory performance they will no longer be permitted to study in the Division for a period of two years. Such students are entitled to make application in writing to the Progress Review Committee, within five working days from the date of the letter. They will not be permitted to re-enrol until the outcome of their application is known.

  Students who do not submit a letter of application by the due date will be automatically excluded for a period of two years.

  No student will be excluded from the Higher Education Division without first having been granted an interview with the relevant Progress Review Committee.

- **Process of appeal**
  Upon receipt of a written application from a student, the Chair and Secretary of the relevant Progress Review Committee, on behalf of the Committee, will review the contents of the letter and decide whether it will be necessary to interview the student.

  Additional information from appropriate academic staff about the student's academic work may be sought by the Progress Review Committee before a decision is made.

  Students will be advised in writing whether their application has been accepted without interview, or whether an interview with the relevant Progress Review Committee is required.

- **Powers**
  After considering any application, the Progress Review Committee will take one of the following courses of action:
  - accept the student's application and allow the student to re-enrol without conditions;
  - accept the student's application but place conditions upon the student's enrolment in the following semester;
  - require the student to take leave of absence for a specified period; or
  - exclude the student from the Higher Education Division for a period of two academic years.

**Enrolment conditions**
The academic record of students who have had conditions imposed will be reviewed by the relevant Progress Review Committee at the end of the following semester and a decision made to either:
  - permit the student to continue studying without further condition/s; or
  - impose further condition/s on the student for an additional semester; or
  - require the student to present to the Committee the reasons why the student should not be excluded from the course for a period of two academic years. If these reasons are not accepted, then the student will be excluded for a period of two academic years.

 Appeals against decisions of Progress Review Committees
The regulations for such appeals are contained in the University Student Assessment and Appeals Regulations (Refer to the chapter Procedures and Regulations in the Handbook).

**Period of exclusion**
Students who are excluded from any course in the Higher Education Division will not be permitted to re-enrol for a period of two academic years. After that period students may re-apply for admission to their course.

**Progress Review Committee composition**
Applied Science
Chair to be elected from Heads of Schools of:
- Biophysical Sciences and Electrical Engineering or nominee
- Engineering and Science or nominee
- Information Technology or nominee
- Mathematical Sciences or nominee
Manager, Student Administration or nominee
Student Union representative
Engineering

Chair to be elected from Heads of Schools of:
- Biophysical Sciences and Electrical Engineering or nominee
- Engineering and Science or nominee
- Mechanical and Manufacturing Engineering or nominee
Manager, Student Administration or nominee
Student Union representative
Design
Chair, Head of Swinburne School of Design or nominee
Head, Graphic Design or nominee
Head, Industrial Design or nominee
Senior Administration Officer or nominee
Student Union representative

**Assessment irregularity**
Cheating or plagiarism, that is the action or practice of taking and using as one's own, the thoughts, writings or other work of someone else with the intent to deceive, constitutes an irregularity as described under Examination Description of the Swinburne Assessment Regulations. Such an action is a major infringement of the University's academic values. It is essential that students understand that plagiarism or cheating shall be considered to have occurred if:
  - a computer program substantially written by someone else (either another student, a previous student or the author of a publication) is presented as the student's own work;
  - a paragraph, and even sentences, in essays which are written by someone else are not enclosed in quotation marks and accompanied by full reference to source;
  - work of someone else is paraphrased and is not appropriately attributed and referenced;
  - laboratory results of someone else are used without appropriate attribution;
  - laboratory results are altered with the intent to deceive.

**Interpretation**
Nothing in these regulations shall be interpreted as contravening the Assessment and Regulations of the Academic Board.

**Student Administration Enquiries Office**
The Student Administration Enquiries Office provides information and procedural advice on admissions, examinations and awards. Other functions include processing identity cards, production of passport photos, providing enrolment processing forms (e.g. amendment to enrolment form), result certificates, academic statements, enrolment status letters, authorising travel concession forms and international student card forms, certifying University documents, maintenance of students' result records, hire of lockers and academic gowns.

**Location and office hours**

**Hawthorn campus**
Enquiries (03) 9214 8088, (03) 9214 8093
The Student Administration Enquiries Office is located in Room AQ212, Administration Building (AQ), John Street, opposite the Business and Arts Building (BA) and the Library (see map on page 10).

Office hours are as follows:
During teaching weeks pre census date:
8.30am - 6.00pm Monday to Thursday
8.30am - 5.00pm Friday
During teaching weeks post census date and non-teaching weeks:
8.30am - 5.00pm Monday to Friday
Note: The office is closed on public holidays.

**Prahran campus**
Enquiries (03) 9214 6744 or (03) 9214 6781
The Student Administration Enquiries Office is located in Room D107, Building D, High Street, Prahran

Office hours are as follows:
8.30am — 5.00pm Monday to Friday
Note: The office is closed on public holidays.
Student workload and credit point system

The Higher Education Division operates a student workload model based on a credit point system. In this model, the standard workload for a full-time student undertaking a program of study for one year comprises subjects with a total value of 100 credit points. To complete, for example, a full-time three-year bachelor degree program, a student must pass subjects to the value of at least 300 credit points.

The credit point value of a subject is a notional measure of the relative workload associated with that subject. Normally, a full-time student enrols in subjects totalling fifty credit points per semester. However, small variations in this total are permitted according to the choice and availability of elective subjects.

Credit for Swinburne TAFE Division diplomas

Refer to separate University publication Swinburne Pathways Credit Transfer Guide.

Submission of assignments

Students should note that assignments will not be accepted by facsimile (fax).

Victorian Universities' Languages Consortium

The Victorian Universities' Languages Consortium was established in 1996 with membership including all universities in Victoria. One central aim of the Consortium is to facilitate and encourage cross-institutional enrolments in languages.

The guidelines governing Cross-institutional enrolment as specified in the Consortium's Memorandum of Understanding (Section 7) are as follows:

7.1 A student who is enrolled in an award course program at a home university may apply to enrol in a language program at another university and expect to be admitted, provided that:

7.1.1 where courses in the relevant language are offered by the home university, a student shall normally undertake them there;

7.1.2 the enrolment is approved by the relevant faculty/school/department at the home university; and

7.1.3 the enrolment is also approved by the relevant faculty/school/ department of the host university;

7.1.4 the language studies are part of an award course at the home university.

7.2 The home university shall create its own codes for cross-institutional enrolments and determine the appropriate credit to be given to a course undertaken at another university.

7.3 Both home and host universities retain the right to limit the number of students who may enrol in language courses under such arrangements.

7.4 Where a student commences a sequence of language units under such arrangements, he/she will normally be permitted to take such further units as the sequence offers, provided progress is deemed satisfactory by the host institution and recognising that such courses may be offered on a different campus.

The following languages, taught at the universities listed, are available to students:

<table>
<thead>
<tr>
<th>Language</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancient Greek</td>
<td>Deakin</td>
</tr>
<tr>
<td>Arabic</td>
<td>Deakin, Melbourne</td>
</tr>
<tr>
<td>Cambodian</td>
<td>Monash</td>
</tr>
<tr>
<td>Chinese</td>
<td>Ballarat, Deakin, La Trobe, Melbourne, Monash, RMIT, VUT</td>
</tr>
<tr>
<td>French</td>
<td>La Trobe, Melbourne, Monash</td>
</tr>
<tr>
<td>German</td>
<td>Melbourne, Monash</td>
</tr>
<tr>
<td>Greek (Modern)</td>
<td>Deakin, La Trobe, Melbourne, Monash, RMIT, VUT</td>
</tr>
<tr>
<td>Hebrew (Modern)</td>
<td>Deakin, Melbourne</td>
</tr>
<tr>
<td>Hindi</td>
<td>La Trobe</td>
</tr>
<tr>
<td>Indonesian/Malay</td>
<td>Deakin, La Trobe, Melbourne, Monash</td>
</tr>
<tr>
<td>Italian</td>
<td>ACU, La Trobe, Melbourne, Monash, RMIT, Swinburne</td>
</tr>
<tr>
<td>Japanese</td>
<td>ACU, Ballarat, La Trobe, Melbourne, Monash, RMIT, Swinburne, VUT</td>
</tr>
</tbody>
</table>

Women in Applied Science and Engineering

Women are still a minority in applied science and engineering programs and the workforce. The Division actively encourages women to choose applied science or engineering as their career and provides them with opportunities to form networks with other female students within the program and female practicing scientists or engineers.

Many women who become scientists or engineers enjoy the variety of career opportunities that applied science or engineering offers to them and aspects of the work that all scientists and engineers share, such as:

- applying science to solve problems;
- working with people;
- helping meet society's needs, such as energy usage and environmental issues;
- designing and creating solutions, such as with manufactured products, structures and community services.

Social and career-oriented activities are coordinated with the National Centre for Women and provide opportunities for women to interact.

Women who would like further information about the applied science and engineering degree programs and career opportunities should contact the Divisional Office on (03) 9214 8263 or National Centre for Women on (03) 9214 8633. Ms Pami Roberts, Equity Adviser on (03) 9214 8510.
Higher Education Division (Hawthorn/Prahran)

As a result of a restructure the former Division of Business, Humanities and Social Science and the Division of Science, Engineering and Design merged to form the Higher Education Division (Hawthorn/Prahran). New policies will be formulated during 1997/98 and will be made known to students in semester one 1998.

Schools
There are eight Schools in the new Division:
School of Biophysical Sciences and Electrical Engineering
School of Business
School of Engineering and Science
School of Information Technology
School of Mathematical Sciences
School of Social and Behavioural Sciences
Swinburne Graduate School of Management
Swinburne School of Design

Centres
Centres associated with the Higher Education Division:
Asia-Australia Research Institute
Centre for Applied Colloid/Biocolloid Science
Centre for Applied Neurosciences
Centre for Biomedical Instrumentation
Centre for Computer Integrated Manufacture
Centre for Engineering Technology
Centre for Industrial Democracy
Centre for Information Systems Research
Centre for Innovation and Enterprise Pty Ltd
Centre for Object Technology Research and Applications
Centre for Organisational and Strategic Studies
Centre for Psychological Services
Centre for Urban and Social Research
Centre for Systems Methodologies
Energy Systems Engineering Centre
Industrial Research Institute, Swinburne (IRIS)
Laboratory for Concurrent Computing Systems
Media and Telecommunications Centre
National Centre for Women, Employment, Education and Training
National Scientific Instrument Training Centre
Science Education Centre
Swinburne Computer Human Interaction Laboratory
Swinburne Design Centre

For further information on these Centres refer pages 31-36

Divisional Staff

Executive Project Officer
J. Graham, BA(Melb), GradDipSecStuds(RMIT)

Education Abroad Coordinator
M. Baillie, ITD(Toran)

International Student Support Officers
J. Lamb, BDesStud(UQ)
G. Guirk

Administrative Officers
P. Heenan
J. Peatling, BAppSc(STT)

Timetabling Coordinator
E. Mathera

Timetabling Assistant
J. Eddington

Divisional Accountant
A. Ferrarza, BBus(RMIT)

Planning Coordinator
M. Foley, BBus(SUT)

School of Biophysical Sciences and Electrical Engineering

Head
Associate Professor D. Murphy, BE(Mon), MSc(Lond), PhD(Oxon), FIEAust, CFEng

Associate Professors & Principal Lecturers
T.E. Hardtlass, MSc(T 알고일), PhDD(Massey), FICA
J.F. Lambert, BE(Hons), MEngSc(P), PhDD(Melb)
A.A. Sergejew, BHumanBio(Auck), MBChB(Auck)

Senior Lecturers
B.S. Adcock, DipEE(FTC), BEE(Melb), MEngSc(Van)
P.S. Alabaster, Be(Melb), MSc(Manch), MSc, PhDManchester
J.R. Alons, MSc(WPI, GMIChemE), PhDD(SUT)
E. Bakhshi, MSc(Ox), PhDD(Mon)
R. Dluzniak, DipEE(RMIT), MSc(Melb), PhDD(Melb), FRMIT
T.G. Edwards, BSc(Lond), PhDD(Lond), PFRSC
S.T. Fennell, BBE(Melb), MEngSc(Melb)
H.A. Irans, BCom(Melb), BEE(Melb), MA(Lanc)
W. Lavery, BEE(Hons)(Melb), MEngSc(Melb), PhDD(Melb)
C.S. Lee, BEE(NPore), MSc(NPore), PhDD(Confirm), MSc(Melb)
P. Manuff, BSc(Hons), MPsci, PhDP, MAPS
A. Massel, BAppSc(Melb), PhDD(Melb)
P.O. Davagh, MAppSc(Elec)(Melb)
J. Patterson, MSc(Melb), PhDD(Melb)
C.K.K. Stough, BSc(Hons)(Que), PhDD(Que)
D. Ward-Smith, BSc(Hons)(Melb), MEngSc(Melb), PhDD(Melb)
A.W. Worth, BSc(Hons)(Qld), PhDD(Qld)

Lecturers
R.G. Azodi, AssDipArt(Miami), BSElecEng(Trass), MEngSc(Trass), MEngSc(SIT)
G.R. Banky, BE(Hons)(Elec)(Melb), MEngSc(Melb), GradDipCompStudies(RMIT)
A. Bartel, MSc(Melb)
P.J. Cadusch, BSc(Hons)(Melb), PhDD(Melb)
J. Ciorciari, BAppSc(SIT), PhDD(SIT)
D. Ciszewski, BAppSc(SIT)
A.L. Cricenti, BE(Hons)(Elec)(Melb), GradDipEd(Melb), MEngSc(SIT)
I. Hijazin, MSc(Elec)(Bradley)
D. Kimovski, BAppSc(Hons)(Elec)(Melb)
D. Lamy, BSc(Hons)(LaT), DSc(Elec)(Melb)
D. Liley, MBM(Hons)(Auck), MSc(Auck), PhD(Auck)
L.H. Neoh, BE(Elec)(WA), PhDD(WA)

Swinburne University of Technology | 1998 Handbook
School of Business

Head
B. Cargill, BA(Melb), MAPsS, MEd(Melb), MAHRI

Deputy Head
W.H. Platt, BCom, DipEd(Melb), MAdmin, MEnvStMon, CPA

Deputy Heads of School

Higher Education Division (Hawthorn/Prahran)

Lecturers
M. Barut, DipBus(Acc)(PIT), BBus(SUT), GradDipAcc(SIT), MBA(Mon), FCPA
A. Bell, BBus(SIT), GradDipBus(SUT), ASA
J. Foreman, BBus(SIT), MBA(Melb)
A. McSloy, BBus(Swin)
C. Marash, DipBus(Acc)(SIT), MTaxSt(Mon), ACA, FTLA
E. Stansfield, BA(WA), BBus(SIT), CPA, ACA
I. Tempone, BCom, DipEd(Melb), CPA
K. Turpie, BEd(Hons)(LaT), MCom(Melb), CPA

Principal Lecturer
A. Sloutarides, DipGenStud(SIT), BA(Hons)(Mon), PhD(Mon)

Lecturers
J. Chan, BA(AkitaKaiKaiDaigaku), GradDipJapanese, MA(SIT)
L. Earms, BA(Deakin), MA(Ed)
T. Mizuno, BA(Tokai), GradDipAppLing(Mon)
T. Nawano, BEd(Kyotou University), MEd(Griffith)
T. Savage, BAppDip, GradDipJapanese(SIT), MEd(Griffith)
W. Seo, MA(Cincinnati), PhD(Cincinnati)
Q. Ton-That, BSc(Tas), GradDipLegStud(UT)
R. Warnerimg, BA(Hons)(Mon), DipEd(Mon), GradDipJapanese(SUT)

Business Modelling

Principal Lecturer
J. J. Pidgeon, BA, DipEd(Mon)

Lecturers
E. Levin, BA, DipEd, GDICTE(Melb)
K. H. Marles, BSc(Griffith), MBA(VUT)

Economics

Principal Lecturer
J. B. Wielgosz, BCom(Hons), DipEd, MA(Melb)

Senior Lecturers
P. S. Likens, BAppEd(UNE), MAdmin(Mon)
H. Holligan, BEd(Hons), MAdmin(Mon)
R. D. Xavier, BEd(Hons)(WA), MA(Leie), MEdStud(Mon)

Lecturers
C. Barry, MEd(Mon)
M. Freibairn, BA, DipEd(UNE)
J. Gerstman, BA, BEd(Mon)

Human Resource Management/Organisation Behaviour

Associate Professor
C. Christodoulou, BA, MSc, MAadmin, PhD(Mon)
S. Long, BA(Hons)(Melb), TSTC, MEd(Mon), PhD(Melb)

Principal Lecturer
J. Newton, BBus(CIT), MA(Leeds)

Senior Lecturer
G. Drummond, BSc(Leed), PhDSUT
S. Laskey, BBus(Admin)(RMIT), GradDipPersonnelAdmin(VIC), PhD(Mon)
J. Stewart, BEd(Hons), MBA, EdStud(Mon), BDMarketing(Mon), AAPMA

Lecturers
J. Annakis, BA, BEd(Hons)(LaT), GradDipUrbRschPol(SUT), MBA(RMIT)
R. Balianyno, BAppEd(Admin)(VIC), GradDipPersonnelAdmin(VIC), MBA(HumanResourceManagement)(CSU)
J. G. Batros, BSc, BA(Melb), TSTC
H. Russell, BBus(Hons)(RMIT), GradDipEd(Hawthorn), GradDipOB(SUT)
Italian and European Studies

Senior Lecturer
L.A. Hougaz, MA(Melb), DipEd(Melb)

Lecturers
D. Fairservice, BA(Cantab), BA(Hons)(Melb), MA(WA), PhD(Edin), DipEd(MCAE)
M.M. Masini, BA(Hons)(Melb), DipEd(La T)
K. Nolan, Dett.Lett.Filosofia Università di Firenze, MBA(Mon), GradDipEurStuds(Rome), TSTD(Nsw)

Law

Principal Lecturers
B.R. Clarke, BEc, LLM(Mon), GradDipMkt(CIT), Barrister and Solicitor (Vic) Supreme Court
P. Holland, DipEd, BCom, LLB(Hons)(Melb), MEnvSc(Mon), Barrister & Solicitor (Vic) Supreme Court

Senior Lecturers
S. Kapnoullas, LLM, BA, DipEd(Melb), Barrister and Solicitor (Vic) Supreme Court
M. Psaltis, BA, LLM, DipEd(Melb), Barrister and Solicitor (Vic) Supreme Court

Lecturers
S. Edmonds, LLM(Mon), LLB(Hons)(Melb), MEnvSc(Mon), Barrister & Solicitor (Vic) Supreme Court
S. Wilson, BJuris, LLB(Mon), Barrister and Solicitor (Vic) Supreme Court

Marketing

Associate Professor
M. Joseph, BGS(SE Missouri), MBA(SE Missouri), PhD(Waikato)

Senior Lecturers
M. Enright, DipBusStuds(OTI), BA, PhD(Melb)
B. Evans, BA(Hons)(Mon), GradDipMgt(RMIT), MBusMktg(CSU)

Lecturers
J. Grainger, BEc(Mon)
S. Grdovic, BBusHons(Mon)
C. Jevons, BSc(Melb), GradDipBusAdmin(SUT)
A. Koch, MSc(S.P.S. Warsaw), PhD(Wroclaw)
M. Rees, BBus(VIC), GradDipMgt(RMIT), MBA(Mktg)(CIT)
R. Somerville, BA(Mon), GradDipBus(Deakin)
S. Spencer-Matthews, BA(SocSci), GradDipBusMgmt(Mon), MBA(RMIT)
J. Westwood, BEd(ANU), MSCTourismMktg(Surrey-UK)

School of Design

Head of School
Professor H. Luekenhausen, GradDipIndustrialDesign(RMIT), DipEd(Hav), MDA, AAD(M)

Deputy Head of School
C.J. Austin, BA(GraphicDesign)(STI), MDA

Director, International Development (Design)
D.G. Marvey, BAppSc(Design)(STI), TTC, FRSA, MDA, AAD(M)

Directors, Swinburne Design Centre
S. Hook, DipArtDesign(Bristol), CertPictGraphics 1 and 2(Lond), GradDipEd(Hav), CSU
J.B. Quantrell, DipArtDesign(IndustrialDesign)(Prahran), CertWoodTech, CertFinArt, AMACI

Program Co-ordinator, Graphic Design
J. Bassani, DipArtDesign(Prahran), GradDipEd(Hav), MDA

Program Co-ordinator, Industrial Design
L. Anderson, BA(Hons)IndustrialDesign(Surrey), MDA

Program Co-ordinator, Interior/Exhibition Design
A. Kean, BA(Arch.Studies)(Nc’el), MA(RMIT), FGSCD(UK)

Prominent professionals in specialised areas of design are invited to contribute to the programs as guest and sessional lecturers.

Computer Systems Officer
C.A. Higman

Technicians
A. Bhaskara
J. Bollman
I. McKenzie

School Administration Manager
E. Standley

Administrative Officers
B.H. Gourie
B. Heathcote
B. Hunt

Workshop Technicians
A. McClosky, CertTech(RMIT)
A. Brittain

School of Engineering and Science

Head
L.K. Jones, BAgSc, DipEd, PhD(Melb), FRACI

Deputy Head
K.J. McManus, BE(Old), MEngSc(Old), CEng, FIEAust, AM, RFD

Professors
K.C. Pratt, BE(Chem), PhD(Melb), FIEAust, FTS

Associate Professors
J.M. Brown, BE(Mech), BSc, MAAppSc, PhD(Melb), FIEAust, CEng
E.D. Doyle, BSc(Hons)(Manchester), PhD(Old)
Y. Morishita, BE(Hons)(Kyoto), BScDesign, DipTechEd(Tokyo), WWII-xediscI, MSC, DIC, PhD(Lond), FIEAust, CEng, MMW
T.H. Randles, BSc(Old), MSc(LaT), PhD(Old)

Senior Lecturers
N.J. Arnett, BE(Civil)(Melb), DipEd(SCV), FDS
A.S. Bligh, BE(Melb), MEngSc(NSW), CEng
I.C. Bowater, BSc(Hons), DipEd(Melb), PhD(Mon), ARACI
Lecturers

N. Alston, BSc(Hons), PhD(LaT)
K. Barnes
P. Barton, BSc(Hons), DipEd, PhD(LaT)
R.M. Bennett, BE(Civil)(Mon), MIE Aust, CPEng
T.A. Bozan, DipChemEng(STT)
H.J. Calder, BAppSc(BioSci), CPEng
B. Chapman, BE(Hons), GradDipMEng, MEngSc(Biotech)
M. Cleaver-Wilkinson, DipAppSc(STT)
R. Commins, ARIC
R.P. Evans, BEng(Hons), GradDipMgt, MEng(SUT)
S. Farkhahtaur, BE(Aero)(RMIT)
J.H. Hamly-Harris, MAppSc(RMIT), PhD(UC)
G.R. Horro, BEng(Mech)(Melb), MIE Aust.
S.T. Hayen, BEng(Mech)(Melb), GradDipCompEng(RMIT), MEngSc(Melb)
G. Jordon, MPharm(VictPharm)
D.A. Lee, BSc(Eng)(Mech), BA, MEd, CPEng
G. Lu, BSc(China), MSc(Cambridge), MASME
R. Mierisch, DipChemEng(STT), DipEd
R.G. Morris, DipPH(RMIT)
M. Natarajan, MSc(Melb), PhD(Mon)
J.D. Roberts, BE(Mech)(SIT)
S. Tavrou, BSc(Hons)(Mon), MEng(CIM)(SUT)
H. Vander Walt, BEng(Mech), ME(UP), PhD(Wits)
A. Williams, BSc(Hons), MAPS
R.G. Wang, BEng(Mech)(China), MSc(China)
J. Zhang, BEng(Mech)(Melb), MEng(SUT)

Laboratory Managers

V.C. Deakeer
J.B. Endaessert, DipMedTech, ARMIT(AppChem), FRACI
S.A. Sciesiare

Technical Officers

J. Alvarez, BE, GradDipAppSc
S. Curtis, BSc, BA, GradDipAppSc
S. Mougos, BSc
N. Nguyen, BSc, GradDipAppSc
J. NI, BSc
T.J. Smith, BSc

School Administration Manager

E. Jones

Industry Based Learning Coordinator

K. Brown

Administrative Officers

U. Pat, AssocDirBusAdm(Holmagren)
L. Smedley
M. Niner, GradCertBusAdmin(SUT)
A. Watson

Research Fellows & Assistants

C. Jones, BSc, GradDipAppSc
A.S. Manzelli, BSc
L. Mew, BAppSc
P. Sanciolo, BAppSc
K. Schliephake, BAppSc

Industrial Research Institute Swinburne (IRIS)
(Also known as: Centre for Computer Integrated Manufacture)

Director

E. Siores, BSc, MSc, Dip.Ed, PhD(LaT), MBA(Aus), FWITA, FEANI, SeniorMTWI, MIAQ, MAINDT, MAWS, MIM, MIEG.

Research Leaders

A. Nagarajah, BSc(Eng)(Hons), MPhil(UK), PhD, CEng, MIMechE, MIE Aust
E. Shayan, BEng(Eng)(Mas), MSc(USA)
D. Toncich, BE(Aero)(Melb), MEng(SIT), PHD(SUT), CPEng

Industry Training Manager

B.J. Costello, BSc(Hons), CertManufEng, GradDipEng(SUT)

Senior Research Engineers

P. Ioverotti, MEngSc(SIT), GradIE Aust, FRMIT
S. Masood, BSc(Eng)(Hons)(Alig), PGIPropEng(IIT Delhi), MEng(NewBrun), PhD(Queretaro)
K. Talwar, BSc(Eng)(Ind), MChemEng(USA), PhD(ChemEng)(USA)

Research Engineers

B. Aliga, BSc(Hons), MEng(CIM)(SUT)
G.R. Cao, BSc(Hons)(China)
A. Dennison, BEng(Eng)(Hons)(Qld)
G. Frankish, BEng(Mech)(Hons)(Melb)
J. Freshwater, BEng(Mech), MEngSc, PhD(Melb), AGinsTech
C.K. Hy, BSc(Eng)(Hons)(Melb)
V. Rajupalem, BEng(Eng)(Indianapolis), MEng(Ind), PhD(India)
S. Stephani, BEng(Elec)(Hons)(Melb), MEng(SUT)
D. Thawalangam, BSc(Eng)(Sri Lanka), MEng(Thailand), GradDipEng(SUT)
S. Wang, BSc(CompSc), MSc(Ind)
School of Information Technology

Head
Associate Professor D.D. Grant, MSC(Melb), PhD(Reading)

Deputy Head
R. Smith, BSc(Hons)(Melb), GradDipCompStud(CCAE), PhD(Melb)

Professors
B. Henderson-Seliers, BSc(Hons), ARCS(Imperial, London), MSc(Reading), PhD(Leicester), FIMA, FIEAust, FACS
P. Sanderson, BSc(Hons)(WA), MSc, PhD(Toronto)

Associate Professor
P.A. Swatman, BAppSc(Curtin), PGDipCompSci(Curtin), PhD(Curtin), MACS, MACM, MIEE

Principal Lecturers
J.A. James, DipMedRadiotherapy, GradDipIMPIT(MIT), MB(ImIT), MACS
G.M. Leonard, BSc(Hons), MACS
Y.K. Allen, BSc(Hons)(Melb), GradDipCompSci(Curtin), PhD(Massey), CEng
G.A. Murphy, BCom(Mei), CPA
W.D. Wilde, BCom(Birr), MSC(Mei), MACS

Senior Lecturers
N.L. Bailey, BSc(Leeds), GradDipEd(HE), MACS
K. Bluff, BSc(Hons), DipEd(Mon), GradDipComp, PhD(Dean)
B.A. Culp, GradDipMgtSys(SIT), MSc(Stirling), MSc(Melb), MACS
M.J. Creek, BAppSc(SIT), BSc(Hons), DipEd, GradDipHum(LaT), PhD(Melb)
F. Ghotb, BE(IRN), MSc(GWU), PhD(GWU)
D.H. Noble, BSc(Hons)(StAndrews), MACS

Computer Systems Manager
G. Collins, BAppSc(CompSci), BAppSc(Curtin), GradDipAuChem(ImIT), GradDipCompComm(Mon)

Computer Systems Officers
D. McConnell
N. Huynh, BSc(LaT), NavnetCOE
C. Guedh

Manager, Administration
G.J. McWilliam, BA(Hons), DipEd(Mei), AMus(AIME(B), MEdPA(Mon)

Administrative Officers
L. Bulmer
C. Cruse
J. Delahun
tV. Formosa
S. Harris
N. McCarthy, BA(Hons)(Mon)
J.A. McPhee, BEc(LaT)
D. Pretorius
P. Rogan, BA(SUT)

School of Mathematical Sciences

Head
P.L. Jones, DipEd(Mon), BSc(Hons), PhD(Mon)

Deputy Head
N.J. Garrigan, DipEd(Melb), MSc(Kent)

Associate Professors
S.R. Clarke, DipEd(Melb), BSc(Hons)(Melb), MA(Lanc)
A.K. Easton, DipT(ImIT), MSc(ImIT), PhD(ImIT), FIMA

Principal Lecturers
B.R. Phillips, BSc, MSc(ImIT), MSc(StAndrews)
S.E. Weai, BAppSc(FMIT), MA(Lanc)

Senior Lecturers
C.R. Berring, MusA(AIME(B), DipEd(ImIT), MSc(LaT)
F. Ghobri, BSc(RU), MSc(GWU), PhD(GWU)
D.H. Noble, BSc(Hons)(StAndrews), MA(Lanc)
**Applied Science**

**Z052 Bachelor of Applied Science**

**Biochemistry**

1998 VTAC course code: 34601

This program combines studies in chemistry, biochemistry and microbiology.

Biochemistry is the study of the chemistry of living matter based on principles of organic, physical and analytical chemistry. As well as understanding biology and working with biochemicals and biochemical instrumentation, the modern biochemist has to make extensive use of computers. Computers are used to control instrumentation in investigations ranging from alcohol levels in blood to vitamin concentrations in food. Computers are also used to control industrial processes such as fermentations and food processing.

The course involves a study of the structure and function of the chemical systems of living organisms and application of this knowledge to many industrial fields such as clinical, pharmaceutical and food chemistry. The course provides a sound background in theory and application of analytical and preparative biochemical techniques. Computing subjects are ancillary but provide awareness and proficiency in modern computer technology and its applications to biochemistry. All aspects of the course are reinforced by paid industrial experience.

**Location**

Hawthorn campus.

**Career opportunities**

Graduate biochemists are employed in a wide variety of industries — the manufacture of vaccines and pharmaceuticals, preparation of food products, beverages and stock-feed and the preparation of biochemicals for agriculture.

Graduates are also employed in hospital laboratories and private pathology laboratories, as well as in medical and veterinary research institutions. Emerging employment opportunities exist in biotechnologies such as waste treatment and the manufacture of specialiseed biochemicals.

**Professional recognition**

Graduates are eligible for membership of the Royal Australian Chemical Institute, the Australian Society for Biochemistry and Molecular Biology, the Australian Biotechnology Association and the Australian Society for Microbiology.

**Course structure**

(1997 syllabus)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
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**Course descriptions**

**Applied Science**

**Z052 Bachelor of Applied Science**

**Biochemistry**

1998 VTAC course code: 34601

This program combines studies in chemistry, biochemistry and microbiology.

Biochemistry is the study of the chemistry of living matter based on principles of organic, physical and analytical chemistry. As well as understanding biology and working with biochemicals and biochemical instrumentation, the modern biochemist has to make extensive use of computers. Computers are used to control instrumentation in investigations ranging from alcohol levels in blood to vitamin concentrations in food. Computers are also used to control industrial processes such as fermentations and food processing.

The course involves a study of the structure and function of the chemical systems of living organisms and application of this knowledge to many industrial fields such as clinical, pharmaceutical and food chemistry. The course provides a sound background in theory and application of analytical and preparative biochemical techniques. Computing subjects are ancillary but provide awareness and proficiency in modern computer technology and its applications to biochemistry. All aspects of the course are reinforced by paid industrial experience.

**Location**

Hawthorn campus.

**Career opportunities**

Graduate biochemists are employed in a wide variety of industries — the manufacture of vaccines and pharmaceuticals, preparation of food products, beverages and stock-feed and the preparation of biochemicals for agriculture.

Graduates are also employed in hospital laboratories and private pathology laboratories, as well as in medical and veterinary research institutions. Emerging employment opportunities exist in biotechnologies such as waste treatment and the manufacture of specialiseed biochemicals.

**Professional recognition**

Graduates are eligible for membership of the Royal Australian Chemical Institute, the Australian Society for Biochemistry and Molecular Biology, the Australian Biotechnology Association and the Australian Society for Microbiology.

**Course structure**

(1997 syllabus)

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<thead>
<tr>
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TL503

This program combines major studies in chemistry and applied chemistry. Computers

Bachelor of Applied Science (Chemistry)

Application procedure

Entry requirements

Credit transfer - Pathways

Students who have completed the Swinburne TAFE Associate Diploma of Applied Science (Laboratory Technology), with appropriate bridging subjects TL501, TL502, TL503 may be admitted into second year of the course.

Application procedure

Refer to page 42.

Z051 Bachelor of Applied Science (Chemistry)

1998 VTAC course code: 34101

This program combines major studies in chemistry and applied chemistry. Computers are widely used in chemical laboratories to control instruments, manage data and control experiments. This unique chemistry course equips students for the computerised laboratory. All aspects of the course are reinforced by paid industrial experience.

Location

Hawthorn campus.

Career opportunities

Using their knowledge of chemical principles and their application to industrial problems graduates take up positions with private and public companies or with government and semi-government organisations such as CSIRO. Initially graduates usually work in laboratories associated with manufacturing (industrial and agricultural chemicals, textiles, explosives, fertilisers, detergents, plastics, dyestuffs, pharmaceuticals) or in the processing of food, coal, oil, gas or minerals.

Further opportunities exist in research, development, technical services, sales, government organisations concerned with health and environment and administration.

Professional recognition

Graduates are eligible for membership of the Royal Australian Chemical Institute.

Course structure (Full-time)

Year 1 (1993 syllabus)

Semester 1

Credit points

SC108 Biology 1 10.0
SC154 Chemistry 1 10.0
SK190 Computer Science 10.0
SM129B Mathematical Methods 10.0
SP108 Physics 10.0

Semester 2

SC254 Chemistry 2 10.0
SM129H Mathematical Methods 10.0

Year 2

Semester 1

SC255 Instrumental Science 10.0
SC208 Biology 10.0
SC2ASP Practical Chemistry 10.0

Semester 2

SC363 Chemicals in the Environment 10.0
SC200 Practical Chemistry 10.0
SC270 Chemistry 3 10.0
SC290 Professional Skills 1 10.0
----- Elective 10.0

Semester 2

SC443 Manufacturing Chemistry 10.0
SC480 Practical Chemistry 4 10.0
SC470 Chemistry 4 10.0
SC490 Professional Skills 2 10.0
----- Elective 10.0

Year 3 (1994 syllabus)

Semester 1

SC508 Industry Based Learning 50.0

Semester 2

SC508 Industry Based Learning 50.0

Year 4 (1994 syllabus)

Semester 1

SC533 Applied Chemistry 12.5
SC560 Practical Chemistry 15.0
SC570 Chemistry 15.0
SC590 Computer in Chemistry 7.5

Semester 2

BS19 Business and Management(option) 10.0
SC663 Applied Chemistry 10.0
SC560 Practical Chemistry 10.0
SC570 Chemistry 10.0
SC662 Scientific Communications 10.0

IOC is a major supporter of this course, providing funds for the purchase of molecular graphics equipment as well as being a continuing supporter of our industry based learning program.

Entry requirements

Prerequisites (entrance 1998): Units 3 and 4 - Chemistry and Mathematical Methods.

Credit transfer - Pathways

Students who have completed the Swinburne TAFE Associate Diploma of Applied Science (Laboratory Technology), with appropriate bridging subjects TL501, TL502, TL503 may be admitted into second year of the course.

Application procedure

Refer to page 42.

H050 Bachelor of Applied Science (Environmental Health)

1998 VTAC course code: 34251

This health science course is the accredited qualifying program for environmental health professionals in Victoria. It is unique to Swinburne and is designed to develop skills in community health protection, food safety, environmental control and occupational health and safety. The training offered is inter-disciplinary and suits graduates who enjoy working with communities and industry, and have a genuine concern for achieving and maintaining high standards of community health and environmental accountability.

It normally takes the form of a four year program of cooperative education (industry based learning) in which students attend the University for a total of six semesters, and gain practical professional experience for two semesters. Swinburne arranges the professional experience for full-time students.

Location

Hawthorn campus.

Career opportunities

Many environmental health professionals are employed by local government authorities and by state government health and community departments but some

Swinburne University of Technology | 1998 Handbook
work with the Environment Protection Authority. Opportunities also exist in other state and federal departments and an increasing number in the private sector.

Environmental health professionals can thus be involved in varied duties such as: disease control and immunisation; food safety, food manufacturers; food quality; industrial health; pollution control; health education; and environmental health audits.

Opportunities also exist in industry, particularly the food industry, where environmental health professionals assist with quality control work and in complying with health and pollution laws.

Some environmental health graduates are self-employed as consultants.

**Professional recognition**

Graduates are eligible for membership of the Australian Institute of Environmental Health. Students can become student members while doing the course.

**Course structure (Full-time)**

**Year 1 (1992 syllabus)**

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**Entry requirements**

Prerequisites: Units 3 and 4: Mathematical Methods plus one of Biology, Chemistry or Physics.

**Application procedure**

Refer to page 112.

**Z061 Bachelor of Applied Science (Medical Biophysics & Instrumentation)**

1998 VTAC course code: 34231

This is one of the most interesting and exciting courses available in Australia today. This program was developed at Swinburne and offers students a unique opportunity to combine major studies in medical biophysics and scientific instrumentation.

The Medical Biophysics & Instrumentation program combines the study of processes occurring in the human body with the various types of instruments used to measure and visualise these processes in the clinical environment. Medical Biophysics is the study of human physiological processes relevant to major medical problems, medical and biological research, aspects of pathophysiology and areas of biomedical instrumentation used to measure and monitor these processes. It includes the study and monitoring of such systems as membranes, nerves, muscles, the heart and circulation, the kidneys, respiration and the brain. The brain and the study of brain processes is emphasised in this program, and biomechanics, sports science, physiological control and the basis of physical therapy are also included.

Medical Biophysics is complemented by the study of scientific instrumentation which provides students with a sound basis in measurement and instrumentation principles and their use in the development of instrumentation systems for various areas of applied science and technology. The course includes studies of both computer-based and non-computer-based instruments, used in isolation or as systems, and their application to imaging, nuclear, optical and general scientific and industrial laboratories. Emphasis is on electronic techniques, analogue and digital signal processing and on the basic interfacing of transducers with microprocessors and computers.

**Industry based learning (IBL)**

This course includes an industry-based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning, as this scheme is known, gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All industry based learning placements are subject to availability and require suitable English language skills.

**Honours**

Medical Biophysics & Instrumentation students with excellent final year results may be invited to complete an Honours year. This generally involves an additional year of specialised academic study.

**Location**

Hawthorn campus.

**Career opportunities**

The program produces graduates suitable for technology, research and development positions in hospitals and industry, and it enjoys an extremely high graduate employment rate in the health care sector, medical equipment companies and the sports medicine industry.

Swinburne graduates take up a range of positions in hospital departments, including cardiology, neurology, thoracic medicine, anesthetics and medical electronics, in biological research laboratories and industry. Duties may involve biomedical research, clinical work with patients, and development, maintenance and management of specialised medical and electronic equipment. Graduates also find careers in the industrial and scientific instrumentation fields.

**Professional recognition**

Graduates are eligible for membership of the Australian Institute of Physics and Australasian College of Physical Scientists and Engineers in Medicine.

**Course duration and delivery**

The duration of the course will normally be four years full-time, including one year of paid, supervised industry based learning (IBL). To qualify for the award of Bachelor of Applied Science (Medical Biophysics & Instrumentation), students must accumulate a minimum of 300 credit points (100 credit points per full-time academic year). Students undertaking IBL accumulate 400 credit points and will be presented with an additional testament indicating their successful completion of the IBL program. Five subjects will generally be taken during each academic semester, with a total of...
approximately 20 hours per week contact time (including lectures, classes, tutorials and laboratory sessions). The typical student’s average weekly workload during semester is expected to be 50 hours.

Course structure

Year 1

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Year 2

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Year 3

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Year 4

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<td>SE605 Emerging Medical Technologies</td>
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<td>SE17 Photonics &amp; Fibre Optics</td>
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Entry requirements

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Units 1 & 2 passes in four units of Mathematics and Units 3 & 4 passes in English, Physics and Mathematical Methods. Bonus points will be awarded for Specialist Mathematics (15%). Passes may be accumulated over more than one year.

Special entry

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

Credit transfer – Pathways

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into this course with advanced standing. Certain subject requirements must be made and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Postgraduate courses

Progression paths are available (subject to sufficiently high performance) into coursework Masters degrees, a double degree in Medical Biophysics & Electrical Engineering, or postgraduate research programs.

Application procedure

Applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guide Line on 1 902 747 095 or present in person at VTAC during office hours.

Further information

Information sessions are held annually in August and in December. Attendance at one of these sessions is highly recommended for prospective students. For further information, telephone (03) 9214 8859.

*** Bachelor of Applied Science in Psychology and Biochemistry (under accreditation) 1998 VTAC course code: 34161

The School of Social & Behavioural Sciences, in collaboration with the School of Engineering and Science plan to offer a co-major in Psychology and Biochemistry, with students completing majors in both Psychology and Biochemistry as part of their studies towards a Bachelor of Applied Science degree. Students complete the three year course of study in Psychology and a three year program in Biochemistry involving studies in Biology, Chemistry and Biochemistry. Details of these subjects can be found in the chapters referring the the Bachelor of Applied Science.

Location

Hawthorn campus.

Entry requirements

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Grades D or better in four VCE subjects including English. Passes may be accumulated over more than one year.

Special entry

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Application procedure

All applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guide Line on 1 902 247 065 or present in person at VTAC during office hours.

Credit transfer - Pathways

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Social Science and Arts programs with advanced standing. Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Further information

Contact the School of Social and Behavioural Sciences, Telephone (03) 9214 5209.
Z062 Bachelor of Applied Science (Psychology & Psychophysiology)  
(subject to re-accreditation in 1998)
1998 VTAC course code: 34141

Psychology is the systematic study of mental processes and behaviour. Understanding a person means simultaneously examining their biological makeup, experience, and cultural perspective.

This program is unique to Swinburne and is provided jointly by the School of Biophysical Sciences & Electrical Engineering and the School of Social and Behavioural Sciences. Students complete full undergraduate majors in both Psychology and Psychophysiology.

The psychology major provides a broad introduction to a range of relevant studies, with more specialisation work in personality, design and measurement (solutions of counselling and psychological measurement).

The psychophysiology major emphasises an understanding of physiological processes relevant to the study of psychology. Areas of study include physiological responses to stress, neuropsychological processes in sleep, dreaming, memory and cognition, and brain disorders. Psychophysiology also looks at the use of computers and instrumentation relevant to cognition and behaviour.

Psychophysiology is the study of physiological processes underlying behaviour (including attention, emotion, sleep, disorders). It is the "twin" of psychology. The word behaviour is used in its widest concept and includes such diverse activities as sleep, attention, problem solving, and simple motor acts.

Together in this unique program, the two areas provide a rare blend of study of the human behavioural processes that link the body and the brain.

Swinburne psychophysiology students are regarded very highly in the community, for their research, psychophysiological and psychological skills.

Honours
Psychology & Psychophysiology students with excellent final year results may be invited to complete an Honours year. This generally involves an additional year of specialised academic study.

Location
Hawthorn campus.

Career opportunities
Graduates of the psychology/psychophysiology program have a unique blend of skills. The combination of psychological knowledge with understanding of the underlying physiological processes associated with stress, memory, psychiatric disorders etc gives entry to a wide range of jobs.

Areas of employment include community health services, and clinics and institutions involved in the assessment and management of neurological and psychophysiological problems. Graduates can also take up careers in sports psychology, ergonomics and areas of clinical psychology concerned with the physiological effects of emotional and mental states.

Professional recognition
An additional year of study in psychology will qualify graduates for associate membership of the Australian Psychological Society.

Course duration and delivery
The duration of the course will normally be three years full-time. To qualify for the award of Bachelor of Applied Science (Psychology and Psychophysiology), students must accumulate a minimum of 300 credit points (100 credit points per full-time academic year). Four subjects will generally be taken during each academic semester, with a total of approximately sixteen hours per week contact time (including lectures, classes, tutorials and laboratory sessions). The typical student's average weekly workload during semester is expected to be 50 hours.

Course structure (for students commencing in 1998)

Year 2
Semester 1
- Cognition and Human Performance 12.5
- Design & Measurement 2A 12.5
- Developmental Psychology 12.5
- Neurological Monitoring 12.5

Semester 2
- Neuropsychological Systems 12.5
- Psychophysiological Control 12.5
- Sensation and Perception 12.5
- Social Psychology 12.5

Year 3
Semester 1
- Design and Measurement 3A 12.5
- Functional Psychophysiology 12.5
- Higher Cortical Function 12.5
- Psychology of Personality 12.5

Semester 2
- Psychophysiological Disorders 12.5
- Psychophysiology Project 12.5

Two of:
- Psychological Measurement 12.5
- Psychological Foundations of Counselling 12.5
- Neuropsychology 12.5

There are two electives taken in first year. They could include (providing prerequisites are met): Science-based (Mathematics, Physics, Chemistry), or Humanities-based (Sociology, Politics, Philosophy, Language). They may be subjects that continue for one semester, or extend to two semesters.

These subjects are subject to reaccreditation in 1997.

Course structure (for continuing students in 1999)

Year 2
Semester 1
- AY203 Development Psychology 16.5
- SM278 Design & Measurement 2A 16.5
- SP331 Neurohumoral Bases of Psychophysiology 17.0

Semester 2
- AY202 Cognition & Human Performance 16.5
- AY204 Social Psychology 16.5
- SP401 Psychophysiology of Perception 17.0

Year 3
Semester 1
- AY312 The Psychology of Personality 16.5
- SM378 Mathematics 16.5
- SP501 Neuropsychophiology of Neural Brain 7.5
- SP528 Higher Cortical Function 10.0

Semester 2
- AY319 Psychological Measurement 8.5
- AY330 Psych Foundations of Counselling 8.5
- SP621 Neuropsychophiology of Mental Disorders 20.0
- SP622 Psychophysiological Project 12.5

Entry requirements
Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Units 3 & 4 passes in English, a Mathematics subject, and one of: Physics, Chemistry or Biology. Passes may be accumulated over more than one year.

Special entry
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

Credit transfer – Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into this course.
Tertiary Admissions Centre (VTAC), 40 Park Street South Melbourne 3205. To order
Applications for full-time or part-time places must be made through the Victorian
Application procedure
acceptable standard of results achieved inorder to gain admission and for maximum
This double degree program covers specialist study of the physical, physiological and
Z030 Bachelor of Applied Science/Bachelor of
Engineering (Medical Biophysics/ Electrical & Electronic Engineering)
1998 VTAC course code: 34681
This double degree program covers specialist study of the physical, physiological and
anatomical aspects of the human body and its medical care, plus electrical and
electronic engineering relevant to biomedical engineering and patient care and
monitoring instrumentation.
The core specialist studies are in medical biophysics, cell function, cardiology,
respiratory technology, neuroscience, electronics, biomedical and scientific
instrumentation and monitoring systems, medical imaging, electrical engineering,
power systems, microprocessor and computer systems, automatic control systems,
digital signal and image processing and communication systems.
Industry based learning
This course includes an optional industry based learning segment, in which students
are placed in paid, supervised employment as part of their degree program. Industry
based learning, as this scheme is known, gives students practical experience to add
to their academic studies, and is a proven advantage in the graduate job market. All
industry based learning placements are subject to availability and require suitable
English language skills.
Location
Hawthorn campus.
Career opportunities
This double degree program provides graduates with a wide range of career options,
covering the plethora of electrical engineering careers through to biomedical
engineering and medical technology, serving both the hospital sector and the
developing biomedical equipment industry. Graduates will be in an excellent position
to further the rapid growth of technology for health care.
Professional recognition
This course meets the requirements of the Institution of Engineers Australia for
graduate membership.
Course duration and delivery
The duration of the course will normally be five years full-time. To qualify for the
award of Bachelor of Applied Science/Bachelor of Engineering (Medical Biophysics/ Electrical & Electronic Engineering), students must accumulate a minimum of 500
credit points (100 credit points per full-time academic year). Students undertaking the
optional IBL component accumulate 500 credit points and will be presented with an
additional testamur indicating their successful completion of the IBL program. Five
subjects will generally be taken during each academic semester, with a total of
approximately 22 hours per week contact time (including lectures, classes, tutorials and
laboratory sessions). The typical student's average weekly work load during
semester is expected to be 50 hours.
Year 1
Semester 1
<table>
<thead>
<tr>
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<td>SE108</td>
<td>Global Networks</td>
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<td>SE112</td>
<td>Introduction to Biophysics A</td>
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<td>SE195</td>
<td>Physics 1</td>
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<td>SM125</td>
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Semester 2
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<tr>
<td>SE122</td>
<td>Introduction to Biophysics B</td>
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SE128 Physics 2 10
SK260 Computer Science 10
SM125 Mathematical Methods 10

Year 2
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<td>SE214</td>
<td>Engineering Physics 3</td>
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<tr>
<td>SE230</td>
<td>Cardiovascular Biophysics</td>
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<tr>
<td>SE240</td>
<td>Cellular Biophysics</td>
<td>10</td>
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<td>SM233</td>
<td>Engineering Mathematics 3</td>
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<td>Sensors, Interfacing &amp; Control</td>
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<tr>
<td>SE228</td>
<td>Physics 4</td>
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<tr>
<td>SE250</td>
<td>Biomedical Instrumentation</td>
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</tr>
<tr>
<td>SE260</td>
<td>Respiratory &amp; Renal Biophysics</td>
<td>10</td>
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<td>SM244</td>
<td>Engineering Mathematics 4</td>
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Year 3
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<td>SE405</td>
<td>Neurophysiology</td>
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<td>SE407</td>
<td>Biomedical Imaging</td>
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<td>SK280</td>
<td>Software Design</td>
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Semester 2
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<tr>
<td>SE223</td>
<td>Linear Systems</td>
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<tr>
<td>SE225</td>
<td>Machines &amp; Power Systems</td>
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<tr>
<td>SE429</td>
<td>Cognitive Neuroscience</td>
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<tr>
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<td>Sensor Systems</td>
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<tr>
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<td>Control and Automation</td>
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</tr>
<tr>
<td>SE314</td>
<td>Communications Principles</td>
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<tr>
<td>SE316</td>
<td>Electromagnetic Waves</td>
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<tr>
<td>SE329</td>
<td>Digital Signal &amp; Image Processing</td>
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<tr>
<td>SE601</td>
<td>Industrial Electronics</td>
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Semester 2
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<tbody>
<tr>
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<tr>
<td>SE226</td>
<td>Real Time &amp; Distributed Systems</td>
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<tr>
<td>SE422</td>
<td>Biometrics</td>
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<td>SE420</td>
<td>Machine Drives</td>
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<td>SE426</td>
<td>Measurement &amp; Analysis Team Project</td>
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Year 5
Semester 1
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<td>SE417</td>
<td>Telecommunications Technologies</td>
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<td>SE427</td>
<td>Photonics &amp; Fibre Optics</td>
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<td>SE601</td>
<td>Specialist Project 1</td>
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Semester 2
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<tr>
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<tr>
<td>SE520</td>
<td>Engineering Management A</td>
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<td>SE406</td>
<td>Multimedia Systems 2</td>
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<tr>
<td>SE423</td>
<td>Neural Networks &amp; Intelligent Instrumentation</td>
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Entry requirements
Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Units 3 & 4 passes in English, Mathematical Methods
and Physics. Passes may be accumulated over more than one year.
Special entry
Applicants who do not have a Year 12 qualification or who have a non-competitive
Year 12 score and no other tertiary study, and have at least five years related work
experience, may be considered for admission if they can demonstrate motivation and
ability to succeed.
Application procedure
Applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guide Line on 1 902247005 or present in person at VTAC during office hours.

Credit transfer – Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into this course with advanced standing. Certain subject requirements must be made and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Postgraduate courses
Information on Swinburne postgraduate courses in this area of study is available by telephoning (03) 9214 8859.

Further information
Information sessions are held annually in August and in December. Attendance at one of these sessions is highly recommended for prospective students. For further information telephone (03) 9214 8859.

Honours Year
Z073 Applied Chemistry
This program provides an opportunity for selected students, who have achieved a high standard during the applied chemistry course, to graduate with a degree with honours.
For more information please contact the School of Chemical Sciences.

Z072 Biochemistry/Chemistry
This program provides an opportunity for selected students, who have achieved a high standard during the biochemistry/chemistry course, to graduate with a degree with honours.
For more information please contact the School of Chemical Sciences.

Z069 Environmental Health
This program provides an opportunity for selected students, who have achieved a high standard during the environmental health course, to graduate with a degree with honours.
For more information please contact the School of Chemical Sciences.

Z066 Medical Biophysics
Also see Z079 Psychophysiology
Course structure

<table>
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<tr>
<td>SP711</td>
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<td>SP822</td>
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# students who obtain approval to undertake an elective will do SP822 instead of SP822.

Z068 Medical Biophysics & Scientific Instrumentation

Z079 Psychophysiology

Z067 Scientific Instrumentation
These programs provide opportunities for selected students who have achieved a high standard in the major areas of study to continue their undergraduate studies to an honours level. In addition to the two project subjects, students must complete a minimum of four subjects. These are selected from subjects offered by the School of Biophysical Sciences and Electrical Engineering in consultation with the postgraduate coordinator. Subject to approval, one subject of equivalent standard from another School may be chosen.

Further information
For more information please contact the School of Biophysical Sciences & Electrical Engineering on telephone (03) 9214 8559.

Business

A055 Bachelor of Business
1998 VTAC course code - Full-time: 34111
Part-time: 34701

The course leading to the award of Bachelor of Business offers major, minor and elective studies. The following Business specific major/minors are available: accounting, business law, business modelling, economics, finance, human resource management/organisation behaviour, information systems, international business, management and marketing.

The following majors/minors are available from Arts: Australian studies, Asian studies, cultural studies, European studies, Italian, Japanese, Korean, literature, media studies, sociology, political studies, psychology, philosophy and cultural inquiry, and Vietnamese.

Key features of the Business specific major streams are described in the Business Specialisations section below.

Location
Hawthorn campus.

Course duration
The Bachelor of Business is a three year full-time or six year part-time degree course (plus one year optional Industry Based Learning).

Course structure
Students undertake a total of twenty-four subjects, consisting of a core of seven subjects, and a combination of majors, minors and electives.

A major consists of six post-core subjects (at least two at Stage Three) from one specialisation. A minor consists of four post-core subjects (at least one at Stage Three) from one specialisation.

Students may complete a combination of majors, minors and electives to fulfil the degree requirements (refer diagram for choice of structure options) however, at least one major from the Business specific majors listed above must be completed.

The above formula for majors and minors in the Bachelor of Business applies to all Business specific streams except where specific requirements are specified under individual majors of study information outlined on the following pages. These majors, minor formulas also apply to Arts majors studied as part of a Bachelor of Business except in the case of a minor in Languages where a minor is Stage One and Two Language subjects, with no Stage Three requirement and a minor in Psychology is AY100, AY101, SM278, AY203, and AY204 or AY204 (or equivalent) with no Stage Three requirement.

Course restrictions
Students should note the following restrictions:

• a maximum of twelve subjects from any specialisation (e.g. Accounting - 'BC' subject code prefix);
• a maximum of ten Stage One subjects (e.g. BC110 - Stage One subjects have a 1 immediately following the two-letter code);
• a minimum of four Stage Three subjects (e.g. BC330 - Stage Three subjects have a 3 immediately following the two-letter code);
• the subject AT119 Academic Communication Skills cannot be used for credits towards the Bachelor of Business;
• a subject can only be counted once as part of a major or minor or as an elective - one subject cannot be counted twice (e.g. the subjects BC331 Taxation and BC336 Advanced Taxation may be counted towards either an Accounting or Business Law major or minor, but not both);
• students are not permitted to enrol in subjects where they have completed another subject that is deemed to be equivalent. Equivalent subjects cannot both be used for credit;
• BH334 Asian Business may only be counted as an elective, not towards any major or minor;
• B9304 Industrial Project cannot be used for credit towards the Bachelor of Business;
• students will be allowed to study a maximum of twenty-six subjects as part of a Bachelor of Business.
Special course of study for students who have completed an Associate Diploma in Business

Students enrolled in this course who have completed an approved Associate Diploma in Business or equivalent must complete all the normal requirements for the course except they are only required to complete four of the seven business core subjects (which may include matched subject credits). However, all core subjects required as prequisite for later Stage subjects selected for study must be completed.

The seven core subjects are:

- BC110 - Accounting I
- BE110 - Microeconomics
- BH110 - Organisations and Management
- BL111 - Law in Global Business
- BM110 - The Marketing Concept
- BQ110 - Quantitative Analysis (enabling)
- and/or
- BQ111 - Quantitative Analysis B
- or
- BQ111 - Quantitative Analysis A
- BT110 - Information Technology

Course structure options

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<td>4</td>
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</tbody>
</table>

- mandatory core subjects
- one major in a business specialisation
- options

Prerequisites/Corequisites

Students must have passed prerequisites/corequisites listed for each subject and must check that they have fulfilled these requirements before enrolling. Subject conveners must be consulted if students wish to enrol in a subject for which they do not have the stated prerequisite.

Industry Based Learning (IBL)

The Bachelor of Business includes an optional Industry Based Learning segment, in which students are placed in paid, supervised employment as part of their degree course. Whilst enrolment in the Industrial Project completed as part of Industry Based Learning is not for credit, it gives students invaluable practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All Industry Based Learning placements are subject to availability and require suitable English language skills.

For further information about Industry Based Learning in the Bachelor of Business, please see the section at the beginning of this chapter.

Professional recognition

The following professional recognition applies to studies in the Bachelor of Business.

- Australian Society of Certified Practising Accountants (ASCPA) and Institute of Chartered Accountants in Australia (ICAA)
- Australian Institute of Banking and Finance (AIBF)
- Australian Human Resources Institute (AHRI)

To be eligible for associate membership of AIBF graduates must have completed the following post-core subjects with all eight human resource management/organisation behaviour subjects:

- BH220 - Organisation Behaviour 1
- BH221 - Human Resource Management 1
- BH222 - Organisation Design
- BH223 - Dynamics of Diversity in the Workplace
- BH330 - Organisational Behaviour 2
- BH331 - Human Resource Management 2
- BH332 - Enterprise Bargaining
- BH333 - Managing Quality in Organisations

And a further two subjects from other discipline areas:

- BE220 - Industrial Relations
- BL332 - Employment Law

- Australian Institute of Banking and Finance (AIBF)

Students seeking advanced standing for studies undertaken outside Australia are advised that credit granted by the University may not, in all cases, be recognised by the ASCPA. The ASCPA does provide guidelines and individual advice regarding recognition of exemptions based on studies undertaken outside Australia.

Students should contact the ASCPA directly regarding recognition of exemptions based on studies undertaken outside Australia.

Australian Institute of Banking and Finance

The Australian Institute of Banking and Finance accepts the Bachelor of Business degree as an approved degree for the purpose of Affiliate membership of the Institute. Affiliate membership is a transitional level leading to Senior Associate status. An Affiliate member is required to undertake specialist banking subjects to complete the educational requirements for Senior Associate status.

Students seeking advanced standing for studies undertaken outside Australia are advised that credit granted by the University may not, in all cases, be recognised by the ASCPA. The ASCPA does provide guidelines and individual advice regarding recognition of exemptions based on studies undertaken outside Australia.

Students should contact the ASCPA directly regarding recognition of exemptions based on studies undertaken outside Australia.

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Students should contact the ASCPA directly regarding recognition of exemptions based on studies undertaken outside Australia.
**Australian Institute of Management**  
Accreditation is currently being sought.

**Australian Marketing Institute (AMI)**  
Graduates of this course who have completed a Marketing major are eligible to become Associates of AMI. In addition, this course also fulfills the educational requirements for recognition as a Certified Practicing Marketer.

**Financial Planning Association of Australia**  
The Financial Planning Association of Australia will grant, students who complete the appropriate four subjects listed below, up to two exemptions in the Diploma of Financial Planning, a diploma necessary to become a Certified Financial Planner. The exemptions are granted on the following basis:

One exemption for  
BC331 Taxation; and  
BC226 Advanced Taxation

and one exemption for  
BC224 Financial Management; and  
BC227 Personal Investment.

**Institute of Corporate Managers, Secretaries and Administrators**  
Completion of the Bachelor of Business fulfills the educational requirements for associate membership of the Institute of Corporate Managers, Secretaries and Administrators.

**The Foundation of Australian Manufacturing Education (FAME)**  
The Foundation of Australian Manufacturing Education (FAME) will be offering associate membership of the Institute of Corporate Managers, Secretaries and Administrators.

**Year 12 score and no other tertiary study, and normally have at least five years**  
Applicants who do not have a Year 12 qualification or who have a non-competitive level diploma, may be eligible for special entry. This will be based on completion of the Manufacturing Major (as described in the course structure), subject to the same academic requirements as the Bachelor of Business in Stage Two.

Special entry  
Applicants who do not have a Year 12 qualification or who have a non-competitive level diploma, may apply for admission through the Special Tertiary Admissions Test (STAT). A STAT registration fee is payable to VTAC. Not all eligible applicants can be offered a place; quotas do apply.

**Entrance requirements**  
Refer to page 44.

**Credit transfer - Pathways**  
For further details on credit transfer towards this course refer Swinburne Pathways Credit Transfer Guide.

**Application procedure**  
Refer to page 42.

**Further information**  
Contact the School of Business on (03) 9214 5046.

**Business Specialisations**

**Accounting**  
Accounting is the basic language of business. The accounting subjects offered by the School of Business cover the many different aspects that accounting embraces in today’s business activities. The overall emphasis is on providing information and analytical tools which improve the decision-making process throughout the organisation.

Stage One accounting gives students an overview of accounting from a user's perspective, how to read and analyse accounting reports. Accounting information is an important basis on which many decisions in all areas of business are made. Stage Two subjects introduce both the process of creating accounting reports and developing other accounting information for decision-making. Students learn to use a variety of analytical tools and recording processes. Subjects cover a range of areas from accounting as a business information system, to developing information to assist the marketing, purchasing, production and administrative functions, through to financial management of the firm. Stage Three, subjects can be taken which provide students with additional analytical tools used in decision-making in a wide variety of business problems. In addition, further specialist subjects in tax, auditing, financial reporting and personal investment can be studied.

**Career opportunities**  
Students with accounting majors or minors find rewarding work in industry, commerce, the public sector, the financial industry or business consulting. Students who undertake a course leading to professional accounting qualifications may work in any of these areas and in addition may work in public accounting.

**Structure**

**Stage One** (core subject)  
BL111 Law in Global Business

**Stage Two**  
BL220 Contract Law (A)  
BL221 Company Law (A)  
BL222 Marketing Law  
BL224 Retailing Law  
BL226 Information Technology and Communications Law

**Business Law**  
The Business Law major will provide students with the knowledge necessary to appreciate the impact law has on the business environment. With the increasing legal regulation of society, it is essential that students are aware of the factors which either encourage or inhibit business activities. The core subject, Law in Global Business, introduces students to basic legal concepts and important areas of business law. The subject concentrates on the interrelationship of law, business and society. A wide range of electives deal with various aspects of business law including: contract; company; marketing; employment; international trade; retailing; finance and computing law.

**Career opportunities**  
While not leading to a legal qualification, a business law major can lead to a range of careers and positions in insurance, banking, finance and the public sector. Legal knowledge would be valuable to a property officer, accountant, trust officer/administrator, company legal officer, company secretary, or local government administrator.

**Structure**

**Stage One** (core subject)  
BL111 Law in Global Business

**Stage Two**  
BL220 Contract Law (A)  
BL221 Company Law (A)  
BL222 Marketing Law  
BL224 Retailing Law  
BL226 Information Technology and Communications Law

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Business Modelling

The Business Modelling major will provide a comprehensive set of skills necessary for the successful analysis of everyday business problems and which assist in the task of decision-making.

A Business Modelling major or minor will provide students with valuable tools and skills that will complement majors or minors undertaken in other disciplines.

Stage One provides students with an introduction to basic business modelling and data analysis tools required to support subsequent studies, both within business modelling and other disciplines.

Stage Two introduces a variety of analytical tools and provides the additional skills that can be applied directly to everyday problems in the business world; resource allocation (fundamental to the world of commerce); business forecasting (essential for business survival); managing inventory; basic decision-making and planning for changes in Australia's population attributes (necessary to understand changing business markets).

Stage Three provides students with additional tools that are necessary to enable an analysis of a number of real-world business modelling problems. This stage is also designed to strengthen and focus the skills already obtained, enhancing the value of possessing these skills to the business community.

Career opportunities

In today's business world, very little can be achieved without the application of business modelling practices and techniques. Students completing a major or minor sequence of study in business modelling will also inherit valuable multi-disciplinary skills that are extremely marketable within the business community and may find employment in roles such as market analysts and business consultants.

Structure

Stage One

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>BE110E</td>
<td>Quantitative Analysis (Enabling)</td>
</tr>
<tr>
<td>BE110</td>
<td>Quantitative Analysis A or B</td>
</tr>
<tr>
<td>BE111</td>
<td>Quantitative Analysis B</td>
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Stage Two

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>BE220</td>
<td>Business Forecasting</td>
</tr>
<tr>
<td>BE221</td>
<td>Marketing Data Management(equivalent to BE225/B0225 Economic Techniques for Business)</td>
</tr>
<tr>
<td>BE223</td>
<td>Business Demography</td>
</tr>
<tr>
<td>BE225</td>
<td>Economic Techniques for Business</td>
</tr>
<tr>
<td>BE227</td>
<td>Marketing Research 2 (only for students who have completed BE226)</td>
</tr>
<tr>
<td>BE228</td>
<td>Management Decision Techniques (formerly BE222 Quantitative Management Techniques)</td>
</tr>
<tr>
<td>BE229</td>
<td>Marketing Research (replacing but not equivalent to: BE228 &amp; BE227)</td>
</tr>
<tr>
<td>BE230</td>
<td>Electronic Marketing</td>
</tr>
</tbody>
</table>

Stage Three

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE330</td>
<td>Market Modelling</td>
</tr>
<tr>
<td>BE332</td>
<td>Advanced Marketing/Research (cannot be undertaken if BE221, BE226 or BE227 have been completed)</td>
</tr>
<tr>
<td>BE335</td>
<td>Quality Mechanisms and Measures</td>
</tr>
</tbody>
</table>

Economics

Understanding economic principles is a fundamental requirement for a career in business. An economic approach to important practical social and business problems is the focus of the economics major.

Stage One is designed to acquaint students with the economic principles necessary to understand and evaluate economic commentary and reports and to analyse the operations of government and industry in Australia.

In Stage Two students may choose from subjects which emphasise the relationship between industry and government; managerial economics and strategy; environmental economics; industrial relations; and macroeconomic policy.

Stage Three provides an added insight into some of the specialist practical areas in economics, such as international trade, international finance, public finance, financial institutions and monetary policy and industry relevant economic research.

Career opportunities

Students completing an economics major find employment in a wide range of challenging fields. These include administration in both public and private sectors, management consulting, economic policy evaluation and financial analysis and economic research.

Structure

Stage One (core subject)

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE110</td>
<td>Microeconomics</td>
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Stage Two

<table>
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<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BE220</td>
<td>Macroeconomics (A/E)</td>
</tr>
<tr>
<td>BE221</td>
<td>Managerial Economics and Strategy</td>
</tr>
<tr>
<td>BE222</td>
<td>Industry and Government</td>
</tr>
<tr>
<td>BE223</td>
<td>Industrial Relations</td>
</tr>
<tr>
<td>BE224</td>
<td>Economic Evaluation</td>
</tr>
<tr>
<td>BE226</td>
<td>Macroeconomic Policy</td>
</tr>
<tr>
<td>BE227</td>
<td>Environmental Economics</td>
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Stage Three

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<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>BE331</td>
<td>Public Finance</td>
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<tr>
<td>BE332</td>
<td>Economic Research</td>
</tr>
<tr>
<td>BE333</td>
<td>Financial Institutions and Monetary Policy</td>
</tr>
<tr>
<td>BE334</td>
<td>International Trade</td>
</tr>
<tr>
<td>BE335</td>
<td>International Finance</td>
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<tr>
<td>BE336</td>
<td>Comparative Labour Relations</td>
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<tr>
<td>BC339</td>
<td>Comparative Economic Systems</td>
</tr>
<tr>
<td>BE340</td>
<td>International Business</td>
</tr>
</tbody>
</table>

Professional recognition

Finance graduates who undertake some further study also qualify as Certified Financial Planners.

Structure

Stage One (core subjects)

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
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<tr>
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<td>Accounting 1</td>
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<tr>
<td>BE115</td>
<td>Microeconomics</td>
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Stage Two

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<th>Code</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC224</td>
<td>Financial Management 1</td>
</tr>
<tr>
<td>BC227</td>
<td>Finance Risk Management</td>
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<tr>
<td>BE220</td>
<td>Macroeconomics</td>
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Stage Three

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<td>BC330</td>
<td>Personal Investment</td>
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<tr>
<td>BE230</td>
<td>Financial Institutions and Monetary Policy</td>
</tr>
<tr>
<td>BC235</td>
<td>International Finance</td>
</tr>
</tbody>
</table>
Human Resource Management (HRM)/Organisation Behaviour (OB)

The subjects in this integrated area broadly cover many aspects of organisations and the human behaviour and processes which occur within these settings. As a sequence of study it aims to:

- prepare students for a range of human resource management and management roles in business;
- develop a strong understanding of human resource management practices, organisation theory and structures, the behaviour of groups, the individuals who comprise those groups and the dynamic interactions among all these parts and aspects;
- develop students’ capacity to reflect upon and understand their own and others’ behaviour;
- develop communication and personal competence so that students are better equipped to fill the organisational roles which require interpersonal skills.

The HRM/OB study area can be taken as a vocational preparation for human resource management (HRM), leading to associate membership of the Australian Human Resources Institute (course accredited by AHR). To gain such eligibility, students would need to take eight units offered in the HRM/OB area, in appropriate sequences and in addition to other specified units.

Many students will wish to take HRM/OB studies without a career in HRM in mind. Such a major would provide excellent insight into human behaviour in organisations and the management of people, and would combine well with any other vocational major. All business professionals ultimately work in or with organisations and with people.

A large proportion of the course material in these major streams is taught in an experiential manner which requires active involvement by students, structured reflection, linkage with “outside” experiences, and thinking through application issues.

In each subject, students will have time to work on the development of self-directed and interdependent learning skills.

Career opportunities

Studies in HRM/OB prepare students for a vocation in HRM. Studies in DB provide administrative skills necessary to work in any business environment. Career opportunities can be found in: administration, human resources, training and development, quality co-ordinator, customer service.

Structure

Stage One (core subject)
BH110 Organisations and Management

Stage Two
BH220 Organisation Behaviour 1
BH221 Human Resource Management 1
BH222 Organisation Design
BH223 Dynamics of Diversity in the Workplace

Stage Three
BH330 Organisation Behaviour 2
BH331 Human Resource Management 2
BH332 Enterprise Bargaining
BH333 Managing Quality in Organisations
BH334 Asian Business (may only be counted as an elective)
BH335 HRM/OB Reading Unit

Information Systems

In today’s world, information technology has pervaded every aspect of business organisations. As such, the study of computing and information systems and the supporting technology is vital for any business student. There are many related discipline areas and the student can select majors or minors based on interest or career aspirations. These options can be categorised under three main headings:

Business computing

This would be taken by students who see themselves as users of information systems rather than computer professionals. The emphasis is on the effective use of information technology within an organisation and the development of skills for solving business problems.

Business systems

This would be taken by students who wish to focus on the analysis of business information needs as a basis for specification of computer based information systems rather than the technical aspects of design and development.

Software development

Students taking this area will use a wide range of computer software. They will be seeking to specialise in the design, development and implementation of computer based systems in the business environment.

Selecting one of these options in combination with other relevant business studies enables the graduate to effectively apply information technologies in the solving of business problems.

Career opportunities

Graduates may find employment in systems analysis, project management, computer programming, software support.

Professional recognition

Students who select appropriate subjects from the information systems offerings qualify for level one membership of the Australian Computer Society.

Information Systems

Stage One
BT110 Information Technology (core subject)
BT112 Business Programming 1 (non-core subject)

Stage Two
BT220 Data Analysis and Design (C)
BT221 Business Computing
BT223 Information Systems 1 (C)
BT228 Business Programming 2A (C)
BT229 Business Programming 2B (C)

Stage Three
BT331 System Architecture 1 (C)
BT332 System Architecture 2 (C)
BT333 Information Systems 2
BT334 Information Technology Strategies (C) or BT337
BT335 Business Software Engineering (C)
BT336 Database Management Systems 1
BT340 Business Computing Applications
BT341 Knowledge Based Systems
BT342 Database Management Systems 2 (C)

(C) Mandatory subjects for Australian Computer Society accreditation

International Business

International Business is a multi-disciplinary major. Industry, government and educational institutions recognise that increasingly business is carried on in a global market place. International business does not simply mean the export of goods. It includes the export of services, such as accounting, trade in intellectual property, foreign direct investment, overseas portfolio investment and electronic commerce. The Swinburne major in international business reflects this diversity and complexity.

The International Business major consists of six subjects including three mandatory subjects and three subjects chosen from a number of offerings to reflect individual students’ priorities. At least one of the three additional subjects must be from the list of approved subjects. The mandatory subjects are International Business, International Trade and International Business Law.

The minor in International Business consists of four subjects. These must include at least two of the three mandatory subjects with the remaining subjects taken from the list of approved subjects.

A major or minor in International Business can be seen as a support to other majors in business especially majors in marketing, finance or accounting. A major in International Business may also be relevant to Arts students especially those undertaking majors in Politics, Asian studies or European studies.

Career opportunities

Graduates may find employment in international trade, business management, business consultancy.
To complete a major or minor in International Business, six of the following subjects, listed below, must be completed, including the three mandatory subjects (as specified below). To complete a minor in International Business four of the following subjects, listed below, must be completed, including at least two of the three mandatory subjects (as specified below).

**Mandatory subjects**
- BE340 International Business
- BE334 International Trade
- BL331 International Business Law

**Business subjects**
- BC229 International Investment and Taxation
- BL334 Asian Business Law
- BE335 International Finance
- BM330 International Marketing
- BM338 Asian Pacific Business Practice
- BM336 European Business Studies

**Arts subjects**
- AA212 The European Union
- AA375 Industry Based Learning in Europe
- AA378 European Union - Business Context
- AK108 Korean Politics and Economy
- AP114 Australia and Asia
- AP221 Asian Trade Policies

**Management**
Management is a multi-disciplinary area of study which aims to prepare students for a range of management roles in business. Students develop a strong understanding of the ways in which key resources both human and financial need to be planned, positioned and controlled and the products and services marketed to achieve an organisation's strategic goals.

The major aims to develop students' capacity to think strategically and in an integrated way about complex management issues and problems. In a number of subjects, students will also be encouraged to develop communication skills and personal competence so that they are better equipped to fill the organisational roles with supervisory and management elements.

This major sequence of study requires students to combine studies in finance and management accounting, human resource management and marketing as three strands of expertise which are then integrated in a 'capstone' final year subject studying Business Strategy.

Emphasis is placed on sound analysis of problems and practical application of knowledge. Students are encouraged to think through problems and develop workable solutions. In this way, the Management major will develop sound judgement and problem-solving capacity in Business graduates.

**Career opportunities**
There are many opportunities for Management graduates, both as general management cadets and trainees in larger organisations, or as managers of small and medium enterprises. Naturally, new graduates do not begin their management careers 'at the top' but the integrated general management education obtained in the major will equip graduates for many organisational roles with supervisory elements, and with more senior management potential. Graduates who move into their own family or other businesses will also find this major of excellent preparation, especially if combined with a second more specialized major within the Bachelor of Business.

Career opportunities include general management, small and medium enterprises, management traineeships and cadetships in large businesses and organisations.

**Manufacturing Management**
The manufacturing and processing of consumer and industrial products of food, beverages, automobiles, metals, plastics and minerals is an important part of the Australian economy. Following the deregulation of the early 1980s it is fair to say that today's Australian companies in the dynamic manufacturing and processing industries are at or close to world class competitive standards.

These industries are large employers and graduates with a major in manufacturing management are well positioned for a wide range of employment opportunities in operations management, human resource management, marketing, financial analysis, information systems, management accounting or technology management and innovation.

**Career opportunities**
The study of Manufacturing Management at Swinburne when allied with other Bachelor of Business majors/minors and double degree options can provide an interesting variety of employment and career opportunities, including: general management, small and medium enterprises, management traineeships and cadetships in large businesses and organisations.

**Industry Based Learning (IBL)**
The Industry Based Learning year is strongly recommended for Manufacturing Management students, and it is expected that the sponsor of Manufacturing Education at Swinburne, FAME (the Foundation of Australian Manufacturing Education) will be offering scholarships and other financial assistance for those taking the Manufacturing Management major and financial help in the IBL year.

**Structure**
Because of the multi-discipline nature of work in manufacturing, a variety of choices exist in the structure of the major following the compulsory subjects.

**Stage One**
The following subjects are mandatory core pre-requisites for Stages Two and Three Management subjects.
- BC110 Accounting 1
- BH110 Organisations and Management
- BM110 The Marketing Concept

**Stage Two**
- BC221* Management Accounting 2
- BC224* Financial Management 1
- BH221 Human Resource Management 1
- BM222* Marketing Planning

**Stage Three**
- One of
  - BH331 Human Resource Management 2
  - BM330 Product Management
  - BM331 Services Marketing and Management

**AND**
- BM341 Business Strategy (mandatory subject)

**Part 1**
**Compulsory subjects:**
- BH228 Manufacturing Management 1
- BH236 Manufacturing Management 2

**Additional subjects:**
- BC222 Management Accounting 1
- BE223 Industrial Relations
- BM222 Marketing Planning
- BH221 Human Resource Management 1
- BK203* Dynamics of Diversity in the Workplace
- BK332* Enterprise Bargaining
- BK333* Managing Quality in Organisations
- BK337* Managing Technology and Innovation

* One of these subjects must be completed

**Part 2**
The fifth and sixth subjects in the major must be taken from the one area. The eight areas are: Business Law, Business Modelling, Economics, Information Systems and Technology, Human Resource Management/Organisational Behaviour, Marketing or other approved subjects. These choices allow for a variety of career interests within the field of Manufacturing Management.
Marketing

Successful companies take the path of ‘market focus’, that is, their strategies are customer driven. Marketing deals with the building and implementation of customer focus.

The meaning of marketing is often misunderstood. One need look no further than the many advertisements without any real substance as to customer benefits and/or the delivery of these benefits. Frequently no distinction is made between selling and marketing.

Unfortunately marketing has been introduced into many organisations as the ‘in word’, a kind of cosmetic change, the solution to the company’s problems, without changing the focus and the attitudes prevailing in the organisation. It has not worked, resulting in companies becoming disillusioned with marketing. These companies did not understand the meaning of marketing.

What does it mean? The answer is relatively simple: put yourself inside the skin of your customers and forget yourself for a while. That in itself is difficult to do, but that is exactly the difference between cosmetic and real marketing.

To make this transition involves a rethink on your part. Instead of thinking on behalf of your customers you have to learn to listen to your clients, accept what they say at face value and execute what they want.

At Swinburne we explain the components of a business plan and marketing’s central role in strategy. Students are introduced to topics such as consumer behaviour, demand determinants, customer focus, marketing research, marketing planning, product and services management, advertising and promotion, international marketing and business environments of some European and Asian countries.

Students are encouraged to think through problems and to find their own answers. They are assisted in exploring their thinking processes to ensure that they make the most of their abilities. Practical application and real life subjects are the key features of a marketing major at Swinburne. In addition each subject has an international orientation.

Career opportunities

Public relations, advertising, product/brand management, market research, direct marketing, international marketing.

Specific requirements for Marketing major and minors

To complete a Marketing major the following post-core subjects must be completed: BM220; BM222; BM223; BM293; and either BM330 or BM331 and BM341. To complete a Marketing minor with a Marketing Major four of the following subjects must be completed, with at least one at Stage Three: BM222; BM293; BM303; BM302; AM308; BM330 or BM331; BM333; BM334; or BM338.

To complete a Marketing minor without a Marketing Major four of the following post-core subjects must be completed, with at least one at Stage Three: BM220; BM222; BM223; BM293; BM330 or BM331; BM333; and BM341.

To complete both a Marketing and Management major the following post-core subjects must be completed towards the Marketing major: BM220; BM222; BM223; BM293; BM303; BM302; BM308; BM330 or BM331 and one of BM333; BM334; BM341; or AM308.

Structure

Stage One (core subject)

BM110 The Marketing Concept

Stage Two

BM220 Market Behaviour (Highly recommended as first subject studied in Marketing major/minor post-core.)

BM222 Marketing Planning

BM223 International Marketing

Stage Three

BM330 Product Management

BM331 Service Marketing and Management

BM332 Communications Strategy

BM336 European Business Studies

BM338 Asian Pacific Business Practice

BM341 Business Strategy

A042 Bachelor of Business (Accounting)

The Bachelor of Business (Accounting) is recommended for students who aspire to a career within the Accounting profession as it provides a comprehensive study in Accounting and leads to a professional Accounting qualification.

Location

Hawthorn campus.

Professional recognition

Graduates of the course fulfil the requirements for recognition by the Australian Society of Certified Practising Accountants (ASCPA) and Institute of Chartered Accountants of Australia (ICAA).

Industry Based Learning

For information about Industry Based Learning please refer to the corresponding section at the beginning of this chapter.

Course duration

The Bachelor of Business (Accounting) is a three year full-time, or six year part-time degree course (plus one year optional Industry based learning).

Course structure

To complete the requirements of this course 24 subjects must be completed. In addition to the subjects listed below an additional major or minor must also be completed.

Course restrictions

Refer to those listed in the Bachelor of Business (Hawthorn campus) course description in this Handbook.

Stage One

BC110 Accounting 1

BE110 Microeconomics

BH110 Organisations and Management

BL111 Law in Global Business

BM110 The Marketing Concept

BG110E Quantitative Analysis A Enabling and

BG110 Quantitative Analysis A or

BG111 Quantitative Analysis B

BT110 Information Technology

Stage Two

BC220 Accounting 2

BC221 Corporate Accounting

BC222 Management Accounting 1

BC223 Management Accounting 2

BC224 Financial Management

BC225 Auditing

BE220 Macroeconomics

BL220 Contract Law

BC211 Company Law

Stage Three

BC330 Accounting Theory

BC331 Taxation

Additional subjects

Six additional subjects must be completed. These subjects may be taken as a major or a minor or two electives.

Entrance requirements

See section under Entrance requirements in the chapter: Undergraduate Courses: General Information.

Special entry

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and normally have at least five years business related work experience, must apply through VTAC (both full and part-time) and register with VTAC to sit the Special Tertiary Admissions Test (STAT). A $65 registration fee is payable to VTAC.

Not all eligible applicants can be offered a place as quotas do apply.

Application procedure

Application to this course in 1998 is in the first instance through VTAC. Application is to the general Bachelor of Business VTAC Code: full-time - 34411; and part-time - 34701. Successful applicants to the Bachelor of Business will be requested to advise of their preferred course at the time of enrolment. See also page 42.

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Credit transfer - Pathways
For further details on credit transfer towards this course refer to the Swinburne Pathways Credit Transfer Guide.

Further information
Contact the School of Business on (03) 9214 5046.

A043 Bachelor of Business (Human Resource Management)
The Bachelor of Business (Human Resource Management) is recommended for students who aspire to a career within the Human Resource Management profession as it provides a comprehensive study in Human Resource Management and associated studies and leads to professional recognition.

Location
Hawthorn campus.

Professional recognition
Graduates of this course are recognised by the Australian Human Resources Institute (AHRI).

Industry Based Learning
For information about Industry Based Learning please see the beginning of this chapter.

Course duration
The Bachelor of Business (Human Resource Management) is a three year full-time, or six year part-time degree course (plus one year optional Industry based learning).

Course structure
To complete the requirements of this course 24 subjects must be completed. In addition to the subjects listed below an additional major or minor and elective(s) must also be completed.

Course restrictions
Refer to those listed in the Bachelor of Business course description in this Handbook.

Stage One
BC110 Accounting 1
BE110 Microeconomics
BH110 Organisations and Management
BL111 Law in Global Business
BM110 The Marketing Concept
BG110E Quantitative Analysis A Enabling
BG110T Quantitative Analysis A or B
BG111 Quantitative Analysis B
BT110 Information Technology

Stage Two
BH220 Organisational Behaviour 1
BH221 Human Resource Management 1
BH222 Organisational Design
BH223 Dynamics of Diversity in the Workplace
BE223 Industrial Relations

Stage Three
BH320 Organisational Behaviour 2
BH321 Human Resource Management 2
BF332 Enterprise Bargaining
BH333 Managing Quality in Organisations
BL332 Employment Law

Additional subjects
Seven additional subjects must be completed. These subjects may be taken as a major and an elective or a minor and electives.

Entrance requirements
See section under Entrance requirements in the chapter Undergraduate Courses: General Information, page 44.

Special entry
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and normally have at least five years business related work experience, must apply through VTAC (both full and part-time) and register with VTAC to sit the Special Tertiary Admissions Test (STAT). A STAT registration fee is payable to VTAC.

Not all eligible applicants can be offered a place as quotas do apply.

Application procedure
Application to this course in 1998 is in the first instance through VTAC. Application is to the general Bachelor of Business VTAC Codes: full-time - 3441; and part-time - 34791. Successful applicants to the Bachelor of Business will be requested to advise of their preferred course at the time of enrolment. See also page 42.

Credit transfer - Pathways
For further details on credit transfer towards this course refer to the Swinburne Pathways Credit Transfer Guide.

Further information
Contact the School of Business on (03) 9214 5046.

A044 Bachelor of Business (Marketing)
The Bachelor of Business (Marketing) is recommended for students who aspire to a career within the Marketing profession as it provides a comprehensive study in Marketing and leads to professional recognition.

Location
Hawthorn campus.

Professional recognition
Graduates of this course are eligible to become Associates of the Australian Marketing Institute (AMI) and fulfil the educational requirements for recognition as a Certified Practising Marketer.

Industry Based Learning
For information about Industry Based Learning please see the beginning of this chapter.

Course duration
The Bachelor of Business (Marketing) is a three year full-time, or six year part-time degree course (plus one year optional Industry based learning).

Course structure
To complete the requirements of this course 24 subjects must be completed. In addition to the subjects listed below an additional major or minor and elective(s) must also be completed.

Course restrictions
Refer to those listed in the Bachelor of Business course description in this Handbook.

Stage One
BC110 Accounting 1
BE110 Microeconomics
BH110 Organisations and Management
BL111 Law in Global Business
BM110 The Marketing Concept
BG110E Quantitative Analysis A Enabling
BG110T Quantitative Analysis A or B
BG111 Quantitative Analysis B
BT110 Information Technology

Stage Two
BH220 Organisational Behaviour 1
BH221 Human Resource Management 1
BH222 Organisational Design
BH223 Dynamics of Diversity in the Workplace
BE223 Industrial Relations

Stage Three
BH320 Organisational Behaviour 2
BH321 Human Resource Management 2
BF332 Enterprise Bargaining
BH333 Managing Quality in Organisations
BL332 Employment Law

Additional subjects
Seven additional subjects must be completed. These subjects may be taken as a major and an elective or a minor and electives.
Entry requirements
See Entrance Requirements in the Undergraduate Courses, General Information section, page 44.

Special entry
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and normally have at least five years business-related work experience, must apply through VTAC (both full and part-time) and register with VTAC to sit the Special Tertiary Admissions Test (STAT). A STAT registration fee is payable to VTAC.

Not all eligible applicants can be offered a place as quotas do apply.

Application procedure
Application to this course in 1998 is in the first instance through VTAC. Application is to the general Bachelor of Business VTAC Codes: full-time - 34411; and part-time - 34701. Successful applicants to the Bachelor of Business will be requested to advise of their preferred course at the time of enrolment. See also page 42.

Credit transfer - Pathways
For further details on credit transfer towards this course refer to the Swinburne Pathways Credit Transfer Guide.

Further information
Contact the School of Business on (03) 9214 5046.

Double degrees

Bachelor of Business/Bachelor of Arts (Language)
The Bachelor of Business/Bachelor of Arts (Language) is a four-year full-time or eight year part-time double degree course with a one year optional industry-based learning segment. The course comprises thirty-two semester subjects and is designed to enable students to complete the compulsory requirements for any business major and minor together with the full range of Italian, Japanese, Korean or Vietnamese subjects in order to complete the requirements of the two degrees.

Location
Hawthorn campus

Career opportunities
Graduates of the double degree course enjoy job opportunities wherever their chosen language is spoken, with particular advantages in organisations where there are either joint country business ventures or offices located in the country of the chosen language. All the languages provide unique market opportunities.

The business majors provide graduates with skills in a wide range of professional occupations. For career opportunities based on business majors refer to Business specialisations described in the Bachelor of Business course entry.

Professional recognition
For full details on professional recognition pertaining to this course refer to the Bachelor of Business course entry.

Industry Based Learning
For information about Industry Based Learning please see the beginning of this chapter.

Course structure
The requirements of this course should be read in conjunction with the Bachelor of Business course description.

Students must complete the core subjects of the business degree (seven subjects) and a major and minor chosen from one of the approved business specialisations (refer Bachelor of Business specialisations) - a minimum of seventeen business specific subjects; plus eleven mandatory subjects from the chosen language; and four elective subjects (or an additional minor) either of which may be selected from subjects offered in the Bachelor of Arts or Bachelor of Business specialisations or other disciplines outside the School of Business by approval. For full details of Business specialisations pertaining to this course refer to the Bachelor of Business course entry.

Double degree structure

<table>
<thead>
<tr>
<th>Student</th>
<th>Bachelor of Business (17 subjects)</th>
<th>Bachelor of Arts (11 subjects)</th>
<th>Electives (4 subjects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>mandatory core subjects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>one major in business specialisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>one minor in business specialisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Cultural/Political/Economic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
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<td>14</td>
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<td>15</td>
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<td>16</td>
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<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Course restrictions
Students should note the following restrictions on subjects that can be credited towards the Bachelor of Business/Bachelor of Arts (Language) apply:

- a maximum of twelve subjects from any business specialisation (e.g. Accounting BC subject code prefix);
- a maximum of twelve Stage One subjects (e.g. BC110 - Stage One subjects have a 1 immediately following the two letter code);
- a minimum of four Stage Three subjects must be completed in addition to the mandatory Stage Three language subjects (e.g. BM330 - Stage Three subjects have a 3 immediately following the two letter code);
- the subject AT119 Academic Communication skills cannot be used for credits towards the double degree;
- a subject can only be counted once as part of a major or minor or as an elective - one subject cannot be counted twice (e.g., the subjects BC331 Taxation and BC336 Advanced Taxation may be counted towards either an Accounting or Business Law major or minor, but not both);
- BH334 Asian Business may only be counted as an elective, not towards any major or minor;
- B300 Industrial Project cannot be used for credit towards the double degree;
- students will be allowed to study a maximum of thirty four subjects as part of the double degree.

Whilst the structure of the double degree is the same for all Language streams, students enrol in separate courses specific to the language of study as specified below. Language and business subjects must normally be studied simultaneously throughout the duration of the course.

The following Language stream subjects are studied depending upon the chosen language of specialisation.

Note: Students enrolled prior to 1998 should consult the relevant Language Convener for the appropriate Language subjects to complete the requirements of their course.

AO58 Bachelor of Business/Bachelor of Arts (Italian)

1998 VTAC course code - Full-time: 34651
Part-time: 34651

Beginners' stream

<table>
<thead>
<tr>
<th>Stage One</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AA101</td>
<td>Italian 1X</td>
<td></td>
</tr>
<tr>
<td>AA102</td>
<td>Italian 1Y</td>
<td></td>
</tr>
<tr>
<td>AA103</td>
<td>Italian 1Z</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage Two</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AA201</td>
<td>Italian 2X</td>
<td></td>
</tr>
<tr>
<td>AA202</td>
<td>Introductory Business Italian(2Y)</td>
<td></td>
</tr>
<tr>
<td>AA203</td>
<td>Italian 2Z</td>
<td></td>
</tr>
<tr>
<td>AA207</td>
<td>Post-War Italy</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage Three</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AA301</td>
<td>Italian 3X</td>
<td></td>
</tr>
<tr>
<td>AA307</td>
<td>Advanced Business Italian</td>
<td></td>
</tr>
<tr>
<td>AA308</td>
<td>Contemporary Italy</td>
<td></td>
</tr>
</tbody>
</table>

Advanced Stream

<table>
<thead>
<tr>
<th>Stage One</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AA104</td>
<td>Advanced Italian 1A</td>
<td></td>
</tr>
<tr>
<td>AA105</td>
<td>Advanced Italian 1B</td>
<td></td>
</tr>
<tr>
<td>AA106</td>
<td>Advanced Italian 1C</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage Two</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AA204</td>
<td>Advanced Italian 2A</td>
<td></td>
</tr>
<tr>
<td>AA205</td>
<td>Introductory Business Italian(2B)</td>
<td></td>
</tr>
<tr>
<td>AA206</td>
<td>Advanced Italian 2C</td>
<td></td>
</tr>
<tr>
<td>AA207</td>
<td>Post-War Italy</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage Three</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AA304</td>
<td>Individual Project</td>
<td></td>
</tr>
<tr>
<td>AA307</td>
<td>Advanced Business Italian</td>
<td></td>
</tr>
<tr>
<td>AA308</td>
<td>Contemporary Italy</td>
<td></td>
</tr>
<tr>
<td>AA309</td>
<td>The European Union</td>
<td></td>
</tr>
</tbody>
</table>

Recommended electives

| AA208         | 20th Century European Literature and Thought |                      |
| AA309         | Industry Based Learning in Europe            |                          |
| AA310         | European Union Study tour                    |                          |
| AA312         | European Union - Business Context            |                          |

AO57 Bachelor of Business/Bachelor of Arts (Japanese)

1998 VTAC course code - Full-time: 34801
Part-time: 34811

Beginners' stream

<table>
<thead>
<tr>
<th>Stage One</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ101</td>
<td>Introductory Japanese 1A</td>
<td></td>
</tr>
<tr>
<td>AJ102</td>
<td>Written Japanese 1B</td>
<td></td>
</tr>
<tr>
<td>AJ103</td>
<td>Spoken Japanese 1B</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage Two</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ201</td>
<td>Intermediate Japanese 2A</td>
<td></td>
</tr>
<tr>
<td>AJ202</td>
<td>Written Japanese 2B</td>
<td></td>
</tr>
<tr>
<td>AJ203</td>
<td>Spoken Japanese 2B</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage Three</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ301</td>
<td>Written Japanese 3A</td>
<td></td>
</tr>
<tr>
<td>AJ302</td>
<td>Spoken Japanese 3A</td>
<td></td>
</tr>
</tbody>
</table>

and any two subjects out of:

| AJ203         | Reading Japanese Newspapers |                      |
| AJ204         | Japanese for Tourism and Hospitality |                      |
| AJ205         | Japanese for Business and Industry |                      |

AO59 Bachelor of Business/Bachelor of Arts (Korean)

1998 VTAC course code - Full-time: 34171
Part-time: 34491

Beginners' stream

<table>
<thead>
<tr>
<th>Stage One</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AK105</td>
<td>Introductory Korean 1A</td>
<td></td>
</tr>
<tr>
<td>AK106</td>
<td>Written Korean 1B</td>
<td></td>
</tr>
<tr>
<td>AK107</td>
<td>Spoken Korean 1B</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage Two</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AK208</td>
<td>Intermediate Korean 2A</td>
<td></td>
</tr>
<tr>
<td>AK209</td>
<td>Written Korean 2B</td>
<td></td>
</tr>
<tr>
<td>AK210</td>
<td>Spoken Korean 2B</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage Three</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AK306</td>
<td>Written Korean 3A</td>
<td></td>
</tr>
<tr>
<td>AK307</td>
<td>Spoken Korean 3a</td>
<td></td>
</tr>
</tbody>
</table>

and any two subjects out of:

| AK208         | Reading Korean Newspapers |                      |
| AK209         | Korean for Business and Industry |                      |
| AK210         | Korean Politics and Economy |                      |

Recommended electives

| AK202         | Traditional Korea        |                          |
| AK213         | Korean Society           |                          |
AO65 Bachelor of Business/Bachelor of Arts (Vietnamese)
1998 VTAC course code - Full-time: 34651
Part-time: 34653

Stage One
AV105 Introductory Vietnamese 1A
AV106 Written Vietnamese 1B
AV107 Spoken Vietnamese 1B

Stage Two
AV205 Intermediate Vietnamese 2A
AV207 Written Vietnamese 2B
AV208 Spoken Vietnamese 2B

Stage Three
AV307 Written Vietnamese 3A
AV308 Spoken Vietnamese 3A

and any two subjects out of:
AV310 Written Vietnamese 3B
AV311 Reading Vietnamese Newspapers

Mandatory non-language subject:
AP114 Australia and Asia

Entrance requirements
See section under Entrance requirements in the chapter Undergraduate Courses: General Information.

Special Entry
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and normally have at least five years business related work experience, must apply through VTAC (both full and part-time) and register with VTAC to sit the Special Tertiary Admissions Test (STAT). A STAT registration fee is payable to VTAC.

Not all eligible applicants can be offered a place as quotas do apply.

Application procedure
Refer page 42.

Credit transfer - Pathways
For further details on credit transfer towards this course refer to the Swinburne Pathways Credit Transfer Guide.

Further information
Contact the School of Business on (03) 9214 5046.

AO63 Bachelor of Business (Honours)
The Bachelor of Business (Honours) course provides students with an opportunity to enhance their research ability and permits further studies and specialisation in their discipline.

The course offers students the opportunity to add considerable depth to their understanding of concepts within their chosen discipline and encourages students to pursue excellence in their studies at a higher level.

The course encourages a multidisciplinary approach by permitting students to undertake, where appropriate, subjects offered by other schools, divisions or institutions.

Program duration
The Bachelor of Business (Honours) program may be undertaken over one year full-time or over two consecutive years part-time.

Admission requirements
A student may be admitted into the Bachelor of Business (Honours) program if they have satisfied the requirements for a Swinburne Bachelor of Business degree and have achieved an average level of attainment of a credit (C) or better in an appropriate discipline or range of disciplines considered by the School of Business Honours Committee to be acceptable for entry to the Bachelor of Business (Honours) course.

Program timetable
The honours program consists of a 25% research methodology component, a 25% discipline specific component and a 50% research project component or a 50% discipline specific component and 50% research components at the discretion of the discipline.

Research methodology component
The research methodology subject (BQ405) aims to equip students with the necessary research skills to conduct studies for higher degrees. It is designed to facilitate the development of independent learning skills. Students will be presented with various research methodologies appropriate to their chosen discipline as well as those used in other disciplines. Two-thirds of the subject will be presented as a common core, with one third of the syllabus being discipline specific. Assessment will be based on assignments, case studies and presentations and teaching methods will include formal lectures and tutorial discussion groups and will make extensive use of library resources.

This subject is compulsory for all Bachelor of Business (Honours) students and no prerequisite is necessary. Subject to approval from the School of Business Honours Committee, a pass in an equivalent subject at a graduate level may entitle the student to an exemption from this subject.

Discipline specific and research components
Students should seek advice from the Honours Convenor in the appropriate discipline when formulating their specific course of study and their research project proposal.

Students may, subject to approval, undertake selected honours level coursework subjects from other schools, divisions, or institutions provided that they show the relevance of these coursework subjects to their proposed area of research. Such arrangements are subject to the student having any necessary prerequisite studies and may be subject to any quotas imposed on these subjects by the offering discipline.

Students must submit a proposal to their Honours Convenor for approval before the commencement of their honours course. Approval for a student’s discipline specific course of study and research project proposal shall be subject to the availability of any necessary resources and the availability of appropriate staff supervision.

Research projects may be individually supervised or supervised within a group seminar setting.

As part of the Bachelor of Business (Honours) course, students may be required to make class presentations at progressive stages in their course and to attend and participate fully in a series of seminars conducted by staff.

At the end of their research component students will be required to submit a written dissertation of approximately 15,000 words.

Further information
Contact the Honours Convenor, Dr Barbara Lasky on (03) 9214 5350 or the Course Administrator, Vicky Ryan on (03) 9214 5089.

Computing and Information Technology
Z060 Bachelor of Applied Science (Computer Science) (Conversion Course)
1998 VTAC course code: 34581

The course combines studies in computer science and software engineering. Students are provided with an extensive education in contemporary approaches to the analysis, design and implementation of computer systems along with a sound understanding of the traditional aspects of computer science such as hardware and operating systems.

A range of coherent streams in the final year of the course allow the student to choose a specialisation. The acquired skills and knowledge are consolidated in a project subject in the final year.

Students are also able to study one non-computing elective.

Honours
Students who achieve excellent results during the course may apply to undertake an additional year of study, enabling them to graduate with an honours degree.

Location
Hawthorn campus

Career opportunities
Employment prospects for graduates of the course are excellent. The expanding role of computers in business and industry means that there is a constant need for personnel with an in-depth understanding of computers and computer systems.

Graduates of the course are equipped with the knowledge and skills to make them valuable members of any team developing software. They have extensive skills in software development, have had experience in working on team projects, and have good oral and written communication skills.

Graduates usually start work as programmers, and can move into roles such as systems analyst, systems designer, project team leader or information technology manager.
Professional recognition
The degree provides credit at Level 1 (the highest level) towards professional membership of the Australian Computer Society.

Course duration and delivery
The duration of the course will normally be two years (four semesters). To qualify for the award of Bachelor of Applied Science (Computer Science), students must accumulate a minimum of 200 credit points (100 credit points per full-time academic year). Five subjects will generally be taken during each academic semester, with a total of between 15 - 17 hours per week contact time (including lectures, classes, tutorials and laboratory sessions). The typical student's average weekly workload during semester is expected to be 50 hours.

Course structure (Full-time)

Year 1

Semester 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES100</td>
<td>Object-Oriented Software Development 1</td>
<td>10</td>
</tr>
<tr>
<td>ES104</td>
<td>Professional Skills for Software Engineers</td>
<td>10</td>
</tr>
<tr>
<td>ES305</td>
<td>Database</td>
<td>10</td>
</tr>
<tr>
<td>ES306</td>
<td>Introduction to Human-Computer Interaction</td>
<td>10</td>
</tr>
</tbody>
</table>

Year 2

Semester 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES305</td>
<td>Object-Oriented Software Development 2</td>
<td>10</td>
</tr>
<tr>
<td>ES304</td>
<td>Software Engineering 2</td>
<td>10</td>
</tr>
<tr>
<td>ES407</td>
<td>Data Communications</td>
<td>10</td>
</tr>
<tr>
<td>ES408</td>
<td>Introduction to Artificial Intelligence</td>
<td>10</td>
</tr>
<tr>
<td>ES906</td>
<td>Multimedia Systems</td>
<td>10</td>
</tr>
</tbody>
</table>

Semester 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES402</td>
<td>Object-Oriented Software Development 4</td>
<td>10</td>
</tr>
<tr>
<td>ES402</td>
<td>Systems Programming</td>
<td>10</td>
</tr>
<tr>
<td>ES303</td>
<td>Software Team Project</td>
<td>10</td>
</tr>
</tbody>
</table>

Electives
Computing electives may be offered in the following subjects:

Advanced Software Engineering
ES394 Formal Methods
ES814 The Personal Software Process

Computer Graphics
ES398 Computer Graphics and Virtual Reality
ES399 Computer Graphics and Animation

Client-Server Systems
ES307 Local Area Networks
ES935 Advanced Database

Knowledge-Based Systems
ES309 Knowledge-Based Systems Engineering
ES938 Soft Computing

Multimedia Systems
ES308 Multimedia Technology
ES938 Multimedia Development

Programming Languages
ES930 Compiler Design
ES930 Programming Paradigms
SQA41 COBOL Programming

Availability of elective subjects is subject to resources and demand.

Entry requirements
The Bachelor of Applied Science (Computer Science) is a two year program, available only to students who have completed an appropriate associate diploma or equivalent, which includes computer programming, at a TAFE institution.

Credit transfer - Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. The Bachelor of Applied Science (Computer Science) is a special Pathways degree which provides block credit for the first year of a degree program. Apart from these block credit arrangements, students admitted to the degree may be granted additional credit for previous studies on a case-by-case basis.

Application procedure
Refer page 42.

Further information
Further information may be obtained from the School of Information Technology on telephone: (03) 9214 8180, email: itinfo@swin.edu.au, or from our Website: www.it.swin.edu.au; or the Information Office, telephone (03) 9214 9444.

ZO63 Bachelor of Applied Science
(Computer Science and Software Engineering)

1998 VTAC course code: 34431

The Bachelor of Applied Science (Computer Science and Software Engineering) is one of the most popular computer science courses in Victoria, and entry to the course is increasingly competitive.

The course has a core which combines studies in computer science and software engineering. This core provides an extensive education in contemporary approaches to the analysis, design and implementation of large scale computer systems along with a sound understanding of the traditional aspects of computer science, such as hardware and operating systems.

The duration of the course will normally be three years (six semesters), with the option of an additional year of paid, supervised industry based learning (IBL).

The skills and knowledge acquired during the course are reinforced by several project subjects.

Elective streams in the final year allow students to specialise in an area of interest.

Students who wish to do so are also able to study several non-computing subjects.

Industry Based Learning (IBL)
Where possible, students undertake an optional paid industry based learning year, normally between their second and final years. IBL complements the students' academic studies and gives them a real advantage in the graduate job market.

Honours
Students who achieve satisfactory results during the course may apply to undertake an additional year of study, enabling them to graduate with an honours degree.

Location
Hawthorn campus.

Career opportunities
Graduates of the course are equipped with the knowledge and skills to make them valuable members of any team developing software. They will have extensive skills in software development, particularly relating to large scale projects, will have developed experience in working on team projects, and will have good oral and written communication skills.

Employment prospects are excellent. Graduates usually start work as programmers, and can move into roles such as systems analyst, systems designer, project team leader or information technology manager. As computers play a crucial role in business and industry, there is a constant need for personnel with an in-depth understanding of computers and computer systems.

Professional recognition
The degree provides credit at Level 1 (the highest level) towards professional membership of the Australian Computer Society.

Course duration and delivery
To qualify for the award of Bachelor of Applied Sciences (Computer Science and Software Engineering), students must accumulate a minimum of 300 credit points (100 credit points per full-time academic year). Students undertaking IBL accumulate 400 credit points and will be presented with an additional testamur indicating their successful completion of the IBL program. Five subjects will generally be taken during each academic semester, with a total of between 15 - 17 hours per week contact time (including lectures, classes, tutorials and laboratory sessions). The typical student's average weekly workload during semester is expected to be 50 hours.
Course structure (Full-time)

Year 1

Semester 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES102</td>
<td>Object-Oriented Software Development 1 (Java)</td>
<td>10</td>
</tr>
<tr>
<td>ES104</td>
<td>Professional Skills for Software Engineers</td>
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<tr>
<td>ES107</td>
<td>Computer Systems 1</td>
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<tr>
<td>SM111</td>
<td>Engineering Mathematics 1</td>
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<tr>
<td>BT221A</td>
<td>Business Computing</td>
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<td>or</td>
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Semester 2

<table>
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<tr>
<td>ES209</td>
<td>Object-Oriented Software Development 2</td>
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<tr>
<td>ES204</td>
<td>Software Engineering i</td>
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</tr>
<tr>
<td>ES207</td>
<td>Computer Systems 2</td>
<td>10</td>
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<tr>
<td>SM119</td>
<td>Mathematics for Technology</td>
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</tr>
<tr>
<td>BT340A</td>
<td>Business Computer Applications</td>
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</tr>
<tr>
<td>or</td>
<td>EE182 Electronics and Instrumentation</td>
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Year 2

Semester 1

<table>
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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>ES302</td>
<td>Object-Oriented Software Development 3 (C++)</td>
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<tr>
<td>ES304</td>
<td>Software Engineering 2</td>
<td>10</td>
</tr>
<tr>
<td>ES305</td>
<td>Database</td>
<td>10</td>
</tr>
<tr>
<td>ES306</td>
<td>Introduction to Human-Computer Interaction</td>
<td>10</td>
</tr>
<tr>
<td>SD411</td>
<td>COBOL Programming</td>
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Semester 2

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<tr>
<td>ES400</td>
<td>Object-Oriented Software Development 4</td>
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</tr>
<tr>
<td>ES402</td>
<td>Systems Programming</td>
<td>10</td>
</tr>
<tr>
<td>ES403</td>
<td>Software Development Project</td>
<td>10</td>
</tr>
<tr>
<td>ES404</td>
<td>Introduction to Artificial Intelligence</td>
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Year 3

Semester 1

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ES503</td>
<td>Software Engineering Project</td>
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<tr>
<td>ES504</td>
<td>Professional Issues In Software Engineering</td>
<td>10</td>
</tr>
<tr>
<td>ES505</td>
<td>General Elective</td>
<td>10</td>
</tr>
<tr>
<td>ES506</td>
<td>Computing Elective</td>
<td>10</td>
</tr>
<tr>
<td>ES507</td>
<td>Computing Elective</td>
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Semester 2

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES603</td>
<td>Software Engineering Project</td>
<td>20</td>
</tr>
<tr>
<td>ES508</td>
<td>General Elective</td>
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<tr>
<td>ES509</td>
<td>Computing Elective</td>
<td>10</td>
</tr>
<tr>
<td>ES510</td>
<td>Computing Elective</td>
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</tr>
</tbody>
</table>

Electives

Computing Electives may be offered in the following subjects:

- **Advanced Software Engineering A**
  - ES504 Advanced Software Engineering 1
  - ES504 Advanced Software Engineering 2

- **Advanced Software Engineering B**
  - ES514 Formal Methods
  - ES614 The Personal Software Process

- **Computer Graphics**
  - ES518 Computer Graphics and Virtual Reality
  - ES519 Computer Graphics and Animation

- **Client-Server Systems**
  - ES502 Local Area Networks
  - ES506 Advanced Database

- **Human-Computer Interaction**
  - ES605 Advanced Human-Computer Interaction 1
  - ES606 Advanced Human-Computer Interaction 2

- **Knowledge-Based Systems**
  - ES505 Knowledge-Based Systems Engineering
  - ES506 Soft Computing

- **Multimedia Systems**
  - ES506 Multimedia Technology
  - ES506 Multimedia Development

- **Programming Languages**
  - ES300 Compiler Design
  - ES000 Programming Paradigms

- **Real-Time Systems**
  - ES301 Real-Time Systems
  - ES302 Concurrent Systems

Entry requirements

Applicants must have satisfactorily completed an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

- VCE prerequisites: Units 3 and 4 English and either Mathematical Methods or Specialist Mathematics. A bonus is awarded to applicants who have successfully completed Information Technology, Information Systems and/or Specialist Mathematics.

Further information

Further information may be obtained from the School of Information Technology on telephone: (03) 9214 8180, email: itinfo@swin.edu.au, or from our Web site: www.it.swin.edu.au; or the Information Office, telephone (03) 9214 8444.

International Students should, in the first instance, contact the International Student Unit, telephone (03) 9214 8647.

Z045 Bachelor of Applied Science

Computing & Advanced Technologies

1998 VTAC course code: 34481

Computing & Advanced Technologies is an interdisciplinary course that covers the areas of computer science, electronics, and applied physics. Students study a range of subjects which prepare them for a wide variety of careers across a range of disciplines including computer programming, microprocessor interfacing, electronics and instrumentation. The course develops practical, hands-on skills, with emphasis on project work.

It is estimated that students who graduate now, will have an average of three major career changes during their working life. Computing and Advanced Technologies prepares students to take full advantage of these opportunities by giving them a flexible and diverse range of software and hardware skills. The first two stages of the course are foundation years in which students learn the fundamentals of computing and electronics. During the Industry Based Learning stage, students learn important practical and interpersonal skills which are highly valued by employers. In the final stage, the course material focuses on the latest technologies found in rapidly developing areas of science and industry.

Industry based learning (IBL)

This course includes an industry based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning, as this scheme is known, gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All industry based learning placements are subject to availability and require suitable English language skills.

Honours

Computing & Advanced Technologies students with excellent final year results may be invited to complete an Honours year. This generally involves an additional year of specialised academic study.
sophisticated scientific instrumentation grows, there is a need for personnel who
have in-depth knowledge of the principles, design and effective operation of advanced
instrumentation systems, especially when this is combined with high-level
computing and interfacing skills. Graduates take up positions in all areas of science
and technology within industry, including research and development laboratories.

Professional recognition
Graduates will be eligible for membership of the Australian Computer Society and
associate membership of the Australian Institute of Physics.

Course duration and delivery
The duration of the course will normally be four years full-time, including one year of
paid, supervised industry based learning (IBL). To qualify for the award of Bachelor of
Applied Science (Computing & Advanced Technologies), students must accumulate a
minimum of 300 credit points (100 credit points per full-time academic year).

Students undertaking IBL accumulate 400 credit points and will be presented with an
additional testamur indicating their successful completion of the IBL program. Five
subjects will generally be taken during each academic semester, with a total of
approximately 20 hours per week contact time (including lectures, classes, tutorials
and laboratory sessions). The typical student's average weekly workload during
semester is expected to be 50 hours.

Course structure

**Year 1**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES100</td>
<td>Object Oriented Software Development 1 (Java)</td>
</tr>
<tr>
<td>ES107</td>
<td>Computer Systems 1</td>
</tr>
<tr>
<td>SE108</td>
<td>Global Networks</td>
</tr>
<tr>
<td>SE118C</td>
<td>Physics 1</td>
</tr>
<tr>
<td>SM1200</td>
<td>Mathematics 1</td>
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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>ESE100</td>
<td>Object Oriented Software Development 2 (Java)</td>
</tr>
<tr>
<td>ESE004</td>
<td>Software Engineering 1</td>
</tr>
<tr>
<td>SE128C</td>
<td>Physics 2</td>
</tr>
<tr>
<td>SM1200</td>
<td>Mathematics 1</td>
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<table>
<thead>
<tr>
<th>Year 2</th>
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</table>

**Semester 1**

<table>
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<tr>
<th>Credit points</th>
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</thead>
<tbody>
<tr>
<td>ESE000</td>
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<td>SE210C</td>
</tr>
<tr>
<td>SE214C</td>
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**Semester 2**

<table>
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<th>Credit points</th>
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<tbody>
<tr>
<td>ESE400</td>
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<td>SE220C</td>
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<th>Year 3</th>
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**Semester 1**

<table>
<thead>
<tr>
<th>Credit points</th>
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</thead>
<tbody>
<tr>
<td>SPS23</td>
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<td>SPS23</td>
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**Year 4 (commencing in 1998)**

<table>
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<tr>
<th>Semester 1</th>
<th>Credit points</th>
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<tbody>
<tr>
<td>S03556</td>
<td>Professional Issues in Software Engineering</td>
</tr>
<tr>
<td>S0359</td>
<td>Digital Signal &amp; Image Processing</td>
</tr>
<tr>
<td>S03404</td>
<td>Multimedia Systems 1</td>
</tr>
<tr>
<td>ESI100</td>
<td>Object Oriented Software Development 1</td>
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<tr>
<td>Computer Science Elective</td>
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</table>
Z059 Bachelor of Applied Science (Mathematics and Computer Science)  
1998 VTAC course code: 34291

This program combines major studies in computer science with a mathematics major comprising studies in operations research and applied statistics. 

**Computer Science**

This includes the study of software development using object-oriented methods. The Java and C++ languages are used. Students also study the core areas of database, networking, human-computer interaction, systems programming and artificial intelligence. 

**Operations Research**

The scientific study of problems arising in commerce and industry. Students examine loosely structured practical problems at an early stage in the program and later work in groups to undertake real projects for external clients. Computer methods are used extensively in both the classes and group work.

**Applied Statistics**

Concerned with the collection and analysis of data, students will study statistical methods for sampling, for making inferences from samples and for modelling data using methods such as regression. Studies in applied statistics will equip students with the ability to plan statistical investigations and to analyse data using specialist statistical computer packages. 

**Industry Based Learning (IBL)**

The optional four year program is taken in the IBl format which includes one year of paid work experience.

**Location**

Hawthorn campus.

**Career opportunities**

Graduates from the Bachelor of Applied Science (Mathematics and Computer Science) are equipped for a wide variety of business, industrial and scientific jobs in software development, operations research and data collection and analysis. The course provides a valuable preparation for potential statisticians, computer programmers, systems analysts, operations researchers, management scientists and teachers.

**Professional recognition**

This program is accredited by the Australian Computer Society as a Level 1 Course. Graduates are eligible for associate membership. After four years of relevant experience, a graduate can apply for full membership. 

Graduates are also eligible for membership of the Australian Society of Operations Research after one to two years of work experience. Students can become student members while doing the course and then apply for full membership upon graduation.

**Course structure**

**Year 3 (1993 syllabus)**

The syllabus for this program changed in 1997. All students enrolled in 1996 at any stage will complete the 1997 syllabus.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
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<tbody>
<tr>
<td>SM487</td>
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<td>SM584</td>
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<tr>
<td>SM686</td>
<td>10</td>
</tr>
<tr>
<td>SM909</td>
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<table>
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**Year 4**

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</thead>
<tbody>
<tr>
<td>SM988</td>
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<td>SG613</td>
<td>10</td>
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<tr>
<td>SM988</td>
<td>10</td>
</tr>
<tr>
<td>SM180</td>
<td>10</td>
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</tbody>
</table>

Note: From second year onwards the actual subjects taken in mathematics and as computer science electives may vary and will be selected from a range of subjects. Details of these subjects can be obtained at enrolment.

**Entry requirements**

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Units 3 and 4 Mathematical Methods or Specialist Mathematics.

- **Middle-band selection**: Applicants who have successfully completed both Mathematical Methods and Specialist Mathematics will be deemed to have a TER up to 3 percentage points higher. Applicants who have successfully completed Information Technology: Information Systems will be deemed to have a TER up to 5 percentage points higher.

- **Passes may be accumulated over more than one year.**

- **Consideration will be given to the full range of an applicants VCE studies and results, and the level of performance in CATs in prerequisite studies, and to the student profile.**

- **Applicants who do not satisfy the above requirements will be considered on the basis of factors such as employment, educational background, and in some cases, an interview.**

Swinburne University of Technology | 1998 Handbook
This course is intended to serve the rapidly growing multimedia industry by producing graduates who can function in a variety of capacities, mostly particularly as generalists who understand the range of disciplines involved in multimedia and can function in a project leadership role. Throughout the course students will gain experience in the creative use of a wide range of technologies, with detailed understanding of the human factors involved.

The course contains a number of "threads" which combine to cover the range of disciplines involved in multimedia, with particular emphasis on the underlying technologies. These include:

- Computer software and programming: Java programming, computer graphics and animation, virtual reality, games
- Computer and multimedia hardware: Image and audio capture, storage technologies, processing and reproduction, virtual reality hardware
- Telecommunications and the Internet: Local and wide area networks, protocols, the World Wide Web, broadband interactive delivery

Design for multimedia: principles of design for electronic media and multimedia, multimedia authoring

Multimedia content: sensation, perception, cognition, learning, instructional design, authoring systems

Industry based learning (IBL)

This course includes an industry based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning, as this scheme is known, gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All industry based learning placements are subject to availability and require suitable experience in the creative use of a wide range of technologies, with detailed understanding of the human factors involved.

Professional recognition

Graduates will be eligible for membership of the Australian Computer Society and can practice as computer professionals in the wider computer industry.

Course duration and delivery

The duration of the course will normally be four years full-time, including one year of paid, supervised industry based learning (IBL). To qualify for the award of Bachelor of Applied Science (Multimedia Technology), students must accumulate a minimum of 360 credit points (100 credit points per full-time academic year). Students undertaking IBL must accumulate 400 credit points and will be presented with an additional testamur indicating their successful completion of the IBL program. Five subjects will generally be taken during each academic semester, with a total of approximately 20 hours per week contact time including lectures, classes, tutorials and laboratory sessions. The typical student's average weekly workload during semester is expected to be 50 hours.

Course structure

**Year 1**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
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<tbody>
<tr>
<td>ES100</td>
<td>Object Oriented Software Development 1 (Java) 10</td>
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<tr>
<td>MD101</td>
<td>Principles of Design for Electronic Media 1 10</td>
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<tr>
<td>SE194</td>
<td>Psychological Processes 10</td>
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**Year 2**

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<tbody>
<tr>
<td>ES103</td>
<td>Introduction to Human Computer Interaction 10</td>
</tr>
<tr>
<td>MD201</td>
<td>Design for Multimedia 1 10</td>
</tr>
<tr>
<td>SE210</td>
<td>Electronics 10</td>
</tr>
<tr>
<td>SE215</td>
<td>Instructional Design Principles 10</td>
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<tr>
<td>SE314</td>
<td>Communications Principles 10</td>
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**Year 3**

<table>
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<td>Industry Based Learning 50</td>
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**Year 4**

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<th>Credit points</th>
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<tr>
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<tr>
<td>ES306*</td>
<td>Database 10</td>
</tr>
<tr>
<td>ES518*</td>
<td>Computer Graphics &amp; Virtual Reality 10</td>
</tr>
<tr>
<td>SE313</td>
<td>Telecommunications Technologies 10</td>
</tr>
<tr>
<td>SE327</td>
<td>Information Society: A Global Perspective 10</td>
</tr>
<tr>
<td>SE401</td>
<td>Multimedia Project 1 10</td>
</tr>
<tr>
<td>SE404</td>
<td>Multimedia Systems 1 10</td>
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</table>

<table>
<thead>
<tr>
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<th>Credit points</th>
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</thead>
<tbody>
<tr>
<td>ES403*</td>
<td>Object Oriented Software Development 4 10</td>
</tr>
<tr>
<td>ES618*</td>
<td>Computer Graphics &amp; Animation 10</td>
</tr>
<tr>
<td>Exxxx*</td>
<td>Computer Elective 10</td>
</tr>
<tr>
<td>SE221</td>
<td>Engineering Business Skills 10</td>
</tr>
<tr>
<td>SE402</td>
<td>Multimedia Project 2 10</td>
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<tr>
<td>SE405</td>
<td>Multimedia Systems 2 10</td>
</tr>
<tr>
<td>SS22</td>
<td>Emerging Telecommunications Networks 10</td>
</tr>
</tbody>
</table>

* Students do one elective each semester: ES518 & ES618 or ES305 & elective or ES302 & ES404

**Entry requirements**

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Units 3 & 4 passes in English and Mathematical Methods. Passes may be accumulated over more than one year.

**Special entry**

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

**Credit transfer – Pathways**

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into this course with advanced standing. Certain subject requirements must be made and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.
Postgraduate courses
Progression paths are available (subject to sufficiently high performance) into coursework Masters degrees, a double degree in Multimedia Technology / Telecommunications & Internet Technologies, or postgraduate research programs.

Application procedure
Applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.

Further information
Information sessions are held annually in August and in December. Attendance at one of these sessions is highly recommended for prospective students. For further information, telephone (03) 9214 8859.

E059 Bachelor of Engineering (Telecommunications & Internet Technologies)

A066 Bachelor of Information Systems
1998 VTAC course code - Full-time: 34641  
Part-time: 34031
Information technology is one of the main drivers of success in the global market place. Modern employers seek graduates who combine a sound understanding of the theory and practice of effective use of information technology with an understanding of the social and business environment in which the technology is utilised.

The two key features of the Bachelor of Information Systems are the ability for students to integrate an Information Systems specialisation with a focused selection of business and arts subjects within their degree, and the opportunity to undertake the optional and highly popular cooperative education program.

Our degree opens up many employment opportunities, both in the public and private sectors. Students currently find employment in organisations which utilise information technology to support traditional business applications. Increasingly organisations are seeking to employ students with understanding of the advances in information systems methodologies and technologies.

Location
Hawthorn campus.

Career opportunities
Carrers in the computing profession for graduates range from systems analysts or project managers to technical specialists in a range of information technology environments, products or analytic methods. Specialties include programming, communications, business analysis etc.

IBL
For information about Industry Based Learning and Co-operative Education please see the section at the beginning of this chapter.

Course duration and delivery
To qualify for the degree, students must complete twenty-four (24) semester subjects or equivalent. These subjects are taken over 3 years full-time or 6 years part-time study.

Students must complete 12 information systems and 12 non-information systems subjects. Eight of the information systems subjects are mandatory to form a firm foundation for selection of 4 final year subjects to complete a specialisation in either computer science, software engineering or management. The four non-information systems subjects are flexible in content to enable students to undertake a major in any other subject area or to pursue a wide range of careers.

Course structure
Information systems students should combine their chosen information systems specialisation with one of the following lists of humanities or business major/minor study sequences, depending on their chosen career aspirations or interests:

Accounting  
Business Modelling  
International Studies  
Media Studies  
Marketing  
Manufacturing Management  
Organisation Behaviour  
Sociology

Stage 1
- BT111 Introduction to Information Systems  
- BT112 Business Programming 1

Stage 2
- BT220 Data Analysis and Design  
- BT221 Business Computing  
- BT233 Information Systems 1  
- BT228 Business Programming 2A  
- BT229 Business Programming 2B

Stage 3
- BT301 Industry Based Learning  
- BT331 System Architecture 1  
- BT332 System Architecture 2  
- BT333 Information Systems 2  
- BT334 Information Technology Strategies  
- BT335 Business Software Engineering  
- BT336 Information Systems Project  
- BT339 Database Management Systems 1  
- BT340 Business Computer Applications  
- BT341 Knowledge Based Systems  
- BT342 Database Management Systems 2  
- BT343 Database Management Systems 3

Further information
Contact the School of Information Technology  
Telephone: (03) 9214 8185.  
Email: itinfo@swin.edu.au  
Website: www.it.swin.edu.au

1050 Bachelor of Information Technology
1998 VTAC course code: 34311
The course is offered only as a full-time program of three years duration. Students are actively engaged in the course for an average of forty-four weeks each year. There are eight segments in the course - four semesters, two summer terms and two twenty-week periods of industry based learning. These provide a course which is essentially a four year course completed in three years.

Swinburne awards a scholarship to each student admitted to the course. Scholarship levels are expected to be an average $8000.

Location
Hawthorn campus.

Career opportunities
The course teaches graduates to apply information technology within business and industry and provides them with appropriate grounding in management education to prepare them for future roles in management.

Course structure
Segment 1
- BT110 Accounting 1  
- BT111 Computer Fundamentals  
- BT112 Introduction to Programming  
- BT113 Business Applications and Systems 1  
- BT115 Behaviour and Communications in Organisations  
- BT120 Decision Analysis  
- BT121 COBOL Programming  
- BT123 Business Applications and Systems 2  
- BT125 Plus 2 Non-computing Electives each  

Segment 2
- BT127 Systems Software 1  
- BT129 Organisation Behaviour  
- BT123 Data Base Management Systems 1  

Segment 3 (Summer Term)
- BT130 Industry Based Learning  

Segment 4
- BT131 Industry Based Learning  

Total Credit Points: 150
The Bachelor of Software Engineering (BSE) is an exceptionally innovative and challenging engineering program, consisting of four full-time years of academic study plus one year of industry-based learning (IBL). The process of developing large scale software systems is very complex, involving detailed processes and sophisticated techniques and tools. Software Engineers bring to the development of software the methodologies, technologies and management practices of traditional engineering disciplines, along with an extensive knowledge of fundamental computer science.

Graduates of the program will be equipped with the knowledge, skills and attitudes to make them valuable members of any team developing large-scale software-based systems using contemporary Software Engineering approaches.

Students have the opportunity to study, to an advanced level, important areas of software engineering such as software process modelling, software architecture, validation and verification, software re-engineering, formal methods and metrics, together with real-time systems engineering. They will also graduate with advanced skills in management of resources and technology.

The skills and knowledge acquired during the course are reinforced by several project subjects and through a supervised industry-based learning year (or 12 week industry-based placement).

A range of electives is offered, which allow students to explore a specialist area of computer science/software engineering at an advanced level, and domains in which they might subsequently practise as developers of software.

The program also includes the study of fundamental generic engineering concepts and principles, and the mathematics and physics necessary to support these studies. Students elect to undertake an advanced stream in electronics, telecommunications or manufacturing engineering to complement their software engineering studies.

Successful completion of the BSE is deemed equivalent to the completion of an honours program and generally fulfills entry requirements for postgraduate research study.

Industry based learning (IBL)

Industry based learning (IBL) is a mandatory part of the course. Students have the opportunity to undertake one full year of paid IBL between the third and final years of the course. Alternatively they may take at least 12 weeks of relevant industry experience prior to graduation. IBL gives students a real advantage in the graduate job market.

Location

Hawthorn campus.

Career opportunities

Many Australian organisations experience difficulty in obtaining personnel with high-level, up-to-date skills and knowledge in software engineering, and industry demand for professionals in information technology and electronics is expected to continue to grow. Students graduating from the Bachelor of Software Engineering will be well placed to meet this need.

Graduates will typically find employment in organisations engaged in large-scale software development. The course is oriented towards applications in areas such as defence, aerospace and medicine, where software plays a major role, often of a safety-critical nature. Initially graduates could expect to be involved in technical areas such as programming and systems analysis and design, with good opportunities available for progression into project leadership and management positions.

Professional recognition

The degree provides credit at Level 1 (the highest level) towards professional membership of the Australian Computer Society. Application has also been made for recognition of the course to the Institution of Engineers Australia (IEAust).

Course duration and delivery

To qualify for the award of Bachelor of Software Engineering, students must accumulate a minimum of 400 credit points (100 credit points per full-time academic year) and undertake an IBL placement. Students undertaking an IBL year accumulate 500 credit points and will be presented with an additional testamur indicating their successful completion of the program. Five subjects will generally be taken during each academic semester, with a total of approximately 15-17 hours per week contact time (including lectures, classes, tutorials and laboratory sessions). The typical student’s average weekly workload during semester is expected to be 50 hours.

Course structure

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<th>Year</th>
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Swinburne University of Technology
### Year 3

#### Semester 1
- ES301 Concurrent Programming in Ada 10
- ES304 Advanced Software Engineering 1
- ES314 Formal Methods
- Domain Elective
- Engineering Discipline Stream 10

#### Semester 2
- ES408 Introduction to Artificial Intelligence 10
- ES404 Advanced Software Engineering 2
- ES514 The Personal Software Process
- Domain Elective
- Engineering Discipline Stream 10

#### Final Year

#### Semester 1
- ES601 Real-Time Systems 10
- ES602 Software Engineering Project 10
- ES624 Professional Issues in Software Engineering
- Computing Elective 10
- Engineering Discipline Stream 10

#### Semester 2
- ES603 Software Engineering Project 20
- ES601 Concurrent Systems
- Computing Elective 10
- Engineering Discipline Stream 10

### Electives

Computing Electives are two-subject streams as follows:

- **Computer Graphics**
  - ES318 Computer Graphics and Virtual Reality
  - ES318 Computer Graphics and Animation

- **Client-Server Systems**
  - ES307 Local Area Networks
  - ES305 Advanced Database

- **Human-Computer Interaction (HCI)**
  - ES306 Advanced Human-Computer Interaction 1
  - ES306 Advanced Human-Computer Interaction 2

- **Knowledge-Based Systems (KBS)**
  - ES308 Knowledge Based Systems Engineering
  - ES939 Soft Computing

- **Multimedia Systems**
  - ES310 Multimedia Technology
  - ES310 Multimedia Development

- **Programming Languages**
  - ES300 Compiler Design
  - ES300 Programming Paradigms

### Streams

Engineering Discipline Streams are four-subject streams in the following areas of study:
- Electrical and Electronics
- Manufacturing
- Telecommunications

### Domain Electives

Domain electives available may include streams in the following areas:
- Aviation
- Business Finance and Accounting Fundamentals
- Business Law
- Civil Engineering
- Control Engineering
- Environmental Engineering
- Marketing

- Mechanical Engineering
- Research

The Research elective is recommended for students contemplating proceeding to a research-based higher degree in software engineering, or to a career in research and development. Availability of all electives and elective streams is subject to resources, demand and timetabling constraints.

### Entry requirements

Applicants must have completed satisfactorily an appropriate Victorian Year 12 or its equivalent such as an interstate or international Year 12 qualification.

VCE Prerequisites: Physics Units 1 and 2; a grade average of C or Higher in Units 3 and 4 Mathematical Methods or Specialist Mathematics. A bonus is awarded to applicants who have successfully completed Information Technology, Information Systems and/or Specialist Mathematics.

Generally students will not be selected if they have a TER below 80.

### Credit transfer - Pathways

Students admitted to the degree may be granted advanced standing for previous studies on a case-by-case basis.

### Application procedure

Refer page 42.

### Further information

Contact the School of Information Technology
Telephone: (03) 9214 8180
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au

### Double Degrees

**Z032 Bachelor of Applied Science/Bachelor of Engineering (Multimedia Technology/Telecommunications & Internet Technologies)**

1998 VTAC course code: 34621

This double degree program provides in-depth specialist engineering knowledge of the international telecommunications industry and global networks and also of technical and creative aspects of multimedia systems. This is particularly relevant to the continued convergence of multimedia systems and communications networks, currently typified by the World Wide Web.

The core specialist studies are in creative design of multimedia graphics, computer software development with emphasis on human computer interaction, graphics, games and virtual reality, the psychology of human learning and design of interactive learning systems, computer systems hardware and electronics, including image and audio processing, electronic communications techniques, broadband interactive telecommunications networks, computer networks and internetworking, teletraffic analysis, information theory, mobile and personal communications and the role and regulation of telecommunications technology in society.

### Industry based learning (IBL)

This course includes an optional industry based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning, as this scheme is known, gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All industry based learning placements are subject to availability and require suitable English language skills.

### Location

Hawthorn campus.

### Career opportunities

Potential career and market opportunities include: creation, development and technology management's roles in interactive multimedia within the advertising; instructional design, business promotion, training, education and online entertainment industries, as well as technology integration of telecommunications systems; computer networks, broadband interactive on-line networks, integrated computer and communication infrastructures for global networking.

### Professional recognition

Graduates will be eligible for membership of in the Institution of Engineers Australia and the Australian Computer Society.
Course duration and delivery

The duration of the course will normally be five years full-time. To qualify for the award of Bachelor of Applied Science/Bachelor of Engineering (Multimedia Technology/Telecommunications & Internet Technologies), students must accumulate a minimum of 500 credit points (100 credit points per full-time academic year). Students undertaking the optional (IB) component accumulate 600 credit points and will be presented with an additional testamur indicating their successful completion of the IB program. Five subjects will generally be taken during each academic semester, with a total of approximately 23 hours per week contact time (including lectures, classes, tutorials and laboratory sessions). The typical student's average weekly workload during semester is expected to be 50 hours.

Course structure

### Year 1

#### Semester 1
- ES100 Object-Oriented Software Development 1 (Java) 10
- MD101 Principles of Design for Electronic Media 1 10
- SE104 Psychological Processes 10
- SE108 Global Networks 10
- SM111 Engineering Mathematics 1 10

#### Semester 2
- EE181 Electronics & Instrumentation 10
- ES201 Design for Multimedia 2 (Java) 10
- MD102 Principles of Design for Electronic Media 2 10
- SE106 Psychology of Learning 10
- SM119 Mathematics for Technology 10

### Year 2

#### Semester 1
- ES204 Software Engineering 1 10
- MD201 Design for Multimedia 1 10
- SE110 Electronics 10
- SE314 Communication Principles 10
- SM203 Engineering Mathematics 3 10

#### Semester 2
- ES406 Graphical User Interface Programming 10
- MD402 Design for Multimedia 2 10
- SE224 Computer Communications & LANs 10
- SE225 Embedded Microcontrollers 10
- SM244 Engineering Mathematics 4 10

### Year 3

#### Semester 1
- ES301 Object Oriented Software Development 3 (C++) 10
- SE213 New Media: The Telecom Revolution 10
- SE313 Telecommunications/Technologies 10
- SE484 Multimedia Systems 1 10
- SM255 Engineering Mathematics 5B 10

#### Semester 2
- ES204 Software Engineering 10
- SE221 Engineering Business Skills 10
- SE316 Electromagnetic Waves 10
- SE321 Network Engineering 10
- SE406 Multimedia Systems 2 10

### Year 4

#### Semester 1
- SE115 Instructional Design Principles 10
- SE312 Control and Automation 10
- SE315 Communications Information Theory 10
- SE327 Information Society: A Global Perspective 10
- SE401 Multimedia Project 1 10
- SE229 Computer Learning and Authoring 10

#### Semester 2
- SE322 Communications Electronics 10
- SE422 Multimedia Project 2 10
- SE522 Emerging Telecommunications Networks 10

One of:
- ES304 Software Engineering 2 10
- ES19 Computer Graphics & Animation 10

### Year 4

#### Semester 1
- SE329 Digital Signal & Image Processing 10
- SE411 Telecommunications Project 2A 10
- SE413 Telematic Systems 10
- SE417 Photonics & Fibre Optics 10
- SE402 Broadband Multimedia Networks 10

#### Semester 2
- SE325 Real Time & Distributed Systems 10
- SE415 Open Systems & Internetworking 10
- SE421 Telecommunications Project 2B 10
- SE420 Engineering Management A 10
- SE424 Mobile & Personal Communications 10

### Entry requirements

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Units 3 & 4 passes in English, Mathematical Methods, and Physics. Passes may be accumulated over more than one year.

### Special entry

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

### Application procedure

Applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guide Line on 1 902 247 055 or present in person at VTAC during office hours.

### Credit transfer – Pathways

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into this course with advanced standing. Certain subject requirements must be made and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

### Postgraduate courses

Progression paths are available (subject to sufficiently high performance) into coursework Masters degrees or postgraduate research programs.

### Further information

Information sessions are held annually in August and in December. Attendance at one of these sessions is highly recommended for prospective students. For further information, telephone (03) 9214 8569.

#### A067 Bachelor of Information Systems/Bachelor of Business

The Bachelor of Information Systems/Bachelor of Business double degree is designed to enable students to complete the compulsory requirements for both degrees in a normal course of study of four years full-time (eight years for part-time study).

**Course structure**

Students take a total of 32 subject (equivalent) units. The first year of the course provides foundation studies in both information systems and business. The course provides flexibility to allow students to keep their business major options open throughout the first year of study.

The second, third and fourth years build on the information systems and business foundations and also provide students with an opportunity to complete a specialist minor in a related information systems / business or humanities related discipline such as media studies, manufacturing management or sociology.

**Information Systems component**

In the first two years, the stage 1 and 2 studies in information systems equip students with the theoretical knowledge and technical skills necessary to the practice of the information systems profession. In the third and fourth years of the course, students have the opportunity to specialize in either business software development or business systems analysis.
Industry-based learning
At the completion of year 2, students may undertake an optional period of industry-based learning.

Years 3 and 4

Business component
Students undertake a minimum of sixteen business subjects: a core of six subjects (Business Core); a major of six subjects (from one discipline area) and a minor of four subjects (from one discipline area) from the approved business majors.

Business Core:
Accounting
Microeconomics
Organisations and Management
Legal Environment of Business
The Marketing Concept
Quantitative Analysis

Approved Business Majors:
Accounting
Business Law
Business Modelling
Economics
Finance
Marketing
Organisational Behaviour

Elective component
Students must complete four elective subjects in an approved Information systems / business or humanities-related discipline. The four subjects will generally be completed as an additional approved minor.

Honours Year

Z065 Bachelor in Applied Science (Computer Science)(Honours)
A one year full-time program that follows the completion of all requirements for a three-year degree. The program is designed for students who have an interest in research, and is particularly geared to those who are contemplating progressing to postgraduate studies.

Normally to be eligible for this degree a student would have achieved a grade point average of credit or above on the best seventy-five per cent (75%) of the post-first year subjects. However, it is likely that a performance in excess of this minimum will be necessary to gain selection.

A student would normally undertake a program involving three semester-length coursework subjects, one reading subject, and a research topic leading to the production of a minor thesis. The reading subject will involve one semester of director reading of research methods relevant to the proposed minor thesis and the theoretical underpinning of the thesis topic. The three coursework subjects will consist of at least two subjects at the masters by coursework or honours level and at least one subject at the third year undergraduate level which has not been attempted previously.

Further information
Contact the School of Information Technology, telephone: (03) 9214 8180 or Email: itinfo@swin.edu.au

A068 Bachelor of Information Systems (Honours)
The Bachelor of Information Systems (Honours) course provides students with demonstrated academic ability the opportunity to pursue their undergraduate studies to an advanced level, to deepen their intellectual understanding in their major field and to develop their research skills. The honours course is a recognised point of entry into postgraduate research studies.

Students concentrate on their chosen major area, gaining a better understanding and practicing appropriate research techniques. The requirement to complete a substantial original piece of research for their thesis ensures that honours graduates develop their abilities to conceptualise problems, devise research strategies and carry out individual research work under the supervision of a member of staff with expertise in the area.

For students wishing to seek employment following their Bachelor of Information Systems honours degree, the honours course affords the opportunity to extend their knowledge in information systems and to specialise in an area within it. The course’s strong orientation to research instructs students in the principles and techniques of original research and prepares them for areas of professional employment in which conceptual, organisational and research skills are in demand.

To be eligible for admission to the Bachelor of Information Systems (Honours) course, a student must hold a Bachelor of Information Systems (pass) degree. The student must have demonstrated a high level of academic achievement overall and an excellent academic record in their chosen major study, especially at third year level.

Further information
Contact the School of Information Technology, telephone: (03) 9214 8180 or Email: itinfo@swin.edu.au

D020/D040 Bachelor of Design

D050/D060 Bachelor of Design (Graphic Design)
Bachelor of Design (Graphic Design)(Honours)

First & Second Years
(common to both Degree and Honours Degree)

Year 3 (IBL Placement)

Semester 1
- GD303 IBL Placement 37.5
- GD305 Design Culture 1 10.0

Semester 2
- GD303 IBL Placement 37.5
- GD322A Production Technology 5.0
- GD33E Design Culture 1 10.0

Year 4 (IBL Full-time at University)

Semester 1
- GD410 Design Studio 4 35.0
- GD411 Design Research 12.5
- GD490 Design Management 5.0

Semester 2
- GD410 Design Studio 4 35.0
- GD411 Design Research 12.5

Entry requirements

Applicants must have satisfactorily completed an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification. VCE prerequisites: A grade average of C or higher in units 3 and 4 English. Applicants are advised to undertake Art or any art-related study in Units 3 and 4.

Further information

Contact the School of Design on (03) 9214 6755

DP60 Bachelor of Design (Industrial Design)

DP61/DP62 Bachelor of Design (Industrial Design)(Honours)

1998 VTAC course code: 36201

Industrial Design is a broadly-based discipline in which designers participate in the development of products and systems associated with all areas of human activity and the environment. In consultation with the profession, the course provides a learning environment in which students will enjoy a proportional relationship between design theory and design practice with a strong emphasis on the design process and creative problem.

The first two years of the course are common to each of the degree/honours streams.

Industry Based Learning (IBL)

At the completion of second year, students with a credit or above in all subjects may be selected for the honours program. They are required to spend the whole of the third year working in an industrial situation organised by the School. This third year enables the student to begin professional practice, supervised by senior staff.

During the year in industry, students are required to attend the University for one day per week.

In the final year students work in a professional atmosphere, with emphasis given to developing the student's special capabilities.

Swinburne Design Centre

Degree students who achieve an overall high standard in their first year qualify to apply for the Swinburne Design Centre Honours program. This Honours program provides an introduction to professional design practice in an educational environment.
Students who are selected for this program undertake a variety of professional consultancy-based design projects under the guidance of lecturing staff and industry mentors.

Location
Prahran campus

Career opportunities
Product design for and within manufacturing industries or design consultancies, exhibition environmental and furniture design, stage and set design, self-employed designers or manufacturers.

Professional recognition
Membership of the Design Institute of Australia

Course duration
Three years full-time (pass degree)
Four years full-time (Honours)

Course structure

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Entry requirements
Satisfactory completion of an appropriate Victorian Year 12 or its equivalent. Mature age entry is also available.

Further information
Contact the School of Design on (03) 9214 6755

IED10 Bachelor of Design (Interior/Exhibition Design)
VTAC course code: 36631

The course aims at a broad design education with a firm grounding in the technology and science of the built environment. The Interior/Exhibition program deals via a series of design projects with the ideas of the possible. The areas of exhibition, museum design, theatre, commercial, retail and furniture are incorporated within the discipline. A semester of Industry Based Learning (IBL) within the profession is included in year three. Honours may be awarded.

Location
Prahran campus.

Career opportunities
Interior and exhibition design, hotel/retail design, theatre design, museum design, computer aided design, design management.

Professional recognition
Membership of Design Institute of Australia, the Society of Interior Designers of Australia and registration as a Building Practitioner.

Course duration
Four years full-time

Course structure

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The main aim of the course is to educate a new generation of creative engineers in attitudes that makes them valuable members of any team working with design.

The objectives of the course are to:

- Produce graduates with a sound knowledge of the principles and processes of product design
- Develop the ability to design products with a sound engineering base.
- Develop student knowledge and understanding of traditional and innovative processes in developing successful products for competitive markets.
- Educate students in making suitable material selection based on human/machine requirements.
- Produce graduates with sound management and professional practice skills (embracing, for example, ethics and law).

**Location**

Hawthorn campus.

**Course duration**

Completion of the Bachelor of Engineering (Product Design Engineering) will require four years of full-time study plus one year of Industry Based Learning (IBL).

**Course structure**

**Year 1**

**Semester 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>IED201</td>
<td>Design 2</td>
<td>25.0</td>
</tr>
<tr>
<td>IED202</td>
<td>Technology 2</td>
<td>5.0</td>
</tr>
<tr>
<td>IED203</td>
<td>Communication Drawing 2</td>
<td>5.0</td>
</tr>
<tr>
<td>IED204</td>
<td>CAD Drafting 1</td>
<td>5.0</td>
</tr>
<tr>
<td>IED205</td>
<td>Design History &amp; Critical Theory</td>
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</tr>
<tr>
<td>IED201</td>
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<td>25.0</td>
</tr>
<tr>
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<td>Technology 2</td>
<td>5.0</td>
</tr>
<tr>
<td>IED203</td>
<td>Communication Drawing 2</td>
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<tr>
<td>IED204</td>
<td>CAD Drafting 1</td>
<td>5.0</td>
</tr>
<tr>
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<td>Design History &amp; Critical Theory</td>
<td>10.0</td>
</tr>
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**Year 2**

<table>
<thead>
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<tbody>
<tr>
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</tr>
<tr>
<td>IED202</td>
<td>CAD Drafting 2</td>
<td>10.0</td>
</tr>
<tr>
<td>IED205</td>
<td>Design Culture 1</td>
<td>10.0</td>
</tr>
<tr>
<td>IED202</td>
<td>Technology 2</td>
<td>5.0</td>
</tr>
<tr>
<td>IED204</td>
<td>CAD Drafting 1</td>
<td>5.0</td>
</tr>
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<td>Design History &amp; Critical Theory</td>
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**Year 3**

<table>
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<th>Course Title</th>
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<tbody>
<tr>
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<tr>
<td>IED205</td>
<td>Design Culture 2</td>
<td>10.0</td>
</tr>
<tr>
<td>IED202</td>
<td>Technology 2</td>
<td>5.0</td>
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<tr>
<td>IED204</td>
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</tr>
<tr>
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<td>Design Culture 2</td>
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</tr>
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**Year 4**

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<th>Course Title</th>
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</thead>
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<td>Design Management</td>
<td>5.0</td>
</tr>
<tr>
<td>IED205</td>
<td>Design Culture 2</td>
<td>10.0</td>
</tr>
<tr>
<td>IED202</td>
<td>Technology 2</td>
<td>5.0</td>
</tr>
<tr>
<td>IED204</td>
<td>Business and Professional Studies</td>
<td>5.0</td>
</tr>
<tr>
<td>IED205</td>
<td>Design Culture 2</td>
<td>10.0</td>
</tr>
</tbody>
</table>

**Entry requirements**

Applicants must have satisfactorily completed an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: A grade average C or higher in units 3 and 4 English.

Further information

Contact the School of Design on (03) 9214 6755

**PDE50 Bachelor of Engineering (Product Design Engineering)**

VTAC course code: 34121

This course is offered by the School of Engineering and Science in cooperation with Swinburne School of Design.

The main aim of the course is to educate a new generation of creative engineers in attitudes that makes them valuable members of any team working with design, development and production. It combines the essential parts of the Mechanical and Manufacturing Engineering and Industrial Design areas, to produce a Product Design Engineer that has knowledge of both the technological and creative design aspects of a product.

The subjects studied during the course will be equally shared by the School of Engineering and Science and Swinburne School of Design which will have a focus on creative design, engineering science, material and manufacturing process selection, project management and innovation.

The objectives of the course are to:

- Produce graduates with a sound knowledge of the principles and processes of product design
- Develop the ability to design products with a sound engineering base.
- Develop student knowledge and understanding of traditional and innovative processes in developing successful products for competitive markets.
- Educate students in making suitable material selection based on human/machine requirements.
**Further information**  
For further information on this new course please contact the School of Engineering and Science on (03) 9214 8372 or Swinburne School of Design on (03) 9214 6755.

**Engineering & Technology**

**Z043 Bachelor of Applied Science (Multimedia Technology)**  
1998 VTAC course code: 34531  
(refer page 83)

**CH055 Bachelor of Engineering (Bioprocess and Chemical)**  
VTAC course code: 34011

**Career opportunities**  
There is a large range of employment opportunities for chemical engineers, especially if they have bioprocess skills, from large trans-national companies to small locally-based companies, from the petrochemical industries to the food industries. Many chemical engineers work as consultants, sometimes managing their own companies.

**Location**  
Hawthorn campus.

**Course structure**  
Semesters 1 and 2: common first year for all engineering degrees.  
Semesters 3 to 5: subjects common for all students taking chemical engineering.

**1995 syllabus**

**Year 1 (Common First Year)**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE101</td>
<td>Engineering Design</td>
</tr>
<tr>
<td>E7101</td>
<td>Professional Skills</td>
</tr>
<tr>
<td>SM111</td>
<td>Mathematics 1</td>
</tr>
<tr>
<td>SP124</td>
<td>Physics 1</td>
</tr>
<tr>
<td>SCE140N</td>
<td>Chemistry</td>
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<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>E7102</td>
<td>Electronics and Instrumentation</td>
</tr>
<tr>
<td>MM140</td>
<td>Energy Systems</td>
</tr>
<tr>
<td>SCE199</td>
<td>Chemical Technology</td>
</tr>
<tr>
<td>SK190</td>
<td>Computing</td>
</tr>
<tr>
<td>SM112</td>
<td>Mathematics 2</td>
</tr>
</tbody>
</table>

Note: To balance resources, the position of subjects may change. Some subjects may be made available in both semesters.

**Year 2**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM235</td>
<td>Engineering Materials</td>
</tr>
<tr>
<td>SCE201</td>
<td>Basic Process Analysis and Calculations</td>
</tr>
<tr>
<td>SCE202</td>
<td>Industrial Process Eng &amp; Management</td>
</tr>
<tr>
<td>SCE204</td>
<td>Biochemistry 1¹</td>
</tr>
<tr>
<td>SM233</td>
<td>Engineering Mathematics</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM285</td>
<td>Measurement and Control Systems</td>
</tr>
<tr>
<td>SCE205</td>
<td>Chemistry 2</td>
</tr>
<tr>
<td>SCE206</td>
<td>Fluid Mechanics</td>
</tr>
<tr>
<td>SCE207</td>
<td>Chemical Engineering Laboratory 1</td>
</tr>
<tr>
<td>SM244</td>
<td>Engineering Mathematics</td>
</tr>
</tbody>
</table>

**Year 3 (Coursework & IBL)**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM385</td>
<td>Engineering Management</td>
</tr>
<tr>
<td>SCE304</td>
<td>Microbiology 1</td>
</tr>
<tr>
<td>SCE302</td>
<td>Chemical Eng Thermodynamics</td>
</tr>
<tr>
<td>SCE305</td>
<td>Separation Processes</td>
</tr>
<tr>
<td>SM255A</td>
<td>Engineering Mathematics</td>
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</table>

<table>
<thead>
<tr>
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<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCE306</td>
<td>Industry Based Learning</td>
</tr>
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</table>

**Year 4 (IBL & Advanced Studies)**

<table>
<thead>
<tr>
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<th>Credit points</th>
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<tbody>
<tr>
<td>SCE406</td>
<td>Industry Based Learning</td>
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<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCE402</td>
<td>Biochemistry 2</td>
</tr>
<tr>
<td>SCE400</td>
<td>Heat Transfer</td>
</tr>
<tr>
<td>SCE401</td>
<td>Mass Transfer</td>
</tr>
<tr>
<td>SCE405</td>
<td>Fluid Particle Systems and Advanced Fluid Mechanics</td>
</tr>
<tr>
<td>SCE407</td>
<td>Chemical Eng Laboratory 2</td>
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**Year 5**

<table>
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<th>Credit points</th>
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<tbody>
<tr>
<td>SCE500</td>
<td>Biotechnology 1</td>
</tr>
<tr>
<td>SCE501</td>
<td>Research Project</td>
</tr>
<tr>
<td>SCE504</td>
<td>Process Equipment Design</td>
</tr>
<tr>
<td>SCE502</td>
<td>Reactor Design</td>
</tr>
<tr>
<td>SCE503</td>
<td>Process Control</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCE555</td>
<td>Process Engineering ¹</td>
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<tr>
<td>SCE505</td>
<td>Process Plant Design &amp; Economic Evaluation</td>
</tr>
<tr>
<td>SCE506</td>
<td>Environmental &amp; Safety Assessment</td>
</tr>
<tr>
<td>SCE507</td>
<td>Chemical Engineering Management</td>
</tr>
</tbody>
</table>

**Bioprocess stream¹**

Students undertake the elective studies in bioprocessing as listed below. The first five subjects are shared with other degree programs. In order to accommodate the current common first year as listed above, students entering second year in 1996 will not have studied Cell Biology. Such students will undertake bridging studies as an interim arrangement.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCE204</td>
<td>Biochemistry 1</td>
</tr>
<tr>
<td>SCE204</td>
<td>Microbiology 1</td>
</tr>
<tr>
<td>SCE200</td>
<td>Biotechnology 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCE303</td>
<td>Cell Biology</td>
</tr>
<tr>
<td>SCE302</td>
<td>Biochemistry 2</td>
</tr>
<tr>
<td>SCE555</td>
<td>Bioprocess Engineering</td>
</tr>
</tbody>
</table>

It is possible that other elective studies (such as polymers) may be developed in the future.

¹ Elective Studies: A program of five subjects forming an elective stream in bioprocessing will be provided. This will be the only elective stream available initially.

**Credit transfer - Pathways**

Prospective students who have completed a relevant associate diploma with good results may be eligible for in excess of 100 credit points of exemptions in the degree program, depending on subjects completed and on results. The 'Swinburne Pathways - Credit Transfer Guide' should be consulted for full details.

Some regional TAFE colleges have special articulation arrangements with Swinburne and provide extension units which enhance credit transfer.

**Application procedure**

Refer to page 42.

**Further information**

For further information on this new course please contact the School of Engineering and Science on (03) 9214 8372.

**C050 Bachelor of Engineering (Civil)**

1998 VTAC course code: 34371

**Course duration and delivery**

This program commenced in 1995 and extends over eight academic semesters plus two semesters of industry based learning. The course is being introduced progressively. Years 1, 2 and 3 will be offered in 1997. The course may be completed by part-time study. A few subjects are available as evening subjects.

The full-time course totals 500 credit points and consists of two sections:

- Foundation Studies: Semesters 1 to 5
- Professional Studies: Semesters 6 to 10
The course includes one year of paid industry-based learning. Employment is arranged by Swinburne and students receive a salary approximately two-thirds of that of a graduate engineer. Students benefit greatly from this first-hand industrial experience and liaison is maintained between mentor, employer, and student.

Location
Hawthorn campus.

Course structure (1995 syllabus)

<table>
<thead>
<tr>
<th>Year 1 (Common first year)</th>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CE102</td>
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<tr>
<td></td>
<td>SM111</td>
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<tr>
<td></td>
<td>SP129</td>
<td>10.0</td>
</tr>
<tr>
<td>And two of</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EF101</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>MM130</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>O1R</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>SC154N</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>EF101</td>
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<tr>
<td></td>
<td>MM130</td>
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Year 2

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<td>CE231</td>
<td>5.0</td>
</tr>
<tr>
<td>CE246</td>
<td>10.0</td>
</tr>
<tr>
<td>CE289</td>
<td>5.0</td>
</tr>
<tr>
<td>MM223</td>
<td>10.0</td>
</tr>
<tr>
<td>Semester 2</td>
<td>Credit points</td>
</tr>
<tr>
<td>CE217</td>
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<tr>
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<td>CE246</td>
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Year 3

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Year 4

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Year 5

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</tr>
</thead>
<tbody>
<tr>
<td>CE599</td>
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</tbody>
</table>

*Major studies*
A total of 80 credit points. All the subjects in one of the following:

Civil and Environmental Engineering Major

<table>
<thead>
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<th>Credit points</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Elective Studies**</td>
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</tbody>
</table>

Structural Engineering Major

<table>
<thead>
<tr>
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<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE600</td>
<td>10.0</td>
</tr>
</tbody>
</table>

**Elective studies**
A total of 30 credit points of subjects chosen from:

- For students who choose the Civil and Environmental Engineering major: electives chosen from the Structural Engineering major;
- For students who choose the Structural Engineering major: electives chosen from the Civil and Environmental Engineering major;
- Other approved subjects offered by the School (e.g., approved Building Surveying subjects);
- Other approved subjects offered by other Schools (e.g., Mathematics).

Course structure (1999 syllabus)
The degree course consists of seven academic semesters at Swinburne and two semesters in industry. It is being progressively replaced by the 1995 syllabus. Students who are enrolled in the 1999 syllabus course and who continue to make satisfactory academic progress should be able to complete under the 1999 syllabus. Where 1999 syllabus subjects have been discontinued, it may be necessary to take equivalent subjects from the 1995 course. Contact the school for further information about subject equivalence.

Year 4

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE494</td>
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Year 5

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<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>CE595B</td>
<td>14.5</td>
</tr>
<tr>
<td>CE596</td>
<td>8.0</td>
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</tbody>
</table>

Major Elective (one of)

- CE516 Municipal and Transport Engineering
- GE516 Structural Engineering
- GE517 Construction Engineering

Swinburne University of Technology | 1998 Handbook
The past few decades have seen vast improvements in electronics, which in turn have generated revolutionary changes in computing, communications and the efficient use of electrical power.

Electrical and electronic engineering provides the understanding and the skills to develop systems and apply them to solve problems. This involves the design of electronic systems (both analog and digital), computer systems (communications systems, hardware and software and control), electromagnetic fields and power systems and measurement and instrumentation systems. All engineering students follow a common first year program, comprising mathematics, physics and computing and some subjects drawn from the various engineering disciplines. This provides a balanced foundation year and allows the choice of degree to be deferred until the end of the first year.

In the later years, several interlinking technical strands are developed, including analog and digital electronics, hardware and software, computer and communications networks, dynamic systems and automatic control. In addition, there are business management and personal development components. Advanced topics can include specialist areas such as digital signal processing, intelligent control, bionics and photonics.

Industry Based Learning (IBL)

This course includes an industry based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning, as this scheme is known, gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All industry based learning placements are subject to availability and require suitable English language skills.

Honours

Students with excellent results in the later stages of the course will be awarded their degrees with honours.

Location

Hawthorn campus.

Career opportunities

Electrical and electronic engineering offers a challenging career in a profession characterised by the growth of new technology and new opportunities, and Swinburne graduates are regarded very highly for their practical skills. Electrical and electronic engineers have many exciting career opportunities, and can pursue career paths in developing or managing large telecommunications systems, computer systems, electrical power systems or measurement and instrumentation systems.

Professional recognition

This course meets the requirements of the Institution of Engineers Australia for graduate membership.

Course duration and delivery

The duration of the course will normally be five years full-time, including one year of paid, supervised industry based learning (IBL). To qualify for the award of Bachelor of Engineering (Electrical & Electronic Engineering), students must accumulate a minimum of 400 credit points (100 credit points per full-time academic year). Students undertaking IBL accumulate 500 credit points and will be presented with an additional testamur indicating their successful completion of the IBL program. Five subjects will generally be taken during each academic semester, with a total of approximately 22 hours per week contact time (including lectures, classes, tutorials and laboratory sessions). The typical student's average weekly workload during semester is expected to be 50 hours.

Course structure

Year 1

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE1B2</td>
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</tr>
<tr>
<td>EE113</td>
<td>10</td>
</tr>
<tr>
<td>SM111</td>
<td>10</td>
</tr>
<tr>
<td>SP124</td>
<td>10</td>
</tr>
<tr>
<td>SK180</td>
<td>10</td>
</tr>
<tr>
<td>MM130</td>
<td>10</td>
</tr>
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</table>

Year 2

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE212</td>
<td>10</td>
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<tr>
<td>EE216</td>
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<tr>
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<tr>
<td>SE232</td>
<td>10</td>
</tr>
<tr>
<td>SE434</td>
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Year 3

<table>
<thead>
<tr>
<th>Semester 3</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE310</td>
<td>10</td>
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<tr>
<td>SE312</td>
<td>10</td>
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<td>SM255B</td>
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Year 4

<table>
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<tr>
<th>Semester 4</th>
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<tr>
<td>EE400</td>
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Year 5

<table>
<thead>
<tr>
<th>Semester 5</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE313</td>
<td>10</td>
</tr>
<tr>
<td>SE417</td>
<td>10</td>
</tr>
<tr>
<td>SE501</td>
<td>10</td>
</tr>
<tr>
<td>SE508</td>
<td>10</td>
</tr>
</tbody>
</table>

Approved alternative from Division of Business, Humanities and Social Science.

Further information

For further information on this new course please contact the School of Engineering and Science on (03) 9214 8372.
Application procedure

With advanced standing. Certain subject requirements must be made and an Application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.

Further information

Information sessions are held annually in August and in December. Attendance at one of these sessions is highly recommended for prospective students. For further information, telephone (03) 9214 8859

Year 5

(ONLY for students who are in their last year of the 4.5 year degree course)

Semester 1

Core Subjects

EE992 Management Practice 1 6
EE996 Project 10
EE998 Digital Systems & Control 5

Power Stream Subjects

EE976 Electronics 7
EE959 Electrical Machine Drives 11
EE997 Electrical Power Systems 11

Computer Systems Stream Subjects

EE951 Computer Systems Engineering 13
EE992 Computer Electronics 9
EE953 Advanced Computer Techniques 7

Communications & Electronics Stream Subjects

EE944 Electronic Communication Systems 7
EE945 Electronics 9
EE948 Communications 13

Entry requirements

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Units 3 & 4 passes in English, Mathematical Methods, and one of: Physics, Chemistry, Biology, Specialist Mathematics, Psychology or Information Technology: Information Systems. Passes may be accumulated over more than one year.

Special entry

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

Credit transfer – Pathways

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into this course with advanced standing. Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted. Further specific details on pathways subjects can be inserted here if applicable.

Postgraduate courses

Progression paths are available (subject to sufficiently high performance) into coursework Masters degrees, double degrees, or postgraduate research programs.

Application procedure

Applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guideline on 1 902 247 005 or present in person at VTAC during office hours.

Further information

Information sessions are held annually in August and in December. Attendance at one of these sessions is highly recommended for prospective students. For further information, telephone (03) 9214 8859

P050 Bachelor of Engineering (Manufacturing)

1998 VTAC course code: 34371

1995 syllabus

Students entering the first year of the manufacturing engineering course will be enrolled in the common first year and will follow the Bachelor of Engineering (Manufacturing) 1995 syllabus.

Courses are arranged to allow flexibility so that any student may transfer from full-time to part-time studies or vice-versa, at particular points of a course, without loss of credit for subjects passed.

This program will extend over eight academic semesters plus two semesters of industry-based learning.

The course is designed to develop student abilities in the fundamental engineering sciences and technologies. It provides management training in a broad range of disciplines related to the planning and operation of manufacturing enterprises.

Due to the phasing in of the 1995 syllabus the electives offered in 1996 will need to be less than when the program is fully operational. The specific electives offered will depend on staff availability and student demand. Students should consult the 1996 list of electives and seek guidance from an academic advisor prior to enrolment.

1998 syllabus course

Students currently enrolled in Year 5. Transitioning in later years of the course currently allows students to specialise in either Production Engineering and Design or Chemical Engineering and Design by selecting the special study subjects denoted below.

Location

Hawthorn campus.

Course structure

Year 1

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE102 Engineering Design</td>
<td>10.0</td>
</tr>
<tr>
<td>SM111 Mathematics 1</td>
<td>10.0</td>
</tr>
<tr>
<td>SP124 Physics 1</td>
<td>10.0</td>
</tr>
<tr>
<td>and two of</td>
<td></td>
</tr>
<tr>
<td>EF101 Professional Skills</td>
<td>10.0</td>
</tr>
<tr>
<td>MM130 Engineering Materials</td>
<td>10.0</td>
</tr>
<tr>
<td>SK180 Computing</td>
<td>10.0</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>SC154N Chemistry</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Semester 2

| EE182 Electronics and Instrumentation | 10.0 |
| MM140 Energy Systems | 10.0 |
| SM112 Mathematics 2 | 10.0 |
| SP125 Physics 2 | 10.0 |
| and one of |  |
| EF101 Professional Skills | 10.0 |
| MM130 Engineering Materials | 10.0 |
| SK180 Computing | 10.0 |

Year 2

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM225 Solid Mechanics 1</td>
<td>10.0</td>
</tr>
<tr>
<td>SM233 Engineering Mathematics 3</td>
<td>10.0</td>
</tr>
<tr>
<td>MM235 Engineering Materials</td>
<td>10.0</td>
</tr>
<tr>
<td>MM245 Thermodynamics 1</td>
<td>10.0</td>
</tr>
<tr>
<td>MM276 Computer Aided Design</td>
<td>10.0</td>
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</tbody>
</table>

Semester 2

| MM215 Machine Dynamics 1 | 10.0 |
| MV046 Fluid Mechanics 1 | 10.0 |
| MV073 Manufacturing Technology 1 | 10.0 |
| MV096 Measurement and Control Systems | 10.0 |
| SM244 Engineering Mathematics 4 | 10.0 |

Year 3

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV065 Mechanical Design</td>
<td>10.0</td>
</tr>
<tr>
<td>MV065 Design for Manufacture</td>
<td>10.0</td>
</tr>
<tr>
<td>MV066 Ergonomics</td>
<td>10.0</td>
</tr>
</tbody>
</table>
M050 Bachelor of Engineering
(Mechanical)

1989 VTAC course code: 34371

1995 syllabus
Students entering the first year of the mechanical engineering course will be enrolled in the common first year and will follow the Bachelor of Engineering (Mechanical) 1995 syllabus.

Courses are arranged to allow flexibility so that any student may transfer from full­
time to part-time studies or vice-versa, at particular points of a course, without loss
of credit for subjects passed.

This program will extend over eight academic semesters plus two semesters of
industry based learning.

The degree course program combines a thorough education in the application of
engineering science principles with a broad span of studies important to a
professional mechanical engineer.

Due to the phasing in of the 1995 syllabus the electives offered in 1998 will need to be less than when the program is fully operational. The specific electives offered will depend on staff availability and student demand. Students should consult the 1998 list of electives and seek guidance from an academic advisor prior to enrolment.

1990 syllabus
Streaming in 5th year of the course is offered through a system of technical elective
subjects which allows students to select a particular emphasis for their fourth and half years’ industry based learning (cooperative) program.

Location
Hawthorn campus.

Course structure
Year 1

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE102</td>
<td>Engineering Design</td>
</tr>
<tr>
<td>SM111</td>
<td>Mathematics I</td>
</tr>
</tbody>
</table>

Further information
For further information on this new course please contact the School of Engineering and Science on (03) 9214 8372.

MOS Bachelor of Engineering
(Mechanical)
The course aims to develop innovative skills in robotics and mechatronic systems, computing, electronics, mechanical and electrical engineering, in national and international contexts.

Courses are arranged to allow flexibility so that any student may transfer from part-time to full-time studies or vice-versa, at particular points of a course without loss of credit for subjects passed.

The degree course program combines a thorough education in the application of engineering science principles with a broad span of studies important to a professional engineer.

Career opportunities
Graduates from the Robotics and Mechatronics program can take up careers in a wide spectrum of industries including robotics, airlines, chemical industries, automotive, appliance manufacturing and industrial research. Contributions can be made to these industries in a variety of roles including design engineer, project planner, product designer and project manager.

Professional recognition
Membership of the Institution of Engineers, Australia.

Course duration
Five years full-time (four years of academic study and one year of industry based learning). Part time (day release) study is also available.

Course structure

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CE102</td>
<td>Engineering Design</td>
</tr>
<tr>
<td></td>
<td>MM130</td>
<td>Engineering Material</td>
</tr>
<tr>
<td></td>
<td>SM411</td>
<td>Engineering Mathematics 1</td>
</tr>
<tr>
<td></td>
<td>SP124</td>
<td>Physics</td>
</tr>
<tr>
<td></td>
<td>SE105</td>
<td>Robotics and Mechatronics Project 1</td>
</tr>
<tr>
<td></td>
<td>EE102</td>
<td>Electronics and Instrumentation</td>
</tr>
<tr>
<td></td>
<td>SM112</td>
<td>Engineering Mathematics 2</td>
</tr>
<tr>
<td></td>
<td>MM140</td>
<td>Energy Systems</td>
</tr>
<tr>
<td></td>
<td>MM105</td>
<td>Robotics and Mechatronics Project 2</td>
</tr>
<tr>
<td></td>
<td>SK250</td>
<td>Introduction to Programming</td>
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<table>
<thead>
<tr>
<th>Year 2</th>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ES100</td>
<td>Object-Oriented Software Development 1</td>
</tr>
<tr>
<td></td>
<td>MM476</td>
<td>Computer Aided Design</td>
</tr>
<tr>
<td></td>
<td>SE210</td>
<td>Electronics</td>
</tr>
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<td></td>
<td>MM486</td>
<td>Ergonomics</td>
</tr>
<tr>
<td></td>
<td>SM233</td>
<td>Engineering Mathematics</td>
</tr>
<tr>
<td></td>
<td>SE226</td>
<td>Machines &amp; Power Systems</td>
</tr>
<tr>
<td></td>
<td>SE220</td>
<td>Embedded Micro-controllers</td>
</tr>
<tr>
<td></td>
<td>ES200</td>
<td>Object-Oriented Software Development 2</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Semester 1</th>
<th>Credit points</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>SE201</td>
<td>Industrial Engineering</td>
</tr>
<tr>
<td></td>
<td>MM385</td>
<td>Engineering Business Management</td>
</tr>
<tr>
<td></td>
<td>MM355</td>
<td>Mechanical Design</td>
</tr>
<tr>
<td></td>
<td>SE312</td>
<td>Control &amp; Automation</td>
</tr>
<tr>
<td></td>
<td>SM286B</td>
<td>Engineering Mathematics</td>
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<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM355</td>
<td>Mechanical Design</td>
</tr>
<tr>
<td>SE422</td>
<td>Robotics &amp; Mechatronics Project</td>
</tr>
<tr>
<td>SM286B</td>
<td>Engineering Mathematics</td>
</tr>
<tr>
<td>SE422</td>
<td>Robotics &amp; Mechatronics Project</td>
</tr>
<tr>
<td>SM286B</td>
<td>Engineering Mathematics</td>
</tr>
<tr>
<td>SE422</td>
<td>Robotics &amp; Mechatronics Project</td>
</tr>
<tr>
<td>SM286B</td>
<td>Engineering Mathematics</td>
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<table>
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<th>Year 4</th>
<th>Semester 1</th>
<th>Credit points</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>MM205</td>
<td>Industry Based Learning</td>
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</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
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<tbody>
<tr>
<td>MM205</td>
<td>Industry Based Learning</td>
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<table>
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<th>Year 5</th>
<th>Semester 1</th>
<th>Credit points</th>
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<tbody>
<tr>
<td></td>
<td>MM316</td>
<td>Robot System Design</td>
</tr>
<tr>
<td></td>
<td>SE366</td>
<td>Non-Contact Measurement &amp; Inspection</td>
</tr>
<tr>
<td></td>
<td>SE422</td>
<td>Bionics</td>
</tr>
<tr>
<td></td>
<td>SE366</td>
<td>Non-Contact Measurement &amp; Inspection</td>
</tr>
<tr>
<td></td>
<td>SE422</td>
<td>Bionics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM316</td>
<td>Robot System Design</td>
</tr>
<tr>
<td>SE366</td>
<td>Non-Contact Measurement &amp; Inspection</td>
</tr>
<tr>
<td>SE422</td>
<td>Bionics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entry requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>For entry to first year in 1997, the applicant should have satisfactorily completed an appropriate Victorian Certificate of Education (VCE) Year 12, or its equivalent, such as an interstate or international year 12 qualification in the following subjects.</td>
</tr>
<tr>
<td>Prerequisites: Units 3 and 4 in English, mathematical Methods, and one of Physics, Chemistry, Biology, Specialist Mathematics, Information Technology (Information Systems) or Psychology.</td>
</tr>
</tbody>
</table>

Application procedure
Refer to page 42.

Further information
For further information on this new course please contact the School of Engineering and Science on (03) 9214 8372.
This course includes an industry based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning placements are subject to availability and require suitable English language skills.

**Industry Based Learning (IBL)**

This course includes an industry based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning, as this scheme is known, gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All industry based learning placements are subject to availability and require suitable English language skills.

**Location**

Hawthorn campus.

**Career opportunities**

Graduates will find rewarding high-tech careers in the converging telecommunications, multimedia, computing, and Internet information technology industries. They may become a telecommunications link designer, an embedded computing systems designer, an embedded software systems designer, a network switching and protocol designer, an analyst/designer/manager of internal corporate multimedia networks, a network administrator, an Internet web master, or an online training manager.

**Professional recognition**

This course meets the requirements of The Institution of Engineers, Australia for graduate membership.

**Course duration and delivery**

The duration of the course will normally be five years full-time, including one year of paid, supervised industry based learning (IBL). To qualify for the award of Bachelor of Engineering (Telecommunications & Internet Technologies), students must accumulate a minimum of 400 credit points (100 credit points per full-time academic year).

Students undertaking IBL accumulate 500 credit points and will be presented with an additional taskmaster indicating their successful completion of the IBL program. Five subjects will generally be taken during each academic semester, with a total of approximately 22 hours per week contact time (including lectures, classes, tutorials and laboratory sessions). The typical student's average weekly workload during semester is expected to be 20 hours.

**Course structure**

**Year 1**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ES102</td>
<td>Engineering Design</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>ES109</td>
<td>Object Oriented Software Development 1 (Java)</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>SE219</td>
<td>Global Networks</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>SP212</td>
<td>Engineering Physics 1 *</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>SE121</td>
<td>Telecommunications Project 1A</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>SM111</td>
<td>Engineering Mathematics 1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>ES218</td>
<td>Electronics &amp; Instrumentation</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>ES200</td>
<td>Object Oriented Software Development 2 (Java)</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>SE211</td>
<td>Telecommunications Project 1B</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>SM112</td>
<td>Engineering Mathematics 2</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>SP215</td>
<td>Engineering Physics 2</td>
<td>10</td>
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**Year 2**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ES300</td>
<td>Object-Oriented Software Development 3 (C++)</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>SE210</td>
<td>Electronics</td>
<td>10</td>
</tr>
</tbody>
</table>

**Semester 1**

- ES213: New Media: The Telecom-Revolution
- SE314: Communications Principles
- SM233: Engineering Mathematics 3

**Semester 2**

- ES204: Software Engineering 1
- SE211: Engineering Business Skills
- SE224: Computer Communications & LANs
- SE222: Embedded Microcontrollers
- SM244: Engineering Mathematics 4

**Year 3**

**Semester 1**

- SE312: Control & Automation
- SE131: Telecommunications Technologies
- SE215: Communications Information Theory
- SE317: Electromagnetic Waves
- SM256B: Engineering Mathematics 5B

**Semester 2**

- SE200: Industry Based Learning

**Year 4**

**Semester 1**

- SE409: Industry Based Learning

**Semester 2**

- SE211: Network Engineering
- SE233: Communications Electronics
- SE255: Real Time & Distributed Systems
- SE257: Information Society: A Global Perspective
- SE415: Open Systems & Internetworking

**Year 5**

**Semester 1**

- SE239: Digital Signal & Image Processing
- SE411: Telecommunications Project 2A
- SE413: Personal Communications
- SE417: Photonics & Fibre Optics
- SE402: Broadband Multimedia Networks

**Semester 2**

- SE406: Multimedia Systems 2
- SE421: Telecommunications Project 2B
- SE424: Advanced Digital Signal Processing
- SE500: Engineering Management A
- SE504: Mobile & Personal Communications

* It is anticipated that most students in this course will have completed VCE Physics units 3 and 4. Those students who have VCE Physics units 3 & 4, do Global Networks in semester 1, those students who do not have VCE Physics units 3 & 4, must do Engineering Physics 1 in semester 1, and Global Networks in flexible delivery mode over summer at the end of second semester.

**Entry requirements**

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Units 3 & 4 passes in English and Mathematical Methods. Passes may be accumulated over more than one year.

**Special entry**

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

**Credit transfer - Pathways**

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into this course with advanced standing. Certain subject requirements must be made and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

**Postgraduate courses**

Progression paths are available, subject to sufficiently high performance, into coursework Masters degrees, or postgraduate research programs.
Application procedure
Applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guide Line on 1 902 247 060 or present in person at VTAC during office hours.

Further information
Information sessions are held annually in August and in December. Attendance at one of these sessions is highly recommended for prospective students. For further information, telephone (03) 9214 8596.

Z044 Bachelor of Software Engineering
1998 VTAC course code: 34181
(refer page 85)

MO55 Bachelor of Technology (Aviation)
1998 VTAC course code: 34511

This three year full-time degree prepares students for careers in the aviation industry as either professional pilots or in other professional capacities. The course incorporates the theory subjects required by the Australian Civil Aviation Safety Authority (ACASA) up to Airline Transport Pilot Licence (ATPL) standard.

Students who successfully complete this course are awarded the Degree of Bachelor of Technology (Aviation) and those who undertake the flying hours necessary will also gain a Commercial Pilot Licence (CPL).

Strong emphasis will be placed on engineering aspects of aviation and flying, and a strong sense of practical problem solving will be engendered in students. Various motivational subjects will be included to maintain a high level of dedication in students.

Location
Hawthorn campus.

Course structure (1990 syllabus)
This course is being reaccredited during 1996. The new course will be phased in over a 3 year period, consequently subject details shown for the first year subjects may not be accurate for 1997.

Year 1

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td></td>
</tr>
<tr>
<td>Semester 1</td>
<td></td>
</tr>
<tr>
<td>MFB10* Flight Planning and Procedures 1</td>
<td>15</td>
</tr>
<tr>
<td>MFB120* Navigation and Meteorology 1</td>
<td>15</td>
</tr>
<tr>
<td>MFB131* Aircraft General Knowledge 1</td>
<td>15</td>
</tr>
<tr>
<td>MFB150 Occupational Health and Safety</td>
<td>15</td>
</tr>
<tr>
<td>MFB160 Propulsion and Aircraft Systems</td>
<td>15</td>
</tr>
<tr>
<td>MFB170 Aviation Mathematics and Computing</td>
<td>15</td>
</tr>
<tr>
<td>MFB180 Communication Skills</td>
<td>15</td>
</tr>
<tr>
<td>Semester 2</td>
<td></td>
</tr>
<tr>
<td>MFB110* Flight Planning and Procedures 1</td>
<td>15</td>
</tr>
<tr>
<td>MFB120 Navigation and Meteorology 1</td>
<td>15</td>
</tr>
<tr>
<td>MFB131* Aircraft General Knowledge 1</td>
<td>15</td>
</tr>
<tr>
<td>MFB150 Occupational Health and Safety</td>
<td>15</td>
</tr>
<tr>
<td>MFB160 Propulsion and Aircraft Systems</td>
<td>15</td>
</tr>
<tr>
<td>MFB170 Aviation Mathematics and Computing</td>
<td>15</td>
</tr>
<tr>
<td>MFB180 Aviation Electronics</td>
<td>15</td>
</tr>
</tbody>
</table>

Career opportunities
Graduates in Building Surveying have the opportunity to enter either the private or municipal field practising as building control officers or building surveyors, administering building regulation and control. Employment opportunities also exist in the planning and supervisory areas of building construction.

The building surveyor in a municipality is the council's technical officer in matters pertaining to buildings. Duties include giving advice to council on various parliamentary acts and regulations, council bylaws and regulations relevant to building, together with their administration as required by law and by council. The building surveying department is responsible for checking plans and computations submitted for council approval and for carrying out inspections of buildings during construction, alteration and demolition.

In private practice the consultant building surveyor is an essential part of the building team. Advice is given to the designer team, and the final documents are approved by the building surveyor who issues the building permit, and later carries out the mandatory inspections.

Graduates are also employed by builders as project managers. In these roles they coordinate the administrative and construction planning aspects of building projects.

Course duration and delivery
The Bachelor of Technology in Building Surveying is structured as a cooperative or an industry based learning program, and consists of six academic semesters at Swinburne and two semesters in industry. The total length of the full-time course is four years and 400 credit points.

Swinburne University of Technology | 1998 Handbook
First and second years are spent full-time at Swinburne. In third year, students spend the entire year working in industry. Employment is arranged by Swinburne and students are paid by the employer. Students benefit greatly from this first-hand experience and a consistent liaison is maintained between the mentor, the employer, and the student.

The fourth year is spent at Swinburne.

The course can be completed by part-time study. Students should consult with staff to plan a part-time program of classes from the required subjects of the course.

Course structure

Year 1

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE114 Applied Mechanics</td>
<td>7.0</td>
</tr>
<tr>
<td>CE172 Construction 1</td>
<td>13.0</td>
</tr>
<tr>
<td>CE192A Statutory Control 1</td>
<td>7.0</td>
</tr>
<tr>
<td>CE192B Introduction to Law</td>
<td>4.0</td>
</tr>
<tr>
<td>CE196 Communications</td>
<td>5.0</td>
</tr>
<tr>
<td>MM169 Services 1</td>
<td>7.0</td>
</tr>
<tr>
<td>SM193 Mathematics</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Year 2

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE294A Construction 2</td>
<td>10.0</td>
</tr>
<tr>
<td>CE294A Statutory Control 1</td>
<td>11.0</td>
</tr>
<tr>
<td>CE296 Communications</td>
<td>5.0</td>
</tr>
<tr>
<td>MM169 Services 1</td>
<td>7.0</td>
</tr>
<tr>
<td>MP180 Construction Materials 1</td>
<td>7.0</td>
</tr>
<tr>
<td>SM193 Mathematics</td>
<td>5.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE296 Structural Design 1</td>
<td>9.0</td>
</tr>
<tr>
<td>CE297 Temporary Structures</td>
<td>7.0</td>
</tr>
<tr>
<td>CE298 Geomechanics</td>
<td>7.0</td>
</tr>
<tr>
<td>CE298A Statutory Control 2</td>
<td>7.0</td>
</tr>
<tr>
<td>CE298B Town Planning</td>
<td>3.0</td>
</tr>
<tr>
<td>CE297 Management</td>
<td>5.0</td>
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<tr>
<td>MM269 Services 2</td>
<td>5.0</td>
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Year 3

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE399 Industrial Experience</td>
<td>50.0</td>
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</tbody>
</table>

Year 4

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE404 Computer Applications 2</td>
<td>5.0</td>
</tr>
<tr>
<td>CE405 Structural Design 2</td>
<td>8.0</td>
</tr>
<tr>
<td>CE407 Services 3</td>
<td>5.0</td>
</tr>
<tr>
<td>CE477A Construction 3</td>
<td>7.0</td>
</tr>
<tr>
<td>CE478 Fire Technology</td>
<td>5.0</td>
</tr>
<tr>
<td>CE480 Construction Management</td>
<td>5.0</td>
</tr>
<tr>
<td>CE496A Statutory Control 3</td>
<td>7.0</td>
</tr>
<tr>
<td>CE496B Statutory Planning</td>
<td>4.0</td>
</tr>
<tr>
<td>CE498C Professional Projects</td>
<td>4.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE477B Construction 4</td>
<td>7.0</td>
</tr>
<tr>
<td>CE477C Foundation Systems</td>
<td>7.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course code</th>
<th>Description</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE477B</td>
<td>Fire Technology</td>
<td>5.0</td>
</tr>
<tr>
<td>CE480</td>
<td>Construction Management</td>
<td>17.0</td>
</tr>
<tr>
<td>CE496A</td>
<td>Statutory Control 3</td>
<td>4.0</td>
</tr>
<tr>
<td>CE498C</td>
<td>Professional Projects</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Regulations

Admission with advanced standing

Students who have completed any of Physics (Units 3 & 4), Chemistry (Units 3 & 4), or Specialist Mathematics will be deemed to have a TER up to 5 percentage points higher for each study.

Application procedure

Refer to page 42.

Further information

For further information on this course please contact the School of Engineering and Science on (03) 9214 8372.

Double Degrees

EN00 Bachelor of Engineering/Bachelor of Arts

This course offers to students a double degree program in engineering and arts subjects, designed so that student knowledge and skills will be increased in the direction of understanding engineering principles in a specific discipline and acquiring a fundamental knowledge of arts studies.

This double degree program allows students to qualify for admission to separate degree programs in Engineering and Arts. The first year of the program is a common year to all Engineering students, this gives flexible entry into the various engineering degree majors, and allows the choice of degree course to be deferred to the end of the first year.

A Mentor Scheme is available as a support mechanism to all first year students.

Industry Based Learning (IBL)

This course includes an optional, additional industry based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning, as this scheme is known, gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All industry based learning placements are subject to availability and require suitable English language skills.

Location

Hawthorn campus.

Career opportunities

Graduates of this double degree program may select paths from either Engineering or Arts or both discipline areas. Graduates will have an advantage in the market place compared to those with single discipline degrees.

Professional recognition

Graduates are eligible for membership of the Institution of Engineering Australia.

Course duration and delivery

The Bachelor of Engineering/Bachelor of Arts double degree program is normally a five year full-time program or equivalent part-time. An optional, additional year of Industry Based Learning and/or study abroad is expected to be available to students. To qualify for the award of Bachelor of Engineering/Bachelor of Arts, students must complete a minimum of 600 credit points (100 credit points per full-time academic year). Students undertaking IS, accumulate 600 credit points. Five subjects will generally be taken during each academic semester.

To qualify for the award of Bachelor of Engineering/Bachelor of Arts, students must complete a minimum of 600 credit points (100 credit points per full-time academic year). Students undertaking IS, accumulate 600 credit points. Five subjects will generally be taken during each academic semester.

To qualify for the award of Bachelor of Engineering/Bachelor of Arts, students must complete a minimum of 600 credit points (100 credit points per full-time academic year). Students undertaking IS, accumulate 600 credit points. Five subjects will generally be taken during each academic semester.
Course Structure

Engineering component

Stage 1 (Common first year)

All double degree students follow the common Engineering first year, completing the approved engineering majors.

Semester 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE102 Engineering Design</td>
<td>10</td>
</tr>
<tr>
<td>EF101 Professional Skills</td>
<td>10</td>
</tr>
<tr>
<td>SM111 Mathematics 1</td>
<td>17</td>
</tr>
<tr>
<td>SPI24 Engineering Physics 1</td>
<td>10</td>
</tr>
<tr>
<td>and one of</td>
<td></td>
</tr>
<tr>
<td>SK180 Computing</td>
<td>10</td>
</tr>
<tr>
<td>MM1130 Engineering Materials</td>
<td>10</td>
</tr>
</tbody>
</table>

Semester 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE182 Electronics and Instrumentation</td>
<td>10</td>
</tr>
<tr>
<td>MN140 Energy Systems</td>
<td>10</td>
</tr>
<tr>
<td>SM112 Mathematics 2</td>
<td>10</td>
</tr>
<tr>
<td>SPI25 Engineering Physics 2</td>
<td>10</td>
</tr>
<tr>
<td>and one of</td>
<td></td>
</tr>
<tr>
<td>SK180 Computing</td>
<td>10</td>
</tr>
<tr>
<td>MM1130 Engineering Materials</td>
<td>10</td>
</tr>
<tr>
<td>SC189 Chemical Technology</td>
<td>10</td>
</tr>
</tbody>
</table>

Students elect which stream of engineering they wish to major in.

Approved engineering majors

- Chemical and Bioprocess Engineering
- Civil Engineering
- Electrical Engineering
- Manufacturing Engineering
- Mechanical Engineering

Please refer to second year and subsequent years subject details for individual course entries in this handbook.

Stage 2

Students commence the study of arts subjects this year.

Students undertake:

- 6 Engineering subjects
- 4 Arts subjects

Stage 3

Students undertake:

- 3 Engineering subjects
- 5 Arts subjects
- 1 Elective

Stage 4

Students undertake:

- 3 Engineering subjects
- 5 Arts subjects
- 1 Elective

Arts Component

Arts studies commence in Stage three of the program. Students study a total of fourteen subjects taken from the arts or business area and these must include:

1. one full arts major
2. the first year core business management subject BH110 Organisations and Management
3. two additional approved management subjects

Arts majors consist of at least eight approved subjects. In the case of languages, ten subjects are prescribed.

Approved arts majors:

- Asian Studies
- Australian Studies
- Cultural Studies

Entry requirements

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent. VCE prerequisites: Units 3 and 4 - Mathematical Methods or Specialist Mathematics and one of Physics, Chemistry, Biology, Psychology or Information Technology (Information Systems).

Application procedure

First year

Applications for full-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 44 Park Street, South Melbourne, 3205. To order an application form, please telephone the Guideline on 1 902 247 005 or present in person at VTAC during office hours.

Applications for part-time places must be made on a direct application form. To order an application form, please telephone the Division’s (Office) on (03) 9214 8203.

Subsequent years

At the end of first year or second year, students already enrolled in Bachelor of Engineering in either Chemical, Civil, Electrical, Mechanical or Manufacturing with sufficiently high grades may have the opportunity to apply for transfer into the double degree program.

The five year full-time degree program can only be entered from engineering. There is no facility which allows normal Bachelor of Arts students to transfer into the double degree program.

Further information

For specific information about this course contact (03) 9214 8263. For general information about Swinburne and its courses, contact the Information Office on (03) 9214 8444. Website: www.swin.edu.au

EA00 Bachelor of Engineering/Bachelor of Business

1998 VTAC course code: 34761

This course offers students a mix of engineering and business subjects, designed so that student knowledge and skills will be increased in the direction of a understanding of engineering principles in a specific discipline and acquiring a fundamental knowledge of business studies.

This double degree program allows students to qualify for admission to separate degree programs in Engineering and Business. The first year of the program is a common year to all Engineering students, this gives flexible entry into the various engineering degree majors, and allows the choice of degree course to be deferred to the end of the year.

A Mentor Scheme is available as a support mechanism to all first year students.

Industry Based Learning (IBL)

This course includes an optional, additional industry based learning segment, in which students are placed in paid, supervised employment as part of their degree program. Industry based learning, as this scheme is known, gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All industry based learning placements are subject to availability and require suitable English language skills.

Location

Hawthorn campus.

Career opportunities

Graduates of this double degree program may select paths from either Engineering or Business or both discipline areas. Graduates will have an advantage in the market place compared to those with single discipline degrees.

Professional recognition

Graduates are eligible for membership of:

Institution of Engineering Australia
The Bachelor of Engineering/Bachelor of Business double degree program is normally a five year full-time program or equivalent part-time. An optional, additional year of Industry Based Learning is also available to students. To qualify for the award of Bachelor of Engineering/Bachelor of Business, students must accumulate a minimum of 500 credit points (100 credit points per full-time academic year). Students undertaking IBL accumulate 900 credit points. Five subjects will generally be taken during each academic semester.

Course structure

**Engineering Component**

**Stage 1 (Common first year)**
All double degree students follow the common Engineering first year, completing the standard first year of the Bachelor of Engineering.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE102</td>
<td>Engineering Design 10</td>
</tr>
<tr>
<td>EFT01</td>
<td>Professional Skills 10</td>
</tr>
<tr>
<td>SM111</td>
<td>Mathematics 1 10</td>
</tr>
<tr>
<td>SP124</td>
<td>Engineering Physics 1 10</td>
</tr>
<tr>
<td>and one of</td>
<td>SK180 Computing 10</td>
</tr>
<tr>
<td>MM130</td>
<td>Engineering Materials 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE182</td>
<td>Electronics and Instrumentation 10</td>
</tr>
<tr>
<td>MM140</td>
<td>Energy Systems 10</td>
</tr>
<tr>
<td>SM112</td>
<td>Mathematics 2 10</td>
</tr>
<tr>
<td>SP125</td>
<td>Engineering Physics 2 10</td>
</tr>
<tr>
<td>and one of</td>
<td>SK180 Computing 10</td>
</tr>
<tr>
<td>MM130</td>
<td>Engineering Materials 10</td>
</tr>
<tr>
<td>SCE189</td>
<td>Chemical Technology 10</td>
</tr>
</tbody>
</table>

Students electing to major in Chemical and Bioprocess Engineering must study in semester 2 SCE189 Chemical Technology, the students therefore do not study SP125 Engineering Physics 2.

**Stage 2**

Students elect which stream of engineering they wish to major in.

Approved engineering majors:
- Chemical and Bioprocess Engineering
- Civil Engineering
- Electrical Engineering
- Manufacturing Engineering
- Mechanical Engineering

Please refer to second year and subsequent years subject details for individual courses entries in this handbook.

**Stage 3**

Students commence the study of business core subjects this year.

Students undertake:
- 6 Engineering subjects
- 4 Business subjects

**Stage 4**

Students undertake:
- 3 Engineering subjects
- 5 Business subjects
- 1 Elective

**Stage 5**

Students undertake:
- 3 Engineering subjects
- 5 Business subjects
- 1 Elective

The Bachelor of Engineering program is normally Australian Society of Certified Practising Accountants (ASPA)*

Institute of Chartered Accountants in Australia (ICAA)*

* students must have completed an appropriate selection of subjects to qualify for membership.

Course duration and delivery

The Bachelor of Engineering/Bachelor of Business double degree program is normally a five year full-time program or equivalent part-time. An optional, additional year of Industry Based Learning is also available to students. To qualify for the award of Bachelor of Engineering/Bachelor of Business, students must accumulate a minimum of 500 credit points (100 credit points per full-time academic year). Students undertaking IBL accumulate 900 credit points. Five subjects will generally be taken during each academic semester.

Application procedure

**First year**
Applications for full-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 49 Park Street, South Melbourne, 3205. To order an application form, please telephone the Guide Line on 1 800 247 060 or present in person at VTAC during office hours.

Applications for part-time places must be made on a direct application form. To order an application form, please telephone the Division of Office on (03) 9214 8263.

**Subsequent years**
At the end of first year or second year, students already enrolled in Bachelor of Engineering in either Chemical, Civil, Electrical, Mechanical or Manufacturing with sufficiently high grades may have the opportunity to apply for transfer into the double degree program.

The five year full-time degree program can only be entered from engineering. There is no facility which allows normal Bachelor of Business students to transfer into the double degree program.

**Credit transfer - Pathways**
There is no formal pathway from a TAFE Diploma or Associate Diploma into the double degree program. However, students who enter the second year of the normal Bachelor of Engineering program under the Pathways program and who obtain sufficiently high grades will have the opportunity to apply for transfer into the double degree program at the end of the second year.

Further information

For specific information about this course contact (03) 9214 8263.

Website: www.swin.edu.au

**Business Component**

Business studies commence in Stage 3 of the course. Students study a minimum of fourteen business subjects.

**Business Core**

- BC10 Accounting 1 12.5
- R111 Law in Global Business 12.5
- BN100 Organisations and Management 12.5
- BM110 The Marketing Concept 12.5
- BE110 Microeconomics 12.5

Please refer to second year and subsequent years subject details for the Bachelor of Business entry in this handbook.

**Entry requirements**

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent. VCE prerequisites: Units 3 and 4 - Mathematical Methods or Specialist Mathematics and one of Physics, Chemistry, Biology, Psychology or Information Technology (Information Systems).

**Humanities and Social Science**

- NO61 Certificate in Commercial Radio

This course is for people who wish to pursue a career in commercial radio broadcasting. Students receive six months intensive tuition in all aspects of commercial radio operations, with practical training in announcing and news presentation. Other areas covered include voice training, production, copywriting, news writing and presentation, sales and marketing, promotions, music and programming, radio station management and computer skills.

Broad social issues are introduced including broadcasting ethics and codes of practice, media law and ownership, the impact of information technologies and audience research. There is a strong focus on digital audio processing and control systems, using extensive computing facilities in studios and production areas.

An industry placement program places students into regional commercial radio stations for several weeks during the course. This placement is designed to allow participants to experience first-hand the environment and operating style of commercial radio, gain feedback on their skills and to make personal contacts within the industry.

Training is conducted in Swinburne's modern, fully-equipped radio centre and computer laboratories, with personal access time available to all students.

Location

Hawthorn campus.

Career opportunities

The Certificate in Commercial Radio has been operating successfully since 1989, with

Swinburne University of Technology | 1998 Hasbok
Professional recognition
The Certificate in Commercial Radio has the full support of the Federation of Australian Radio Broadcasters (FARB) and the industry is actively involved in training, word processing, the Internet and individual Email services. Every assistance is provided to place graduates in the workforce. However, no guarantees of employment can be given, but the skills gained and the contacts made during the course, should place an applicant in an excellent position to secure employment in the Commercial Radio Industry. FARB offers every possible assistance with placement to graduates.

Course duration and delivery
26 weeks full-time commencing in February of each year. The course is taught at three day sessions and one evening session per week with eleven hours of class contact time per week. Students have access at other times to radio studios and production facilities, to complete set assignments and operate an in-house broadcasting service. In addition, students should allow at least fifteen hours per week for assignments. Computer laboratories are accessible for digital audio training, word processing, the Internet and individual Email services.

Course structure
AM111 Radio in Australia
AM112 Radio Management
AM113 Radio Presentation 1
AM114 Radio Presentation 2
AM115 Radio Journalism 1
AM116 Radio Journalism 2
AM117 Advertising Copywriting
AM118 Radio Advertising Production

Entry requirements
Applicants are expected to have satisfactorily completed their VCE and graduates of universities and colleges are also encouraged to apply. The minimum age for applicants is 18 years, although applicants younger than this with special abilities may be considered.

The personal qualities sought in applicants are a clear intention and desire to make Commercial Radio a career, an ability to communicate effectively and an ability to work cooperatively in a group. A clear speaking voice is essential.

Writing skills and an appreciation of language, together with creative ideas and a knowledge of current affairs, would provide evidence of a desire for a radio career and an understanding of the broadcast industry and would be an advantage.

Application procedure
Applications are invited from residents of all States and Territories of Australia.

Applications are invited from all States and Territories of Australia. Applicants apply directly to Swinburne and not through VTAC. Application forms are available from the Course Coordinator, Mr Jim Barbour.

Applications open in September and close in early November each year. Each intake has fourteen places available.

Further information
For general information on Swinburne and its courses, contact the information Office on (03) 9214 8444.

For specific information about the Certificate in Commercial Radio, contact Mr Jim Barbour.

Telephone: (03) 9214 8936
Facsimile: (03) 9819 0574
Email: Jim.Barbour@swin.edu.au

N062 Associate Degree in Social Science

The Associate Degree in Social Science will not be offered in 1998. It is offered only to continuing students.

Students who are interested in the course should make enquiries about the Diploma of Administration and Services (General Studies) which is a similar course offered in the EAFE Division of the University.

Graduating students will be prepared for a number of occupations within a range of administrative and service employment positions, in a variety of employment contexts.

The Associate Degree generally involves two years of full-time study. Part-time study may be arranged. To qualify for the award of the Associate Degree students are required to complete the program of study as outlined.

Course aims
The course is designed to give students the necessary background, knowledge and skills to allow them to perform in a range of administrative and service employment contexts. The course will develop the students' ability to:

• collect and organise information
• analyse and interpret social and statistical data
• conceptualise and analyse problems and issues
• communicate in oral and written forms
• use appropriate information technology
• work and manage effectively in an organisation
• work as part of a team
• deal appropriately with members of the public.

The course provides students with a working knowledge of major social processes (e.g.: Australian political and legal systems, social structures, patterns of social inequality) and organisational dynamics.

Location
Hawthorn campus.

Career opportunities
The course is particularly appropriate for people who are employed or seeking employment in:

• administrative jobs in either public or private sectors
• service delivery to the public (especially through government bodies but also in quasi-government and private organisations which deal with the public)
• public relations, information provision or media liaison
• jobs which require research skills and carry responsibility for contributing to the processes of policy development, implementation, monitoring and evaluation.

The Associate Degree provides basic skills in the areas listed above but its structure anticipates the fact that these areas extend into high levels of professional competence which cannot be covered by associate degree level education.

Course duration and delivery
The Associate Degree is a two-year full-time course (or equivalent) with a combination of core subjects plus specialist streams. The core would be completed in the first year, the chosen stream in the second year of study. There are four streams in the Associate Degree:

• Administration and Management
• Human Services
• Planning and Policy
• Public Relations

Students choose one of the four streams. Most subjects are part of a list of prescribed offerings, but in both the core and the specialist streams, some electives can be chosen. The lists of electives for the various streams are overlapping — a subject may be compulsory in one stream but an elective in another. Language study must be taken over a whole year (for two semesters) and counts as two elective subjects.

Course structure
Core studies
(To be undertaken in first year)

The core subjects undertaken in the first year are designed to provide all students with a basic understanding of major elements of Australian society and the economy, and with fundamental skills required for administrative and service employment.

Compulsory subjects

A0103 Analysis and Argument
A0101 Australian Government
A0102 Australian Society, the Economy and the Environment — 1
A0103 Australian Society, the Economy and the Environment — 2
A0104 Communication Skills
A0105 Individuals, Groups and Organisations
A0106 Using Information Technology — 1
A0107 Using Information Technology — 2

Plus two electives
A0108 Issues in Multicultural Australia
AD108/ Language Other than English (counts as
AD110 two electives)
AD111 Technology and Society
AD112 Understanding the Mass Media

Streams
(To be undertaken in second year)
In the second year students choose one of four course streams which relate to more specific areas of employment. Each stream includes a number of compulsory subjects as outlined below, but allows students to choose from among the whole range of subjects available across the stream including further study of Language Other than English.

Administration and Management
Compulsory subjects
AD200 Behaviour in Organisations
AD203 Economic Decision-making in the Enterprise
AD204 Equity and Opportunity in Australian Society
AD206 Industrial Relations
AD208 Negotiation and Change Management
AD209 Report Writing
Plus four electives chosen from the range of second year subjects including Languages Other than English (AD212 and AD213).

Human Services
Compulsory subjects
AD200 Behaviour in Organisations
AD202 Data Usage and Interpretation
AD204 Equity and Opportunity in Australian Society
AD205 Health and Illness
AD208 Negotiation and Change Management
AD209 Report Writing
Plus four electives chosen from the range of second year subjects including Languages Other than English (AD212 and AD213).

Planning and Policy
Compulsory subjects
AD202 Data Usage and Interpretation
AD203 Economic Decision-making in the Enterprise
AD204 Equity and Opportunity in Australian Society
AD206 Industrial Relations
AD208 Report Writing
AD210 Research Skills
Plus four electives chosen from the range of second year subjects including Languages Other than English (AD212 and AD213).

Public Relations
Compulsory subjects
AD201 Culture and Ideas
AD203 Economic Decision-making in the Enterprise
AD207 Information Systems, Society and Technology
AD209 Report Writing
AD210 Research Skills
AD211 Writing and Producing for Public Release
Plus four electives chosen from the range of second year subjects including Languages Other than English (AD212 and AD213).

Entry requirements
Applicants in the following categories will be considered for admission to the Associate Degree in Social Science course:

VCE
Selection of applicants may be determined on the basis of their performance and results in Year 12, which will be a pass in four VCE studies including Units 3 and 4 of English accredited by the Victorian Board of Studies. (Passes may be accumulated over more than one year.) In addition selection may involve a written application and/or an interview.

Special entry
Persons 21 years and over. Applications will be considered by a selection committee which will evaluate each applicant's likelihood of completing the course. The selection committee will take into account an applicant's educational background, employment background, and written reasons for wishing to undertake the Associate Degree course. A quota for this type of entry may be applied.

Persons under 21 years who have completed studies deemed by the course providers and the University to be the equivalent of Year '2' will be considered by a selection committee which will evaluate each applicant's likelihood of completing the course. The selection committee will take into account an applicant's educational background, employment background, and written reasons for wishing to undertake the Associate Degree course. A quota for this type of entry may be applied.

Persons who do not meet the above criteria should, in the first instance, consult with the Course Coordinator at Swinburne University of Technology.

Credit transfer - Pathways
Students who complete the Associate Degree in Social Science will be eligible to apply for entry into Swinburne's Bachelor of Arts degree (BA) but will not automatically be selected. Those who are selected will be eligible for credit transfer of up to one and a half years of the BA degree, depending on the subjects taken as part of the degree and the BA majors taken.

Further information
Contact the course coordinator, Michael Elliott on (03) 9214 8931

NOS0 Bachelor of Arts
1998 VTAC course code - Full-time: 34321
Part-time: 34401

Graduates of an Arts degree acquire knowledge and skills in a variety of study areas and also a range of 'generic skills' - skills which are a key part of the life-long processes of personal development and which are also highly valued by employers. Some of these skills develop your ability to relate to other people. Course activities in the Bachelor of Arts which develop these skills include public speaking, group discussions, interviewing, planning, group projects and organising seminars. These are the types of activities and skills which help prepare students for management and leadership positions. Course activities also develop skills such as independent thinking, conceptual analysis, theory development, learning to write clearly and effectively, planning essays and research projects, attending to detail, and time management.

Arts graduates learn to use ideas and information stored in libraries and electronic databases, acquire computer skills, carry out research projects and evaluate and develop policies. They develop a strong sense of personal integrity and an awareness of the role of ethics in private and public life, and they nurture personal stores of energy, motivation and adaptability.

All of these generic skills enhance students' abilities to solve problems and to make decisions, irrespective of the specific field of study that they undertake. Whilst many degree courses provide some chance to develop generic skills, an Arts degree usually provides the most opportunities to further your development in these areas. Consequently Swinburne Arts graduates are well equipped to find work in areas where employers put a high premium on generic skills. These areas include: Policy analysis and development, Research, Community development, Administration, Public relations, Publishing, Media.

Three-week study tours to the European Community, Thailand and Korea are available as elective subjects within the Swinburne BA. These tours provide a great opportunity for students to gain a basic understanding of the economy, culture, history and business environment of particular countries. Students not only visit companies, government departments, small businesses, factories and other universities, but also visit cultural and tourist attractions. There are also a number of international exchange programs in place with institutions in countries such as Canada, Hungary, Italy, Japan, Korea, Thailand and the United States of America where students may study overseas for one or two semesters and gain full credit towards the Bachelor of Arts program.

Location
Hawthorn campus.

Career opportunities
Listed below are some examples of career opportunities available for graduates based on their chosen major area of study.

Asian Studies: Media, government, commerce and industry.
Australian Studies: Teaching, private and public sectors, human services.
Cultural Studies: Social work, diplomatic corps, teaching.
European Studies: Particularly relevant for students wishing to pursue a career in the international business environment.
Italian: Ideal for working with Italians in Australia or overseas, and especially useful in fields such as marketing, accounting, or psychology.
The Bachelor of Arts is normally completed in three years of full-time study, or six years of part-time study. To qualify for the award of the Bachelor of Arts degree, students must complete two years of full-time study or four years of part-time study, subject to assessment requirements for each subject and further study. Full-time students are informed of assessment requirements for each subject during the first week of classes. Students can choose whether they attend classes during the day, evening or a combination of both (subject to availability of places). Evening classes are offered in most subjects. Students can choose whether they attend classes during the day, evening or a combination of both (subject to availability of places).

The Bachelor of Arts is a 24-subject degree. Subjects at Stages 1, 2 and 3 carry 12.5 credit points. In each year, four subjects per semester normally constitute a full-time load of 100 credit points, while two subjects per semester normally constitute a part-time load of 50 credit points. In order to enhance their generic skills profile, employability and capacity to pursue further study, all Swinburne BA students must take a core Stage 1 subject in Research Methods and Statistics. Further study is required to become a psychologist.

Sociology: Social research, administration, community development, public housing, human resources, marketing, social work. Vietnamese: Ethnic community work/teaching, interpreting.

With further study, Arts graduates can also gain qualifications to become, for example, librarians, teachers, personnel officers, social workers or sociologists.

Course duration and delivery
The Bachelor of Arts is normally completed in three years of full-time study, or six years of part-time study.

Course structure
The Bachelor of Arts is a 24-subject degree. Subjects at Stages 1, 2 and 3 carry 12.5 credit points. In each year, four subjects per semester normally constitute a full-time load of 100 credit points, while two subjects per semester normally constitute a part-time load of 50 credit points. In order to enhance their generic skills profile, employability and capacity to pursue further study, all Swinburne BA students must take a core Stage 1 subject in Research Methods and Statistics. Evening classes are offered in most subjects. Students can choose whether they attend classes during the day, evening or a combination of both (subject to availability of places).

in most subjects, assessment is by a combination of class tests, essays and examinations. Students are informed of assessment requirements for each subject during the first week of classes.

Major studies
A major is a three-stage sequence of study in the one discipline or specialisation. To qualify for the award of the Bachelor of Arts degree, students must complete two majors, with at least one major chosen from the available BA majors.

BA Majors
- Asian Studies
- Australian Studies
- Cultural Studies
- European Studies
- Italian Language & Culture
- Japanese
- Korean
- Literature
- Media Studies
- Philosophy & Cultural Inquiry
- Vietnamese

Interdisciplinary Majors

Asian Languages and Cultures

Japanese
In view of the relations established between Australia and Japan on all levels of the national life, it is advisable that a study of Japanese language, both spoken and written, be undertaken by a greater number of Australians. Furthermore, it is important that a knowledge and understanding of Japan be increased in Australia. The Japanese programs train students to communicate effectively in Japanese and provide the opportunity to study Japanese culture, society and economy through the medium of Japanese. The emphasis is on contemporary Japanese.


Students undertaking a major in Japanese are strongly advised to enrol also for AJ102 Introduction to Japan - A Cultural Overview and AJ207 Communication in Japanese, which provide an essential background to Japanese language and culture, in the following order:

(i) AJ102 Introduction to Japan - A Cultural Overview which is offered in both semesters concurrently with the first year subjects of each stream;
(ii) AJ207 Communication in Japanese - which is offered in semester two concurrently with the second year subjects of each stream.

Applicants must have completed satisfactorily the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects, including English. Passes may be accumulated over more than one year.
The language subjects offered in Japanese have been specifically designed for non-native speakers of the Japanese language. These subjects will not meet the needs of native speakers of Japanese who will not be eligible to enrol in the language. The subjects offered are:

**Stage 1**
- AJ102 Introduction to Japan - A Cultural Overview
- AJ109 Introductory Japanese 1A
- AJ108 Written Japanese 1B
- AJ109 Spoken Japanese 1B
- AJ110 Advanced Japanese 1A
- AJ111 Advanced Written Japanese 1B
- AJ112 Advanced Spoken Japanese 1B

**Stage 2**
- AJ202 Communication in Japanese
- AJ215 Intermediate Japanese 2A
- AJ217 Written Japanese 2B
- AJ219 Spoken Japanese 2B
- AJ211 Advanced Japanese 2A
- AJ212 Advanced Written Japanese 2B
- AJ212 Advanced Spoken Japanese 2B

**Stage 3**
- AJ318 Written Japanese 3A
- AJ319 Spoken Japanese 3B
- AJ304 Written Japanese 3B
- AJ305 Advanced Written Japanese 3A
- AJ306 Advanced Spoken Japanese 3A
- AJ307 Advanced Written Japanese 3B
- AJ309 Advanced Spoken Japanese 3B
- AJ310 Reading Japanese Newspapers
- AJ311 Japanese for Business and Industry
- AJ312 Work Experience in Japan

Note: Students whose stage three results are credit or above in either the beginners or advanced stream may choose to study a part of their third year course at an approved tertiary institution in Japan. A scholarship scheme has been established to enable students to undertake this alternative.

**Korean**

The major offers three years of systematic language training to enable students to communicate effectively in modern spoken Korean, and to read fluently a wide range of modern written material in Korean.

Supporting subjects provide the opportunity to supplement language studies with courses on culture, society, economy and politics.

The following subjects form a degree major in Korean AK105, AK106, AK107, AK108, AK111, AK306, AK307, and two of AK308, AK309, AK311 or AK305.

Students enrolled in the Korean major prior to 1998 will be required to complete the following post Stage One subjects AK103, AK204, AK303, AK304, and AK306.

Subjects related to Vietnamese studies may also be offered, and students are advised to check with the division for information.

**Vietnamese**

The major is designed to acquaint students with Vietnamese, an important community and trade language. The broad aim of the course is to provide students with communicative competence in the language together with knowledge and understanding of Vietnam.

The following subjects form a degree major in Vietnamese AV105, AV106, AV107, AV205, AV207, AV208, AV307, AV308 and two of AV210, AV311 or AV309.

Students enrolled in the Vietnamese major prior to 1998 will be required to complete the following post Stage One subjects AV203, AV204, AV303, AV304 and AV306.

**Asian Studies**

Asian Studies is designed to provide students with a good knowledge of countries and cultures in a region of great and growing importance to Australia, as well as the generic skills emphasised in the Swinburne Bachelor of Arts program. It offers students a broad basis for the cross-cultural understandings needed in today’s world. It is often taken by students majoring in Asian languages.

As Australia’s integration into the Asian region proceeds apace, a working knowledge of Asian societies and cultures is increasingly important. An increasing number of Australian graduates live and work in Asia and others deal with Asia in their work in Australia. While Asian Studies is not strictly vocational, it does add significant value to a conventional vocational major.

**Career opportunities**

As Australia's integration into the Asian region proceeds, a working knowledge of Asian societies and cultures is increasingly important. An increasing number of Australian graduates live and work in Asia and others deal with Asia in their work in Australia. While Asian Studies is not strictly vocational, it does add significant value to a conventional vocational major.

**Course duration**

Three years full-time or six years part-time.

**Course structure**

An Asian Studies major must include one Stage 1 subject, and at least seven post
Stage 1 subjects. At least two post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining past Stage 1 subjects may be taken at Stage 2 or 3. Within the Asian Studies major students can choose from the following:

**Stage 1**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ102</td>
<td>Introduction to Japan - A Cultural Overview (Japanese)</td>
</tr>
<tr>
<td>AK102</td>
<td>Traditional Korea Overview (Korean)</td>
</tr>
<tr>
<td>AP117</td>
<td>International Politics</td>
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</tbody>
</table>

**Stage 2**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK207</td>
<td>Korean Society (Korean)</td>
</tr>
<tr>
<td>AK208</td>
<td>Korean Politics and Economy (Korean)</td>
</tr>
<tr>
<td>AP204</td>
<td>Modern Japan</td>
</tr>
<tr>
<td>AP206</td>
<td>Politics of China A</td>
</tr>
</tbody>
</table>

**Stage 3**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP304</td>
<td>Japan in Asia</td>
</tr>
<tr>
<td>AP311</td>
<td>Politics of China B</td>
</tr>
<tr>
<td>AP312</td>
<td>Problems of Contemporary South-East Asia</td>
</tr>
</tbody>
</table>

**Entry requirements**

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects including English. Passes may be accumulated over more than one vce.

**Application procedure**

All applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.

**Credit transfer - Pathways**

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts and Social Science programs with advanced standing. Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

**Further information**

For specific information about Asian Studies, contact the School of Social and Behavioural Sciences, Telephone (03) 9214 5209

**Australian Studies**

Australian Studies examines Australian society and its cultures from several different disciplinary perspectives. Its main objective is to provide a solid body of knowledge about the political, economic and social history of twentieth century Australia. From that base, it provides the opportunity to undertake studies within individual disciplines such as Literature, Media Studies, Philosophy and Cultural Inquiry, Political Studies, and Sociology. It offers a broad perspective on contemporary public issues and a context for the analysis of questions in other disciplines. Australian Studies encourages students to identify connections between political and social institutions, cultural practices and economic structures, to analyse how they are changing and the effects of those changes. It is about the dynamics of contemporary Australian society. The Australian Studies program combines training in established disciplines with the more flexible, problem-solving approach that boundary-crossing allows. It also has the benefit of permitting students to follow their intellectual enthusiasms as they develop over the three years.

**Career opportunities**

Australian Studies offers the generic intellectual skills that the Swinburne Bachelor of Arts emphasises. These are not strictly vocational, but they are what many employers are looking for in graduates. They form an ideal complement to specific career training.

**Course duration**

Three years full-time or six years part-time.

**Course structure**

An Australian Studies major must include one Stage 1 subject, and at least two post Stage 1 subjects. At least two post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3. There is a core sequence of three compulsory subjects in the Australian Studies major - Australian Identities, Modern Australia and Work in Australia. The Australian Studies major includes the following:

**Stage 1**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP100</td>
<td>Australian Politics (compulsory)</td>
</tr>
<tr>
<td>AT118</td>
<td>Aboriginal Issues</td>
</tr>
</tbody>
</table>

**Stage 2**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
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</thead>
<tbody>
<tr>
<td>AL202</td>
<td>Contemporary Australian Writing (Literature)</td>
</tr>
<tr>
<td>AM203</td>
<td>Popular Culture (Media Studies)</td>
</tr>
<tr>
<td>AS207</td>
<td>Modern Australia (compulsory)</td>
</tr>
<tr>
<td>AS204</td>
<td>Models of Sociological Analysis (Sociology)</td>
</tr>
<tr>
<td>AZ118</td>
<td>Archaeology</td>
</tr>
</tbody>
</table>

**Stage 3**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK206</td>
<td>Tactlcal Ethics (Philosophy &amp; Cultural Inquiry)</td>
</tr>
<tr>
<td>AK206</td>
<td>Cinema Studies (Media Studies)</td>
</tr>
<tr>
<td>AP200</td>
<td>Public Policy in Australia</td>
</tr>
<tr>
<td>AP314</td>
<td>Work in Australia (Compulsory)</td>
</tr>
<tr>
<td>AS307</td>
<td>Sociology and Social Policy (Sociology)</td>
</tr>
</tbody>
</table>

**Entry requirements**

Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects including English. Passes may be accumulated over more than one year. Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and norther tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

**Application procedure**

All applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. To order an application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.

**Credit transfer - Pathways**

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts and Social Science programs with advanced standing. Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

**Further information**

For specific information about Australian Studies contact the School of Social and Behavioural Sciences, Telephone (03) 9214 5209

**Cultural Studies**

Cultural studies is an emerging discipline focused on the nature of culture and its current transformations. Subjects comprising the degree come from Philosophy & Cultural Inquiry, Media, Literature and Film, Political Studies, Psychology and Asian Languages and Cultures. Students are provided with the means to comprehend and critically analyse the diverse components and media of culture: science, literature, film, television, popular culture, print, electronic media etc., the relationship between these, and the relationship between different cultures of different regions, nations and ethnic groups.

Students may construct their degree to focus on their particular interests such as literature and film as cultural phenomena, cultural politics, the problematic relationship between cultures in a globalized world, the problems associated with the disintegration of traditional cultures and the search for new foundations for beliefs, science and philosophy as cultural phenomena etc. At Swinburne, Cultural Studies is an interdisciplinary major, consisting of core subjects from Philosophy & Cultural Inquiry and the choice of a diversity of subjects from a range of other disciplines. This has the advantage of providing students with a much more rigorous foundation in the theoretical debates taking place within cultural studies, while providing a much greater choice of subjects pertaining to practical cultural issues than would otherwise be available.

**Career opportunities**

The study of culture is becoming of increasing importance in a number of professions and in the business world as the pace of cultural transformation accelerates and people with incompatible cultures are increasingly brought into contact with one another. This is particularly important in the business world as transnational corporations increasingly dominate the world, and for people entering the professions of journalism, teaching, film and television production, social work and politics.

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Course duration
Three years full-time or six years part-time.

Course structure
An Cultural Studies major must include one Stage 1 subject, and at least seven post Stage 1 subjects. At least two post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3.

There is a core sequence of two compulsory subjects in the Cultural Studies major - Philosophy of Culture and Approaches to Culture. The Cultural Studies major includes the following:

Stage 1
- AA119 Post War Italy
- AH101 History of Ideas
- AJ102 Introduction to Japan
- AK102 Traditional Korea
- ALM104 Media Literature Film: Texts and Contexts

Stage 2
- AH204 Philosophy of Culture (compulsory)
- AA208 20th Century European Literature and Thought
- AH205 Social Philosophy, Politics and Ethics
- AK207 Korean Society
- AL204 Reading, Writing and Criticism
- AM203 Popular Culture
- AS204 Models and Sociological Analysis
- AS206 Sex and Gender in Society
- AY204 Social Psychology

Stage 3
- AH301 Rationality
- AH310 Approaches to Culture (compulsory)
- AH311 Environmental Philosophy
- AL304 Cross-cultural Perspectives
- AL306 Renaissance Literary Culture
- AM300 Cinema Studies
- AS302 Sociology of Organisations

Entry requirements
Applicants must have completed satisfactorily the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects including English. Passes may be accumulated over more than one year. Applicants who don't have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary qualifications, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Application procedure
All applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 922 247 005 or present in person at VTAC during office hours.

Credit transfer - Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts and Social Science programs with advanced standing.

Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Further information
For specific information about Cultural Studies contact the School of Social and Behavioural Sciences to telephone (03) 9214 5209.

European Studies
The major in European Studies may be completed in three years and follows the normal requirements for a major in Bachelor of Arts. This involves a total of eight subjects over three stages. This includes a compulsory first year subject for the major in European Studies.

The major in European Studies allows students to study contemporary European issues by offering a combination of subjects chosen from Literature, Language and Culture, Politics, Philosophy, Sociology and Business. The aim of this major is to develop in students an understanding of the events that are shaping Europe today. Students undertaking the major in European Studies will be better equipped to understand the economics, politics, societies and business cultures of the European region.

A highlight of the major in European Studies is that two elective subjects are taken in Europe. The first of these, a European Study Tour involves a 3-4 week tour of several European countries and includes briefing sessions with major European companies, visits organised to European institutions such as the European Parliament, the European Court of Justice and formal lectures offered by European universities. The second (selective) subject, Industry Based Learning in Europe, involves work experience in a European country of choice. The subjects offered are:

Stage 1
- AP117 International Politics (compulsory)
- AA119 Post-War Italy

Stage 2
- AA212 European Union
- AA208 20th Century European Literature and Thought
- AH204 Philosophy of Culture

Stage 3
- AA315 Industry-based Learning in Europe
- AA316 European Union Study Tour
- AA317 International Business in the Italian Context
- AA318 European Union Business Context
- AH320 Approaches to Culture
- AL309 Renaissance Literary Culture
- AS309 Migration and Ethnicity
- BM308 European Business Studies

Students may not double-count subjects for two majors. In choosing optional subjects at Stage Two, students must have completed the prerequisites for those subjects. Where an alternative is not specified, the subject convener is to approve the enrolment.

Further information
Ms Kaye Nolan
Convenor of European Studies
Telephone: (03) 9214 5339 Fax: (03) 9214 5574
Email: knolan@swin.edu.au
Website: www.swin.edu.au/jsbs/europe

Italian Studies
Italian Studies at Swinburne, offered in conjunction with European Union Studies, provides an insight into Italy, a modern, thriving and wealthy European country, industrially, economically and technically advanced, among the top seven leading powers in the world.

The Italian major is designed to acquaint students with Italian, an important community, cultural and commercial language.

The broad aim is to enable students to communicate with Italians, on both linguistic and socio-cultural levels. The major study in Italian therefore strongly emphasises language acquisition, and progressively treats those aspects of Italian language, literature, history, geography, economics, sociology, politics and culture appropriate to an understanding of the modern nation and its inhabitants.

A degree major in Italian may be obtained by undertaking studies in one of two streams offered: a beginner stream and a post-VCE stream.

Students enrolled in Italian major prior to 1998
The beginners stream consists of AA106 and AA110 at Stage One, followed by AA206 and AA210 at Stage Two, then AA306, AA310 and AA313 at Stage Three.

The post-VCE (Advanced) stream consists of AA106 and AA110 at Stage One, followed by AA206 and AA210 at Stage Two, then AA306, AA307 and AA313 at Stage Three.

Note: Students who intend, on graduating, to teach Italian either at primary or secondary level or who do not wish to preclude that possibility should note that the exit point required in the Italian Studies major must be at the third-year post-VCE level. To achieve this, students need to transfer to the Advanced stream either by enrolling in AA306 after completing AA210 or by enrolling in AA307 after completing AA306. In both cases a credit is the minimum requirement to be able to transfer to the Advanced course.

Swinburne University of Technology | 1998 Handbook
Students beginning the Italian major in 1998

The beginners stream consists of: AA181, AA191, and AA183 at Stage One, followed by AA210, AA209 and AA208 at Stage Two, then AA310, AA381 and AA385 at Stage Three.

The post-VCE (Advanced) stream requires a pass and above at VCE level or equivalent and consists of: AA184, AA185 and AA186 at Stage One, followed by AA284, AA285, AA286 and AA287 at Stage Two, then AA381, AA386 and AA388 at Stage Three.

Students undertaking a major in Italian are also strongly advised to enrol for AA119 Post-War Italy and AA212 European Union.

The following subjects related to Italian studies are also offered:

- AA238 Twenty-First Century European Literature and Thought
- AA375 Industry-Based Learning in Europe
- AA376 European Union Study Tour
- AA377 International Business in the Italian Context

It should be noted that the Italian major is sequential in nature. Therefore students must complete all subjects in Stage One Italian before enrolling in the Stage Two subjects and these, in turn, must be completed before enrolling in the Stage Three subjects.

An honours program in Italian is available and MA and PhD programs by research and thesis in Italian are currently being offered. A double degree Bachelor of Business/Bachelor of Arts (Italian) is also available. The subjects offered are:

**Stage 1**
- AA119 Post-War Italy
- AA191 Italian 1X or AA184 Advanced Italian 1A
- AA192 Italian 1Y or AA185 Advanced Italian 1B
- AA193 Italian 1Z or AA186 Advanced Italian 1C

**Stage 2**
- AA206 Advanced Italian 2A or AA209 Advanced Italian 2X
- AA207 Advanced Italian 2B or AA210 Advanced Italian 2Y
- AA208 Twentieth Century European Literature and Thought
- AA212 European Union
- AA291 Italian 2X or AA284 Advanced Italian 2A
- AA292 Introductory Business Italian (2Y) or AA286 Introductory Business Italian (2B)
- AA283 Italian 2Z or AA286 Advanced Italian 2C

Both streams:
- AA287 Post-War Italy

**Stage 3**
- AA306 Advanced Italian 3A or AA309 Italian 3X
- AA307 Advanced Italian 3B or AA310 Italian 3Y
- AA313 Contemporary Italy
- AA375 Industry-Based Learning in Europe
- AA376 European Union Study Tour
- AA377 International Business in the Italian Context
- AA378 European Union - Business Context
- AA381 Italian 3X or AA384 Individual Project

Both streams
- AA387 Advanced Business Italian
- AA388 Contemporary Italy

**Media, Literature and Film**

**Literature**

Traditionally, literature has involved the close reading and evaluation of valued writings. But it also involves even closer attention to what writing is, and how it comes to be valued. Literary works do not exist in a vacuum, but rather are produced and understood in the context of a literary culture - a collective body of assumptions about the world, the written word, creativity, authority and representation. An understanding of the concept of literary culture is central to both Literature at Swinburne and to any informed understanding about the current state of art and communications in the Age of Information. One of the most fascinating challenges facing literary studies is the shift from a culture based on, and formed by the book, to a "wired" society increasingly dominated by electronic media, where an encyclopedia can be stored on a compact disk. Far from being obsolete in this new information age, the study of literary culture is central to an understanding of the transition from the page to the screen. Literature at Swinburne is in touch with these developments, and provides useful links with subjects such as Media Studies and Information Systems.

The study of Literature is principally concerned with how we relate to and make sense of the world through writing. The Literature major at Swinburne is designed to provide students with the opportunity to consider literary works from a variety of historical periods, ranging from the Renaissance to the Cybercultures of the twenty-first century. Students also consider issues such as the changing nature of culture as we move into an 'Age of Information'.

**Career opportunities**

A Literature major provides students with a range of skills and experiences relevant to any profession that requires the ability to construct and evaluate arguments clearly, and to think laterally, flexibly and independently. Apart from careers in journalism, advertising and education, literature also equips graduates to take up positions in the social services, where sensitivities to cultural difference and the ability to communicate clearly and effectively are paramount. There is also an emerging market in creative writing for interactive multi-media, and software developers are increasingly on the lookout for writers with both literary skills and familiarity with the new media. The Literature major provides students with the opportunity to gain an introductory grounding in the theory and practice of new writing technologies, such as hypertext.

**Course duration**

Three years full-time or six years part-time.

**Course structure**

A Literature major must include one Stage 1 subject, and at least seven post-Stage 1 subjects. At least two post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3. The subject Media Literature Film: Texts and Contexts is a compulsory subject in the Literature major. The Literature major includes the following:

**Stage 1**
- AL102 Nature and the Machine Age: Pre and Post-Industrial Culture in Nineteenth Century Literature
- AL104 Media Literature Film: Texts and Contexts (compulsory)
- AL105 Writing Fiction

**Stage 2**
- AA287 Twentieth Century European Literature & Thought
- AL202 Contemporary Australian Writing
- AL204 Reading, Writing and Criticism
- AL205 American Literature

**Stage 3**
- AL304 Cross-Cultural Perspectives
- AL306 Renaissance Literary Culture
- ALM310 Electronic Writing
- ALM312 Media/Literature Project

**Entry requirements**

Applicants must have completed satisfactorily the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects including English. Passes may be accumulated over more than one year.

**Application procedure**

All applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.

**Credit transfer - Pathways**

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts and Social Science programs with advanced standing.

Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

**Further information**

For specific information about Literature courses, contact the School of Social and Behavioural Sciences, telephone (03) 9214 5209.

**Media Studies**

As the twentieth century draws to a close, the study of the media and its place in the technological revolution emerges as the most significant issue for the future. Questions about the nature of communication and its social and ethical consequences become crucial to our survival, whether we are dealing with the Internet or with TV news. Media Studies can incorporate a wide range of academic and production...
subjects. At Swinburne, they fall into three overlapping groups:

1. Textual analysis, which is concerned with the various ways in which we make sense of film and media materials (TV, print, new media);
2. The study of the political economy of media and telecommunications, dealing with issues such as ownership and control of the media and the cultural impact of new technologies;
3. Hands-on subjects in which the emphasis is on publishing, radio production and workplace experience (there are available only after successful completion of the appropriate prerequisites).

Swinburne offers a uniquely broad-based education in the media and associated industries. The Media Studies major is primarily taught by people who have had extensive work-place experience (in publishing, the print media and radio) and who share the belief that the student best equipped to face the vagaries of the workplace is the one who has a general as well as a specialised appreciation of how it operates. Students need to understand how the media work and to be able to recognise the place they occupy within the broader social context. They also need to be skilled at thinking for themselves, and to be informed and flexible in their approaches to the kinds of problem solving that are crucial in the development of a professional career.

Career opportunities

Media Studies students gain employment directly in media industries as well as in media related work. Media Studies is a vital prerequisite for careers in print journalism, radio, television, film distribution and public relations. Positions are increasingly emerging in the exciting telecommunications industry, with telecommunications carriers, suppliers, retailers and services providers. Some specialised opportunities also exist in broadcasting and communications research. The experience of past students has been that, even if they are not always directly employed in a media industry, the knowledge acquired about the media during the course has had many useful applications for them, both professionally and personally.

Course structure

A Media Studies major must include one Stage 1 subject, and at least seven post Stage 1 subjects. At least two post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3. The subject Media Literature Film: Texts and Contexts (AM104) is a compulsory subject in the Media Studies major which includes the following:

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM106 The Media in Australia</td>
<td>AM202 Popular Culture</td>
<td>AM300 Cinema Studies</td>
</tr>
<tr>
<td>AM104 Media Literature Film: Texts and Contexts (compulsory)</td>
<td>AM201 Media The Telecommunications Revolution</td>
<td>AM303 Radio Production and Criticism</td>
</tr>
<tr>
<td>AM303 Media Voices, Media Style: The Process of Journalism</td>
<td>AM302 Radio Production and Criticism</td>
<td>AM304 Professional Attachment Program</td>
</tr>
<tr>
<td>AM310 Electronic Writing</td>
<td>AM311 Information Society: A Global Perspective</td>
<td>ALM3010 Electronic Writing</td>
</tr>
<tr>
<td>ALM312 Media/Literature Project</td>
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</tbody>
</table>

Entry requirements

Applicants must have completed satisfactorily the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects including English. Passes may be accumulated over more than one year.

Special entry

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Application procedure

All applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.

Credit transfer - Pathways

An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts and Social Science programs with advanced standing. Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Further information

Contact the School of Social and Behavioural Sciences, telephone (03) 9214 5209

Philosophy & Cultural Inquiry

The subjects offered by Philosophy & Cultural Inquiry draw on the traditional disciplines of philosophy, the history of ideas, and the history and philosophy of science. They introduce students to the techniques of philosophical inquiry and analysis, and to some of the important cultural and intellectual developments that have shaped our lives and the way we see ourselves in relation to the world. Many of the subjects give particular emphasis to the interrelationships between science, technology and culture, both from a historical and a contemporary perspective. In addition to opening up new perspectives on our lives and culture, philosophical inquiry develops practical skills in critical and creative thinking, reasoning and argument, and conceptual analysis. These skills not only play an important part in complementing studies in other subject areas, but are also of great value in both professional and personal life. Philosophy & Cultural Inquiry subjects complement any of the other majors studied at Swinburne. The discipline encourages independent inquiry, provides intellectual stimulation and imparts thinking skills.

Career opportunities

A major in Philosophy & Cultural Inquiry is useful for all careers because of the range of skills it develops, and its role is complementary to other studies. Skills include those of thinking critically and creatively, reasoning logically, asking the right questions, dealing with concepts, exploring ideas and analysing ethical problems. Specialist career destinations for philosophy graduates include social policy areas, medical and bio-ethics, computer programming, legal studies and business management.

Course structure

A Philosophy and Cultural Inquiry major must include one Stage 1 subject, and at least seven post Stage 1 subjects. At least two post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3.

The Philosophy & Cultural Inquiry major includes the following:

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH100 Introduction to Philosophy</td>
<td>AH201 Mind, Language &amp; Thought</td>
<td>AH300 Introduction to Philosophy</td>
</tr>
<tr>
<td>AH101 History of Ideas</td>
<td>AH202 Social &amp; Political Philosophy</td>
<td>AH301 Mind, Language &amp; Thought</td>
</tr>
<tr>
<td>AH103 Critical Thinking</td>
<td>AH203 Practical Ethics</td>
<td>AH302 Social &amp; Political Philosophy</td>
</tr>
<tr>
<td>AH303 Mind, Language &amp; Thought</td>
<td>AH304 Philosophy of Culture</td>
<td>AH310 Social &amp; Political Philosophy</td>
</tr>
<tr>
<td>AH304 Social &amp; Political Philosophy</td>
<td>AH311 Environmental Philosophy</td>
<td></td>
</tr>
</tbody>
</table>

Entry requirements

Applicants must have completed satisfactorily the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects including English. Passes may be accumulated over more than one year.

Special entry

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Application procedure

All applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.
Credit transfer - Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts and Social Science programs with advanced standing.

Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Further information
Contact the School of Social and Behavioural Sciences, telephone (03) 9214 5209

Political Studies
Politics is the study of the institutions of government, or the power of government, and of how it is used and abused. It is concerned with the different types of government, such as dictatorship and democracy, monarchy and republic, with how and why governments make the decisions they do, and with the consequences those decisions have. It is also concerned with the influence that social movements, political parties, and interest groups have on the decision-making process. An understanding of politics is important, because government decisions affect all members of society. Whether or not a matter is a setting of economic direction, addressing the issues of a multicultural society, or dealing with questions of war and peace, the political process decides who wins and who loses. Because governance impact on so many areas of our lives, an understanding of politics is essential in many professions - in business, in the media, in law, and in human services. Politics at Swinburne is focused on the areas of greatest relevance to students in their working lives. It deals with the institutions and processes of government in Australia, the forces that have shaped them, and the consequences for ordinary Australians. Recognising that Australia is increasingly being shaped by international forces, it introduces students to global politics and to the politics of the Asian region with which our future is closely entwined, and where increasing numbers of Australians are living and working.

Career opportunities
Politics graduates find employment in a wide range of professions where knowledge of public affairs, skill in analysis, evaluation, and communication, are valued. Many work in journalism, social work, research, administration, and business in Australia and other countries in the Asia Pacific region.

Course duration and delivery
Three years full-time or six years part-time.

Course structure
A Political Studies major must include one stage one subject, and at least seven post-Stage 1 subjects from the list below. At least two of these post-Stage 1 subjects must be taken at Stage 2 and at least three at Stage 3. The remaining two post-Stage 1 subjects may be taken at either stage two or three.

Stage 1
AP100 Australian Politics
AP117 International Politics

Stage 2
AP204 Modern Japan
AP206 Politics of China A
AP207 Modern Australia

Stage 3
AP303 Public Policy in Australia
AP304 Japan in Asia
AP306 Seminar in Political Studies
AP311 Politics of China B
AP312 Problems of Contemporary South-East Asia
AP314 Work in Australia

Entry requirements
Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects including English. Passes may be accumulated over more than one year.

Special entry
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.
School also offers a Professional Doctorate in Psychology by coursework and thesis, available for full-time study by selected students. The School also accepts a limited number of suitably qualified candidates, on a full-time or part-time basis, for the degree of Master of Arts and PhD in Psychology by research and major thesis.

Career opportunities
Graduates in psychology are highly sought after by a wide range of organisations to work in human services, as research officers, human resource managers, and marketing and advertising personnel. After completing a Bachelor degree with a major in psychology, graduates can undertake a fourth year in psychology and further study in areas of professional psychology, such as Counselling, Health, Clinical Organisational, and Sports Psychology.

Professional recognition
The three-year undergraduate sequence in Psychology at Swinburne is accredited by the Australian Psychological Society.

Course duration and delivery
Three years full-time or six years part-time.

Course structure
Students are required to study Psychology in the sequence prescribed below:

Stage 1
AY100 Psychology 100
AY101 Psychology 101

Stage 2
AY202 Cognition and Human Performance
AY203 Developmental Psychology
AY204 Social Psychology
SM278 Design and Measurement 2A

Stage 3
AY302 The Psychology of Personality
SM378 Design and Measurement 3A
AY315 Psychological Measurement
AY320 Psychological Foundations of Counselling

Sociology
Sociology is the study of how individuals interact as groups, ranging from families to whole societies such as Australia. It provides different understandings of the ways individuals, groups and societies work. It also provides a systematic understanding of different ways of finding out about aspects of the social world, ranging from participant observation and experiments through to large scale surveys and computerised data techniques. A sociological perspective is an essential part of informed decision-making and human resource management in a rapidly changing social world.

Sociology at Swinburne is distinctive in two ways. To begin with, Australian society is examined from an international perspective, comparing it with other societies, especially those of East Asia, North America and Western Europe. Then the program takes an applied approach by emphasising how sociology can be used to solve practical problems faced by individuals, organisations and governments.

In stage one, we introduce the comparative approach to sociology, and use it to explore aspects of Australian society, economy and government in an international context. This takes a full year of study, consisting of AS100 Sociology 1A and AS101 Sociology 1B.

Students are required to take two stage two subjects to pursue a major in sociology. Students intending to major in sociology are strongly advised to include AS204 Models of Sociological Analysis as one of the subjects.

At stage three, students completing a major must take AS306 Methodology of Social Research plus two of the other subjects offered. Not all of the optional stage two and stage three subjects are run in any one year. Please check the current timetable.

Students not majoring in sociology may apply to do any first, second or third year sociology subject.

For students intending to pursue a career in research and policy analysis, we offer the Graduate Diploma in Urban Research and Policy. A Master of Arts by coursework in Urban Research and Policy is also offered.

A Graduate Certificate in Housing Management and Policy is available for these students seeking to develop a set of practical skills relevant for employment within government and non-government housing organisations. Details for all these postgraduate studies can be found in the chapter on postgraduate courses.

Career opportunities
Sociology graduates typically find careers in the areas of social research, administration, planning, community development, human resources, policy development, and marketing. These positions all require the conceptual and skill-based training that comes from undertaking a degree in sociology.

Course duration and delivery
Three years full-time or six years part-time.

Professional recognition
Students who have completed a major in Sociology can apply to join the Australian Sociological Association.

Course structure
A Sociology major under the 1998 syllabus must include both stage one subjects, and at least seven post Stage 1 subjects from the list below. At least two of these post Stage 1 subjects must be taken at Stage 2 and at least three at Stage 3. The remaining two post-Stage 1 subjects may be taken at either stage two or three.

Stage 1
AS100 Sociology 1A (Families and Societies)
AS101 Sociology 1B (Economies, Governments and Societies)

Stage 2
AS204 Models of Sociological Analysis
AS205 Sociology and Social Policy
AS206 Sex and Gender in Society

Stage 3
AS300 Urban Sociology
AS302 Sociology of Organizations
AS303 Current Issues in Sociology
AS306 Methodology of Social Research
AS307 Sociology and Social Policy
AS308 Migration and Ethnicity

Entry requirements
Applicants must have satisfactorily completed the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects including English. Passes may be accumulated over more than one year.

Special entry
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Application procedure
All applications for full-time or part-time places must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.

Credit transfer - Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts and Social Science programs with advanced standing.

Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Further information
Contact the School of Social and Behavioural Sciences, telephone (03) 9214 5209.
As the twentieth century draws to a close, the study of the media and its place in the technological revolution emerges as the most significant issue for the future. Questions about the nature of communication and its social and ethical consequences become crucial to our survival, whether we're dealing with the Internet or with TV news.

Media studies at Swinburne falls into three overlapping groups:
- textual analysis, which is concerned with the various ways in which we make sense of film and media materials (TV, print, new media);
- the study of the political economy of media and telecommunications, dealing with issues such as ownership and control of the media and the cultural impact of new technologies; and
- hands-on subjects in which the emphasis is on publishing, radio production and workplace experience (these are available only after successful completion of the appropriate prerequisites).

Offering a uniquely broad-based education in the media and associated industries, the media studies course is primarily taught by people who have had extensive workplace experience (in publishing, the print media and radio) and who share the belief that the student best equipped to face the vagaries of the workplace is the one who has a general as well as a specialised appreciation of how it operates.

Students need to understand how the media works, to be able to recognise the place it occupies within the broader social context, to be skilled at thinking for themselves, and to be informed and flexible in their approaches to the kinds of problem-solving that are crucial in the development of a professional career.

The Media Studies major consists of a minimum of nine subjects over three stages, with students taking Texts and Contexts (ALM104) and The Media in Australia (AM105) at stage one followed by three stage two and four stage three subjects. Each subject involves three hours a week of class time plus a similar amount of private study.

Career opportunities
Media Studies is a vital ingredient if you are interested in a career as a journalist or a radio producer, or work in public relations or communications research. CAREER OPPORTUNITIES

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Application procedure
All applications for full-time or part-time places in the Bachelor of Arts must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 902 147 905 or present in person at VTAC during office hours.

Credit transfer - Pathways
An advance credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts programs with advanced standing.

Further information
Contact the School of Social and Behavioural Sciences, Telephone: (03) 9214 5209 Fax: (03) 981 9 0574 Email: sbs@swin.edu.au Website: www.swin.edu.au/sbs/

As the twenty-first century draws to a close, the study of the media and its place in the technological revolution emerges as the most significant issue for the future. Questions about the nature of communication and its social and ethical consequences become crucial to our survival, whether we're dealing with the Internet or with TV news.

Media studies at Swinburne falls into three overlapping groups:
- textual analysis, which is concerned with the various ways in which we make sense of film and media materials (TV, print, new media);
- the study of the political economy of media and telecommunications, dealing with issues such as ownership and control of the media and the cultural impact of new technologies; and
- hands-on subjects in which the emphasis is on publishing, radio production and workplace experience (these are available only after successful completion of the appropriate prerequisites).

Offering a uniquely broad-based education in the media and associated industries, the media studies course is primarily taught by people who have had extensive workplace experience (in publishing, the print media and radio) and who share the belief that the student best equipped to face the vagaries of the workplace is the one who has a general as well as a specialised appreciation of how it operates.

Students need to understand how the media works, to be able to recognise the place it occupies within the broader social context, to be skilled at thinking for themselves, and to be informed and flexible in their approaches to the kinds of problem-solving that are crucial in the development of a professional career.

The Media Studies major consists of a minimum of nine subjects over three stages, with students taking Texts and Contexts (ALM104) and The Media in Australia (AM105) at stage one followed by three stage two and four stage three subjects. Each subject involves three hours a week of class time plus a similar amount of private study.

Career opportunities
Media Studies is a vital ingredient if you are interested in a career as a journalist or a radio producer, or work in public relations or communications research. CAREER OPPORTUNITIES

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Application procedure
All applications for full-time or part-time places in the Bachelor of Arts must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 902 147 905 or present in person at VTAC during office hours.

Credit transfer - Pathways
An advance credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Arts programs with advanced standing.

Further information
Contact the School of Social and Behavioural Sciences, Telephone: (03) 9214 5209 Fax: (03) 981 9 0574 Email: sbs@swin.edu.au Website: www.swin.edu.au/sbs/
N056  Bachelor of Social Science

1998 VTAC course code - Full-time: 34221
Part-time: 34191

Graduates of a Social Science degree acquire knowledge and skills in a variety of study areas and also a range of "generic skills" - skills which are a key part of the life-long process of personal development and which are also highly valued by employers. Some of these skills develop your capacity to relate to other people. Course activities in the Bachelor of Social Science which develop these skills include public speaking, group discussions, interviewing, planning group projects and organising seminars. These are the types of activities and skills which help prepare students for management and leadership positions. Course activities also develop skills such as independent thinking, conceptual analysis, theory development, learning to write clearly and effectively, planning essays and research projects, attending to detail, and time management.

Social Science graduates also learn to use ideas and information stored in libraries and electronic databases, acquire computer skills, carry out research projects and evaluate and develop policies. They develop a strong sense of personal integrity and an awareness of the role of ethics in private and public life, and they nurture personal stores of energy, motivation and adaptability.

All of these generic skills enhance students' abilities to solve problems and to make decisions, irrespective of the specific field of study that they undertake. Whilst many degree courses provide some chance to develop generic skills, an Social Science degree usually provides the most opportunities to further your development in these areas. Consequently Swinburne Social Science graduates are well equipped to find work in areas where employers put a high premium on generic skills. These areas include:

- Policy analysis and development
- Research
- Community development
- Administration
- Public relations
- Publishing
- Media

Location
Hawthorn campus

Career opportunities
Listed below are some examples of career opportunities available for graduates based on their chosen major area of study.

Asian Studies: Media, government, commerce and industry.
Australian Studies: Teaching, private and public sectors, human services.
Cultural Studies: Social work, diplomatic corps, teaching.
European Studies: Particularly relevant for students wishing to pursue a career in the international business environment.
Italian: Ideal for working with Italians in Australia or overseas, and especially useful in fields such as marketing, accounting, or psychology.
Japanese: Teaching, events organising, interpreting, tourism (within Australia and Japan).
Korean: Tourism, teaching, interpreting.
Literature: Journalism, advertising copy writing, hypertext writing, teaching.
Mass Studies: Journalism, radio production, public relations, communications research.
Philosophy and Cultural Inquiry: Broad or specialist careers destinations such as social policy areas, private and public sector management, medical and bio-ethics, computer programming, legal studies.
Politics: Media, publishing, personnel, government, commerce and industry.
Psychology: Research, human resources, advertising. Further study is required to become a psychologist.
Sociology: Social research, administration, personnel, community development, public housing, human resources, marketing, social work.
Vietnamese: Ethnic community work/teaching, interpreting.

With further study, Social Science graduates can also gain qualifications to become, for example, librarians, teachers, personnel officers, social workers or sociologists.

Course duration
The Bachelor of Social Science is normally completed in three years of full-time study, or six years part-time.

Course structure
The Bachelor of Social Science is a 24-subject degree. Subjects at Stages 1, 2 and 3 carry 12.5 credit points. In each year, four subjects per semester normally constitute a full-time load of 100 credit points, while two subjects per semester normally constitute a part-time load of 50 credit points. In order to enhance their generic skills profile, employability and capacity to pursue further study, all Swinburne Bachelor of Social Science students must take a core Stage 1 subject in Research Methods and Statistics.

Evening classes are offered in most subjects. Students can choose whether they attend classes during the day, evening or a combination of both (subject to availability of places).

In most subjects, assessment is by a combination of class tests, essays and examinations. Students are informed of assessment requirements for each subject during the first week of classes.

Major Studies
A major is a three-stage sequence of study in the one discipline or specialisation. To qualify for the award of the Bachelor of Social Science degree, students must complete two majors, with at least one major chosen from the following Bachelor of Social Science majors:

- Politics
- Psychology
- Sociology

Subject to timetable compatibility, students may choose as a second major any other major from the above majors, or a major from either the Bachelor of Arts or Bachelor of Business degrees or any other approved major from elsewhere in the University.

Bachelor of Arts Majors

- Asian Studies
- Australian Studies
- Cultural Studies
- European Studies
- Italian Language & Culture
- Japanese
- Korean
- Literature
- Media Studies
- Philosophy & Cultural Inquiry
- Vietnamese

Bachelor of Business Majors

- Accounting
- Business Law
- Business Modelling
- Economics
- Finance
- International Business
- Information Systems
- Management
- Manufacturing Management
- Marketing
- Human Resource Management

Entry requirements
Applicants must have completed satisfactorily the Victorian Certificate of Education (VCE) or its equivalent, with Grade D or better in four VCE subjects, including English. Passes may be accumulated over more than one year.

Special entry
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

Because of restrictions on numbers of places, not all eligible applicants can be offered a place.
The Bachelor of Arts/Diploma in Business (Office Management) is a four-stage program divided into a number of semester subjects. The full-time course is normally completed in four years, however on the completion of two and a half years of full time studies students may elect to take out the award of the Diploma and continue with the Bachelor of Arts.

In the first two years of the course, students will take one subject from the Bachelor of Arts and the remaining subjects from the Diploma.

In the first semester of the third year, final subjects from the Diploma are completed along with a greater load from the Bachelor of Arts. For the remainder of the course students undertake only Bachelor of Arts subjects.

The Bachelor of Arts/Diploma in Business (Office Management) is an innovative and flexible course taken over four years of full-time study and resulting in students gaining awards in both the Bachelor of Social Science and the Diploma of Community Services. This major is designed to foster individual student development, to develop workplace skills and encourage investigation and enquiry which may be applied to a range of human service contexts. Swinburne has long held the belief that industry and workplace contexts require graduates who have broadly-based education but who are also able to make particular contributions in specific fields. These outcomes help to direct future career paths for graduates.

Location
Hawthorn campus.

Career opportunities
Employment in these fields includes the ability to work in a variety of settings in the area of social and community services. The course structures for each of the specialist fields are designed to ensure there is a combination of theory and practice and the inclusion of learning situations which are work-focused, including practical placements.

Professional recognition
The Swinburne Psychology major within the Bachelor of Social Science is accredited by the Australian Psychological Society (APS). To become eligible for associate membership of the APS and/or to Register as a probationary psychologist in the State of Victoria, graduates must then complete an approved fourth-year in psychology.

Course duration and delivery
Four years full-time.

Further information
Contact the School of Social and Behavioural Sciences, telephone (03) 9214 5299.

APPENDIX 3: Dual Award and Dual Qualification Courses

N054 Bachelor of Arts/Diploma in Business (Office Management)
1998 VTAC course code: 34571

The Bachelor of Arts/Diploma in Business (Office Management) is an innovative and flexible course taken over four years of full-time study and resulting in students gaining awards in both the Bachelor of Arts and the Diploma.

Students enrolled in the Bachelor of Social Science (Psychology) must undertake their first major in Psychology. A second major can be chosen from majors within the Bachelor of Social Science, Bachelor of Arts, Bachelor of Business or any other approved major from elsewhere in the University. Please refer to the Bachelor of Social Science for further details regarding this course.

Dual Qualification

N058 Bachelor of Social Science/Diploma of Community Services (Community Development)
1998 VTAC course code: 34301

The Bachelor of Social Science/Diploma of Community Services is an innovative course taken over four years of full-time study and resulting in students gaining awards in both the Bachelor of Social Science and the Diploma of Community Services (Community Development). The major areas of study are designed to foster individual student development, to develop workplace skills and encourage investigation and enquiry which may be applied to a range of human service contexts. Swinburne has long held the belief that industry and workplace contexts require graduates who have broadly-based education but who are also able to make particular contributions in specific fields. These outcomes help to direct future career paths for graduates.

Location
Hawthorn and Prahran campuses.

Career opportunities
Employment in these fields includes the ability to work in a variety of settings in the area of social and community services. The course structures for each of the specialist fields are designed to ensure there is a combination of theory and practice and the inclusion of learning situations which are work-focused, including practical placements.

Professional recognition
The Swinburne Psychology major within the Bachelor of Social Science is accredited by the Australian Psychological Society (APS). To become eligible for associate membership of the APS and/or to Register as a probationary psychologist in the State of Victoria, graduates must then complete an approved fourth-year in psychology.

Course duration and delivery
Four years full-time.

Further information
Contact the School of Social and Behavioural Sciences, telephone (03) 9214 5299.

APPENDIX 3: Dual Award and Dual Qualification Courses

N054 Bachelor of Arts/Diploma in Business (Office Management)
1998 VTAC course code: 34571

The Bachelor of Arts/Diploma in Business (Office Management) is an innovative and flexible course taken over four years of full-time study and resulting in students gaining awards in both the Bachelor of Arts and the Diploma.

Students enrolled in the Bachelor of Social Science (Psychology) must undertake their first major in Psychology. A second major can be chosen from majors within the Bachelor of Social Science, Bachelor of Arts, Bachelor of Business or any other approved major from elsewhere in the University. Please refer to the Bachelor of Social Science for further details regarding this course.

Dual Qualification

N058 Bachelor of Social Science/Diploma of Community Services (Community Development)
1998 VTAC course code: 34301

The Bachelor of Social Science/Diploma of Community Services is an innovative course taken over four years of full-time study and resulting in students gaining awards in both the Bachelor of Social Science and the Diploma of Community Services (Community Development). The major areas of study are designed to foster individual student development, to develop workplace skills and encourage investigation and enquiry which may be applied to a range of human service contexts. Swinburne has long held the belief that industry and workplace contexts require graduates who have broadly-based education but who are also able to make particular contributions in specific fields. These outcomes help to direct future career paths for graduates.

Location
Hawthorn and Prahran campuses.

Career opportunities
Employment in these fields includes the ability to work in a variety of settings in the area of social and community services. The course structures for each of the specialist fields are designed to ensure there is a combination of theory and practice and the inclusion of learning situations which are work-focused, including practical placements.

Professional recognition
The Swinburne Psychology major within the Bachelor of Social Science is accredited by the Australian Psychological Society (APS). To become eligible for associate membership of the APS and/or to Register as a probationary psychologist in the State of Victoria, graduates must then complete an approved fourth-year in psychology.

Course duration and delivery
Four years full-time.

Further information
Contact the School of Social and Behavioural Sciences, telephone (03) 9214 5299.
Fieldwork Tutorial 1 *
Fieldwork Placement - Individual Facilitation *

Semester 2
Social Action —
Analysis of Theory and Practice
Fieldwork Placement *
Fieldwork Tutorial 1 *
Fieldwork Placement — Individual Facilitation *

* Note that the Fieldwork Placements and associated studies will be conducted over two semesters during Year 3.

Year 4
Semester 1
Fieldwork Placement *
Fieldwork Placement — Individual Facilitation *
Fieldwork Tutorial 2 *
Practical Strategies for Social Change

Semester 2
Fieldwork Placement *
Fieldwork Placement — Individual Facilitation *
Fieldwork Tutorial 2 *

* Note that the Fieldwork Placements and associated studies will be conducted over two semesters during Year 4.

Entry requirements
Applicants should normally meet minimum entry standards for each qualification. Refer to individual course entries for further details.

Application procedure
All applications for full-time or part-time places in the Bachelor of Social Science/Diploma of Community Services (Community Development) must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street South Melbourne VIC 3205. In order to acquire an application form, please telephone the Guide Line on 1 902 247 005 or present in person at VTAC during office hours.

Credit transfer - Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Social Science programs with advanced standing.

Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Further information
Contact the School of Social and Behavioural Sciences,
Telephone: (03) 9214 5209
Fax: (03) 9819 0574
Email: sbs@swin.edu.au
Website: www.swin.edu.au/sbs/

N059 Bachelor of Social Science/Diploma of Community Services (Psychiatric Disability Support)

1998 VTAC course code: 3163

The Bachelor of Social Science/Diploma of Community Services (Psychiatric Disability Support) is an innovative course taken over four years of full-time study and resulting in students gaining awards in both the Bachelor of Social Science and the Diploma of Community Services (Psychiatric Disability Support). The major areas of study are designed to foster individual student development, to develop workplace skills and encourage investigation and enquiry which may be applied to a range of human service contexts. Swinburne has long held the belief that industry and workplace contexts require graduates who have broadly-based education but who are also able to make particular contributions in specific fields. These outcomes help to direct future career paths for graduates.

Location
Hawthorn and Prahran campuses.

Career opportunities
Employment in these fields includes the ability to work in a variety of settings in the area of social and community services. The course structures for each of the specialist fields are designed to ensure there is a combination of theory and practice and the inclusion of learning situations which are work-focused, including practical placements.

Professional recognition
The Swinburne Psychology major within the Bachelor of Social Science is accredited by the Australian Psychological Society (APS). To become eligible for associate membership of the APS and/or to Register as a probationary psychologist in the State of Victoria, graduates must then complete an approved fourth-year in psychology.

The Diploma of Community Services (Psychiatric Disability Support) is recognised by the Australian Institute of Welfare and Community Work for entry to the Human Services industry.

Course duration
Four years full-time.

TAFE Components

BSocSc Components

Year 1
Semester 1
Introduction to SACS (10 hrs)

Year 1
Semester 1
A100 Psychology 100
SM103 Statistics and Research Methods
A100 Sociology 1A

Year 2
Semester 1
Counselling
Elective Module

Year 2
Semester 1
A101 Psychology 101
A101 Sociology 1B

Year 3
Semester 1
Consumer Health and Safety

Year 3
Semester 1
A206 Developmental Psychology
SM707 Design and Measurement 2A

Year 4
Semester 1
Mediation

Year 4
Semester 1
A206 Australian Politics
AS206 Sociology of Deviance and Social Control

Year 4
Semester 2
Principles and Practice in SACS
Working with Groups 1

Year 4
Semester 2
A206 Sociology of Deviance and Social Control
AS206 Sociology of Deviance and Social Control

Year 4
Semester 2
Professional Integration Tutorials 3

Year 4
Semester 2
A204 Social Psychology
AS207 Sociology and Social Policy

* Note that the Fieldwork 1 component and associated studies will be conducted throughout Year 3.

Year 4
Semester 2
Fieldwork 2 *
Managing Crisis

Year 4
Semester 2
A102 The Psychology of Personality
SM707 Design and Measurement 3A

Year 4
Semester 2
Fieldwork 3 *
Psychiatric Disability Support 4 (Program Design)

Year 4
Semester 2
A103 Psychological Measurement
AY20 Psychological Foundations of Counselling

* Note: Fieldwork 2 and 3 and associated studies are combined throughout Year 4.
Entry requirements
Applicants should normally meet minimum entry standards for each qualification. Refer to individual course entries for further details.

Application procedure
All applications for full-time or part-time places in the Bachelor of Social Science/Diploma of Community Services (Psychiatric Disability Support) must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 800 247 005 or present in person at VTAC during office hours.

Credit transfer - Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Social Science programs with advanced standing. Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Further information
Contact the School of Social and Behavioural Sciences,
Telephone (03) 9214 5209
Fax (03) 9819 0574
Email: sbs@swin.edu.au
Website: www.swin.edu.au/sbs/

N057 Bachelor of Social Science/ Diploma of Community Services (Welfare Studies)
1998 VTAC course code: 3K21

The Bachelor of Social Science/Diploma of Community Services (Welfare Studies) is an innovative course taken over four years of full-time study and resulting in students gaining awards in both the Bachelor of Social Science and the Diploma of Community Services (Welfare Studies). The major areas of study are designed to foster individual student development, to develop workplace skills and encourage investigation and enquiry which may be applied to a range of human service contexts. Swinburne has long held the belief that industry and workplace contexts require graduates who have broadly-based education but who are also able to make particular contributions in specific fields. These outcomes help to direct future career paths for graduates.

Location
Hawthorn and Prahran campuses.

Career opportunities
Employment in these fields includes the ability to work in a variety of settings in the area of social and community services. The course structures for each of the specialist fields are designed to ensure there is a combination of theory and practice and the inclusion of learning situations which are work-focused, including practical placements.

Professional recognition
The Swinburne Psychology major within the Bachelor of Social Science is accredited by the Australian Psychological Society (APS). To become eligible for associate membership of the APS and/or to register as a psychologist in the State of Victoria, graduates must then complete an approved fourth-year in psychology.

The Diploma of Community Services (Welfare Studies) is recognised by the Australian Institute of Welfare and Community Work, for entry to the Human Services Industry.

Course duration
Four years full-time.

Course structure

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<th>TAFE Components</th>
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<td>Semester 1</td>
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<tr>
<td>Introduction to SACS (10 hrs)</td>
<td>AY100 Psychology 100</td>
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<td></td>
<td>SM103 Statistics and Research Methods</td>
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<td>AY100 Sociology 1A</td>
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<td>Introductory Sociology</td>
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<td>AY100 Australian Politics</td>
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Year 2
Semester 1
Groupwork 1
Elective Module (Double Elective)

Semester 2
Counselling Skills
Elective Module

Year 3
Semester 1
Skills Workshop 1
Community Work 2
Field Education 1 Placement
Field Education 1, Professional Integration Seminar

Year 4
Semester 1
Counselling Skills
Field Education 2, Placement
Field Education 2, Professional Integration Seminar

*Note that the Field Education Components will be conducted throughout Year 3.

Semester 2
Skills Workshop 2
Groupwork 2

Semester 2
Field Education, Placement
Field Education 2, Professional Integration Seminar

*Note that the Field Education 2 Placement will be conducted over two semesters.

Entry requirements
Applicants should normally meet minimum entry standards for each qualification. Refer to individual course entries for further details.

Application procedure
All applications for full-time or part-time places in the Bachelor of Social Science/Diploma of Community Services (Welfare Studies) must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205. In order to acquire an application form, please telephone the Guide Line on 1 800 247 005 or present in person at VTAC during office hours.

Credit transfer - Pathways
An advanced credit transfer system, known as the Pathways program, is in place at Swinburne. Through Pathways, students with one or more of a wide range of post-secondary qualifications (both local and international) can gain entry into Social Science programs with advanced standing. Certain subject requirements must be met and an acceptable standard of results achieved in order to gain admission and for maximum credit to be granted.

Further information
Contact the School of Social and Behavioural Sciences,
Telephone: (03) 9214 5209
Fax (03) 9819 0574
Email: sbs@swin.edu.au
Website: www.swin.edu.au/sbs/
Honours year

**NO52 Bachelor of Arts (Honours)**

This program provides opportunities for selected students who have achieved a high standard in the major areas to undertake a specialised fourth year of study, graduating with a Bachelor of Arts (Honours) degree. The honours year is offered in the areas of Cultural Studies, Industry and Community Studies, Languages, Psychology and Social Science.

The Bachelor of Arts (Honours) program is available to students who have completed all requirements for the three-year Bachelor of Arts course at a high standard. A Bachelor of Arts (Honours) qualification denotes strong academic performance and provides the background required to pursue a range of postgraduate studies.

A four-year undergraduate course is required by most universities as a prerequisite to enrolment in masters and doctoral programs. In many cases, an Honours degree is preferred to other forms of fourth year study (e.g., postgraduate diplomas).

The Bachelor of Arts (Honours) program consists of five strands. Students will be required to complete two seminar/coursework subjects and a thesis which consists of two subjects in one of five strands. The total program consists of four subjects.

**Course duration**

The Bachelor of Arts (Honours) program involves one year of full-time study or the equivalent part-time.

**Course structure**

To achieve a Bachelor of Arts (Honours) students must complete two seminar subjects (Honours Seminars A and B) and two thesis subjects (Honours Thesis A and B). The former include a range of class requirements and each strand has its own requirements. For the thesis subjects, students submit a thesis, which will normally be in the range of 12,000 to 15,000 words. This will be supervised by a member of staff in the area of study.

Final results are given for the year as a whole. Students will be graded as:

- First Class Honours (H1) 85%–100%
- Second Class Honours Division A (H2A) 75%–84%
- Second Class Honours Division B (H2B) 65%–74%
- Third Class Honours (H3) 50%–64%

**Full-time course** (1997 syllabus)

**Cultural Studies strand**

For students who have majored in Asian studies, literature, media studies, philosophy and cultural inquiry or political studies.

- AC440 Cultural Studies Seminar A
- AC441 Cultural Studies Seminar B
- AC442 Honours Thesis A (Cultural Studies)
- AC443 Honours Thesis B (Cultural Studies)

**Industry and Community Studies strand**

For students who have majored in Australian studies, media studies, political studies or sociology.

- AI440 Industry and Community Studies Seminar A
- AI441 Industry and Community Studies Seminar B
- AI442 Honours Thesis A (Industry & Community Studies)
- AI443 Honours Thesis B (Industry & Community Studies)

**Languages strand**

For students who have majored in Italian, Japanese, or Korean.

- AA440 Languages Seminar A (Italian)
- AA441 Languages Seminar B (Italian)
- AA442 Honours Thesis A (Italian)
- AA443 Honours Thesis B (Italian)
- AJ540 Languages Seminar A (Japanese)
- AJ541 Languages Seminar B (Japanese)
- AJ542 Honours Thesis A (Japanese)
- AJ543 Honours Thesis B (Japanese)

**Psychology strand**

For students who have majored in Psychology.

- AY440 Psychology Seminar A
- AY441 Psychology Seminar B
- AY442 Honours Thesis A (Psychology)
- AY443 Honours Thesis B (Psychology)

**Social Science strand**

For students who have majored in media studies, Asian studies, Australian studies, political studies or sociology.

- AF440 Social Science Seminar A
- AF441 Social Science Seminar B
- AF442 Honours Thesis A (Social Science)
- AF443 Honours Thesis B (Social Science)

**Entry requirements**

To be accepted for the honours degree, students must have completed all subjects necessary for a three-year Bachelor of Arts degree and achieved a high academic standard overall with an excellent record in their major area of study, especially at third year level. Students interested in the honours program should complete an application form (available from the Divisional undergraduate office) and submit it by a date in November to be advised. Selection will be made by the Honours Committee.

**Further information**

Contact the School of Social and Behavioural Sciences on (03) 9214 5209.
Student computing at Lilydale

For all students of Swinburne at Lilydale a computer is considered to be an essential learning tool, irrespective of the nature of each student's course enrolment. Although adequate access to computer laboratory facilities is provided on campus, students are strongly encouraged to consider obtaining their own notebook or desktop PC computer with the appropriate modem. Students contemplating the purchase of their own computer and modem should ensure that their retailer guarantees compliance with the technical specifications for student computing at Swinburne at Lilydale. Copies of the technical specification and information about sources of finance are available from the Administration Office on 9215 7000. Students are invited to contact the University's Computer Services and Information Technology group on 9214 6974 for further advice.

Students who already have their own computer can continue to use their current machines, but, it is likely that some limitations with off campus computing will occur. The University will not be able to provide technical advice for computers and modems that do not comply with the technical specification for student computing at Swinburne at Lilydale.

Lilydale campus information

Swinburne at Lilydale is a new division of the University which formally commenced operation in 1996.

Core Subjects

All students enrolled in one of the four courses offered by the Division - Business, Applied Science, Social Science, Tourism and Enterprise Management - will be required to study a set of core subjects: Information Technology, Science, Technology and Society, Learning and Communication Behaviour; and Statistics and Research Methods. These subjects are to be taken in first year and are offered on the basis of two subjects per semester. Students are strongly advised to carefully consider their choice of major(s) and to ensure that the balance of their first year enrolment is selected with a view to meeting the requirements of these majors.

Student seeking information on course regulations should contact the Divisional office of Swinburne at Lilydale. Enquiries to: (03) 9215 7000.

Student workload

Standard Enrolment Load

All full-time students are expected to enrol in, and remain enrolled in, four subjects per semester.

All part-time students are expected to enrol in, and remain enrolled in, two subjects per semester.

Variations to the standard enrolment load will only be permitted in exceptional circumstances, and will normally be varied for one semester only.

Overload

Students may be permitted to enrol in one additional subject over the normal semester load if they have passed all enrolled subjects in the previous semester and it is the student's last year of study. Applications must be made in writing to the Manager, Student Administration before the scheduled re-enrolment period.

Change of enrolment status

Students wishing to change their enrolment status from full-time to part-time may do so at the end of any semester. Change of status from part-time to full-time may be permitted at the end of each year at the time of re-enrolment into the following year. Part-time students will normally only be considered for a change of enrolment status once they have completed one year of part-time study. Applications for change of enrolment status should be made to the Course Administrator.

Progress requirements

Completion of first year of undergraduate program

Full-time students are not generally permitted to enrol for second or third year subjects unless they have completed or are concurrently completing all outstanding core subjects (LC100 - Information Technology, LC105 - Science, Technology and Society, LC100 - Learning and Communication Behaviour; and LC100 - Statistics and Research Methods). Where a student is enrolled for both first and second year subjects and wishes to withdraw from a subject, enrolment in first year subjects must be maintained. Part-time students may be permitted to complete a major sequence of study prior to completing other subjects (excepting LC100 - Learning and Communication Behaviour) providing permission is granted from the Course Administrator. Students wishing to do this must apply in writing stating their reasons prior to the commencement of each academic year.
Time limit for completion of degree

Full-time undergraduate students must complete their degree program within six years of their first enrolment in the course (excluding any periods of leave of absence). Part-time students must complete their degree program within nine years of their first enrolment in the course (excluding any periods of leave of absence).

Leave of absence

Students who have enrolled in a course and wish to take leave of absence with a view to re-enrolling at the end of a specified period should apply on a Leave of Absence form and lodge it with the administrative officer. Leave of Absence will be considered within the guidelines of the Leave of Absence procedures outlined in the Higher Education Policies and Procedures Handbook. Students who have been granted Leave of Absence will be notified in writing by the Manager, Student Administration. Enrolment in all subjects during the period of the leave of absence will be cancelled automatically. Students granted Leave of Absence will be eligible for a refund of the General Service Fee only if their application is received prior to 31 March 1998 for semester one or 31 August 1998 for semester two.

Students are eligible to apply for the equivalent of two semesters leave.

Requests for variations to the above procedures must be set out in writing to the Manager, Student Administration for consideration by the Academic Assembly.

Student assessment and performance

Assessment of student performance regulations

All full-time and part-time students enrolled in the undergraduate courses offered by the Division are expected to maintain a minimum academic standard to be allowed to continue their studies. Assessment of student performance is carried out in accordance with the University’s Assessment Policies and Procedures. Student performance is assessed by various methods, such as formal examinations, tests held during the semester, project work and assignments. A statement of the workload requirements and the assessment program for each subject is given to all students attending classes by the end of the second week of each semester.

Special Consideration/Interruption to studies

Students prevented by illness or other serious cause from satisfying attendance or assessment requirements may apply for Special Consideration. Application must be made using the Special Consideration Application Form which is available from the Divisional Office.

Special examinations

Granting of a special examination is not automatic but a student may apply for a special examination if they are absent from the whole or part of an examination due to illness or other misadventure. An application must be made on the Special Examination form no later than midday of the third working day after the day of the examination. The form, which is available from the Divisional Office, must be signed by either a medical practitioner, a counselor from Student Services, Swinburne University, or other person of authority as deemed appropriate. Later receipt of supporting documentation may be negotiated between the student and the Division.

Students at risk program

Students who do not pass at least fifty percent of their enrolled load in any semester will be identified as being ‘at risk’ and will be advised of their status by letter within one week of the publication of results for that semester. Such students may be required to attend a performance review session conducted by the Division or to attend an interview with the Head of Studies (or nominee) of the relevant course.

Unsatisfactory performance

A student whose performance is unsatisfactory will be required to repeat the failed subject(s) at the earliest opportunity. If a student has completed the necessary prerequisites for a subject, they may also be permitted to enrol in additional subjects from the next stage of the program. This additional enrolment is conditional upon the timetable allowing attendance at all classes and no enrolment will be permitted in classes that overlap. If there is any change in the timetable which results in overlapping classes, it will be the responsibility of the student to notify the Division of the overlap and make the appropriate amendment to their enrolment. The existence of overlapping classes will not be accepted as an excuse for unsatisfactory performance.

Unsatisfactory academic progress

The academic progress of a student will be considered to be unsatisfactory if:

- a student fails a subject for the second time;
- the student fails to meet any conditions previously imposed by the Progress Review Committee (refer below).

Show cause applications

Students whose progress is considered unsatisfactory will be advised in writing of their status within one week of results being released, and advised that a recommendation has been made that they should be excluded from the course in which they are enrolled. Such students are entitled to make a show cause application to the Student Progress Review Committee (refer below) stating why they should not be excluded. No student will be excluded from the course without first being given the opportunity to show cause to the Student Progress Review Committee. Failure to make contact with the Committee will result in the exclusion of the student before the beginning of the next academic semester. No student will be permitted to re-enrol until the outcome of their show cause application is known.

Show cause applications must be addressed to the Chair of the Student Progress Review Committee and lodged at the Divisional Office by the date specified in the letter to the student advising them of their status.

Student Progress Review Committee

Composition

The composition of the committee will be:

- a Chair nominated by the Academic Assembly;
- at least two other members, all from academic staff teaching in the relevant courses;
- the Course Administrator (Secretary); and
- where requested by the student, the President of the Student Union or nominee who may be present at the Committee for the consideration of that case only.

Procedure

Upon receipt of a show cause application from a student, the Chair and Secretary of the Student Progress Review Committee, will review the case and decide whether it will be necessary to interview the student.

Additional information from appropriate academic staff about the student’s academic work may be sought by the Student Progress Review Committee before a decision is made.

Students will be advised in writing whether their show cause application has been accepted without interview or whether an interview with the Student Progress Review Committee is required.

Powers

The Student Progress Review Committee may, when considering a show cause application:

- accept the student’s show cause application and allow the student to re-enrol without condition;
- accept the student’s show cause application but place conditions upon the student’s enrolment in the following semester;
- require the student to select another major course of study;
- require the student to attend a performance review session conducted by the Division or to attend an interview with the Head of Studies (or nominee) or both.

Review of enrolment conditions

The academic record of students placed on condition will be reviewed by the Student Progress Review Committee at the end of the following semester and a decision made to:

- permit the student to continue studying without further condition; or
- impose a further condition on the student for an additional semester; or
- require the student to show cause why they should not be excluded from the course for a minimum of two academic years.

Re-enrolment after a period of exclusion

Students wishing to re-enrol after a period of exclusion must contact the Course Administrator three months before the semester in which they wish to enrol to receive advice about appropriate procedures. Students seeking re-enrolment after a period of exclusion will normally be required to make a written case to the Student Progress Review Committee outlining their activities since they were excluded before they would be permitted to re-enrol. Re-enrolment will be subject to the normal application and selection policies and procedures of the Division.
Appeals against decisions of the Student Progress Review Committee

Students may appeal against any ruling made by the Student Progress Review Committee. This provision is covered within the University’s Policies and Procedures relating to Student Assessment and Appeal. These are contained in the Policies and Procedures handbook.

Mobile phones in class

Students are requested, in consideration of others, to turn mobile phones off before entering a class.

Undergraduate course descriptions

L060 Bachelor of Applied Science (Computing)

1998 VTAC course code - Full-time: 35071
Part-time: 35651

The Bachelor of Applied Science (Computing) course* provides a coherent, broad-based coverage of the discipline of computing; provides a coherent coverage of a major or minor complementary study (such as accounting, marketing, media studies, psychology or sociology); prepares students for entry into the computing profession and equally, for those who choose, into the post-graduate field of computing; provides an environment in which students are exposed to the ethical and societal issues associated with the profession; and prepares students to apply their knowledge to specific constrained problems and to produce solutions, especially working in team environments on projects.

These statements accord with the goals set by the IEEE Computer Society.

Students undertake a total of twenty-four subjects, consisting of core subjects, majors and minors. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1.

Satisfactory completion of the course will require the completion of the Computing major plus one of the following:

- two minors; or
- one minor; or
- one major.

Students may select a major in accounting, marketing, media, psychology, sociology, tourism, or enterprise management. Minors are offered in accounting, business law, economics, economics/finance, marketing, media, psychology, sociology, tourism, enterprise management and social statistics.

A major consists of six subjects per Stage 1, with at least two subjects at Stage 3. For professional accreditation in Accounting or Psychology, students must take subjects as specified. A minor comprises four subjects per Stage 1 with at least one subject at Stage 3, except in the case of Psychology. Students should refer to the Swinburne at Lilydale sections of the Handbook on the Bachelor of Business or the Bachelor of Social Science degrees for further details on the majors and minors that are available.

Course structure

Students are required to complete four core subjects in first year. These are:

- LCS100 Information Technology
- LCS101 Learning and Communication Behaviour
- LCS102 Science, Technology and Society
- CR100 Statistics and Research Methods

In addition, students must complete prerequisite subjects for chosen majors and minors.

Details of computing major

Stage 1

- LCS100 Computer Science 1
- LCS200 Computer Science 2

Stage 2

- LCS300 Data Structures and Algorithms
- LCS314 Software Engineering/Systems
- LCS305 Database
- LCS407 Data Communications

Stage 3

- LCS806 Computing in the Human Context
- LCS813 Computer Science Team Project

Details of computing minor

Stage 1

- LCS100 Computer Science 1
- LCS200 Computer Science 2

Stage 2

- Any three of:
  - LCS300 Data Structures and Algorithms
  - LCS314 Software Engineering/Systems
  - LCS305 Database
  - LCS407 Data Communications

Stage 3

- Either one of:
  - LCS306 Computing in the Human Context
  - LCS613 Computer Science Team Project

Computing elective subjects

Depending upon the combination of majors and minors taken, students will have the opportunity to undertake one or more of the following computing electives:

- LCS204 Formal Methods
- LCS308 Human-Computer Interaction
- LCS412 Systems Programming
- LCS419 Artificial Intelligence

These electives will be made available depending upon demand and time enabling constraints.
Entry requirements
The normal entry requirement for the Bachelor of Applied Science (Computing) degree program is successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification. Students must have passes in year 12 English with a grade average of 0 or equivalent. Consideration will be given to the full range of an applicant’s VCE studies and results, to the level of performance in CATS, and to the student profile.

Special entry
Applicants who do not satisfy the above requirements may be considered on the basis of factors such as employment, educational background.

Advanced standing
Apart from established local and international pathways where block credit arrangements exist, particularly for T AFE students, students admitted to the degree may be granted advanced standing for previous studies on a case-by-case basis. All applications for subject exemptions should be submitted on the appropriate form at the time of enrolment.

Further information
Contact the Swinburne at Lilydale Divisional Office on (03) 9215 7000.

LO55 Bachelor of Business
1998 VTAC course code - Full-time: 35101
Part-time: 35201

The Bachelor of Business provides students with skills and abilities pertinent to a variety of professional careers in the private and public sectors of employment. Students are encouraged to develop a theoretical understanding of their chosen disciplines to enable them to understand not only current developments in society and the workplace, but to adapt and respond appropriately to future developments as they occur. In addition, the course is designed to enhance a number of generic skills highly valued by employers and important for the development of the individual such as self-awareness, presentation and communication skills and skills for the maintenance of learning and knowledge.

The course offers a combination of breadth and specialisation: breadth as a foundation for lifelong learning and specialisation as a preparation for future professional and vocational pursuits. In the implementation of these principles attention will be given to the process of learning and thinking involved as well as the content. A student’s choice of subject combinations will be expanded by allowing significant selections across other degree streams.

The Bachelor of Business is planned to enable students to:
- develop learning skills in an interdisciplinary environment;
- communicate effectively in writing, orally and electronically;
- experience breadth of disciplinary studies and intellectual processes;
- specialise in the field of their chosen profession;
- study combinations of subjects leading to professional accreditation;
- use technology in a way that supports learning and vocational aspirations;
- develop a regional and international outlook in relation to learning;
- understand the cross-cultural issues of interdisciplinary study and teams;
- articulate easily from previous tertiary study to complete a degree program;
- develop the personal qualities and attitudes needed for professional success.

Course duration and delivery
The Bachelor of Business course is a three year full-time degree program. Students may undertake the Bachelor of Business on a part-time basis, taking six years to complete the course.

Students undertake a total of twenty-four subjects, consisting of core subjects, majors and minors. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at stage 1.

Satisfactory completion of the course will require the inclusion of either:
- one major and two minors; or
- one major and one minor; or
- two majors.

At least one major must be taken from either accounting or marketing. In addition, students may select majors in media, psychology, computing, sociology, tourism or enterprise management. Some combinations, for example basic psychology and accounting with professional recognition, will not be possible within the twenty-four subject structure.

Minors are offered in accounting, business computing, economics, economics/finance, business law, marketing, media, psychology, sociology, tourism, enterprise management and social statistics.

A major consists of six subjects post Stage 1, with at least two subjects at Stage 3. For professional recognition in Accounting or Psychology, students must take subjects as specified. A minor comprises four subjects post Stage 1 with at least one subject at Stage 3, except in the case of Psychology.

Business Specialisations
Accounting
Accounting is the basic language of business. The accounting subjects offered cover the many different aspects that accounting embraces in today's business activities. The overall emphasis is on providing information and analytical tools which improve the decision-making process throughout the organisation.

Stage one accounting gives students an overview of accounting from a user's perspective: how to read and analyse accounting reports. Accounting information is an important basis on which many decisions in all areas of business are made.

Stage two subjects introduce both the process of creating accounting reports and developing other accounting information for decision-making. Students learn to use a variety of analytical tools and recording processes. Subjects cover a range of areas from accounting as a business computer information system to developing information to assist the marketing, purchasing, production and administrative functions, through to financial management of the firm.

In Stage three, subjects can be taken which provide students with additional analytical tools used in decision-making in a wide variety of business problems. In addition further specialist subjects in tax, auditing, financial reporting and personal investment can be studied.

Some accounting subjects can be counted towards an accounting major or minor, or towards a finance major or minor (but not both at the same time). This illustrates the broad range of studies which come under the accounting umbrella.

Some students will undertake accounting studies as an essential adjunct to a career in business. An accounting background is of great benefit to those seeking careers in general management. Other students will wish to pursue a career in accounting, and choosing the appropriate combination of subjects may allow them to become members of the professional accounting bodies: the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants. Swinburne accounting qualifications are recognised both in Australia and overseas.

Students with accounting majors or minors find rewarding work in industry, commerce, the public sector, the finance industry or business consulting. Students who undertake a course leading to professional accounting qualifications may work in any of these areas and in addition may work in public accounting. Accounting at Swinburne is the key to a great career.

Business Computing
In today’s world, information has pervaded every aspect of business organisations. As such, the study of information systems and the supporting technology is vital for any business student. The Business Computing minor would be taken by students who see themselves as users of information systems. The emphasis is on the effective use of information technology within an organisation and the development of skills for solving problems. Selecting this option in combination with other relevant business studies enables the graduate to effectively apply information technologies in the solving of business problems.

Business Law
The Business Law major will provide students with the knowledge necessary to appreciate the impact that law has on the business environment. With the increasing legal regulation of society it is essential that students are aware of the factors which either encourage or inhibit business activities.

Law subjects emphasise skills such as the ability to understand arguments, to manipulate abstract concepts and to communicate verbally and in writing. These skills highlight the vocational value of law subjects to students.

While not leading to a legal qualification, a business law minor can lead to a range of careers and positions in insurance, banking, finance and the public sector. Legal knowledge would be valuable to a property officer, accountant, trust officer/administrator, company legal officer, company secretary or local government administrator.

Economics
Understanding economic principles is an important requirement for a career in business. An economic approach to important practical social and business problems
Economics is the study of what, how, and for whom to produce - in essence, how society can achieve the maximum benefit from available resources. It emphasises the importance of sound decision-making, at the level of the individual, the firm, and society as a whole. Economics examines problem areas such as unemployment, inflation, foreign debt and environmental degradation. It also provides guidance to decision-makers on appropriate strategies for successful operation in both local and international markets.

Within the economics minor, students also develop skills in interpreting and evaluating economic commentaries and reports and in applying economic principles to real issues facing business and government. Students completing an economics minor find employment in a wide range of challenging fields in both the private and public sectors. These include administration, management consulting, economic policy evaluation, financial analysis, banking and market analysis.

Finance
Finance is a field of study which is concerned with financial and capital markets, government influences on those markets and the role of the organisation within this framework. Finance theory is a relatively recent development, and draws on the disciplines of both economics and accounting. A finance minor will equip graduates with a knowledge of financial instruments which are available; investment options available for both personal and enterprise investment; how different forms of financial markets function; the relationship between risk and reward; and the relationship between the business enterprise and financial markets. It will lead to knowledge which assists in making financial decisions for an organisation. Finance is one of the fastest growing employment areas. Finance graduates who undertake some further study also qualify as Certified Financial Planners.

Marketing
Successful companies take the path of 'market focus', that is, their strategies are customer driven. Marketing deals with the building and implementation of customer focus.

The meaning of marketing is often misunderstood. One need look no further than the many advertisements without any real substance as to customer benefits and/or the delivery of these benefits. Frequently no distinction is made between selling and marketing.

Unfortunately marketing has been introduced into many organisations as the 'in word', a kind of cosmetic change, the solution to the company’s problems, without changing the focus and the attitude prevailing in the organisation. It has not worked, resulting in companies becoming disillusioned with marketing. These companies did not understand the meaning of marketing.

What does it mean? The answer is relatively simple: put yourself inside the skin of your customers and forget yourself for a while. That in itself is difficult to do, but that is exactly the difference between cosmetic and real marketing.

To make this transition involves a rethink on your part. Instead of thinking on behalf of your customers you have to learn to listen to your clients, accept what they say at face value and execute what they want.

At Swinburne we explain the components of a business plan and marketing's central role in strategy. Students are introduced to topics such as consumer behaviour, demand determinants, customer focus, market research, market planning, marketing channels, product and services management, advertising and promotion, international marketing and business to business marketing.

Students are encouraged to think through problems and to find their own answers. They are introduced to frameworks, models and thinking processes to ensure that they make the most of their abilities. Topics like focus, vision, understanding, creativity, the power to influence the future are the outcomes of the marketing curriculum.

Course structure
Students are required to complete four core subjects in first year. These are:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCI100</td>
<td>Information Technology</td>
</tr>
<tr>
<td>LCL100</td>
<td>Learning and Communication Behaviour</td>
</tr>
<tr>
<td>LCT100</td>
<td>Science, Technology and Society</td>
</tr>
<tr>
<td>LCR100</td>
<td>Statistics and Research Methods</td>
</tr>
</tbody>
</table>

There are also core business subjects required for this course. Students are required to complete four of the following five core business subjects:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBC100</td>
<td>Accounting 1</td>
</tr>
<tr>
<td>LBE100</td>
<td>Microeconomics</td>
</tr>
<tr>
<td>LBM100</td>
<td>The Marketing Concept</td>
</tr>
<tr>
<td>LBM100</td>
<td>Introduction to Commercial Law*</td>
</tr>
<tr>
<td>LTE200</td>
<td>Organisations and Management*</td>
</tr>
</tbody>
</table>

* To be taken in second year

In addition students must complete prerequisite subjects for chosen majors and minors.

Details of majors and minors

Accounting for Professional Recognition

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBC100</td>
<td>LBC200 Computer Accounting Systems</td>
</tr>
<tr>
<td>LBC201</td>
<td>LBC201 Corporate Accounting</td>
</tr>
<tr>
<td>LBC202</td>
<td>LBC202 Management Accounting</td>
</tr>
<tr>
<td>LBC203</td>
<td>LBC203 Computer Cost Accounting Systems</td>
</tr>
<tr>
<td>LBC204</td>
<td>LBC204 Financial Management</td>
</tr>
</tbody>
</table>

Details of majors

These combinations are recommended. Other combinations or subject choices may be negotiated.

Accounting

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBC100</td>
<td>LBC100 Accounting 1</td>
</tr>
<tr>
<td>LBC200</td>
<td>LBC200 Computer Accounting Systems</td>
</tr>
<tr>
<td>LBC201</td>
<td>LBC201 Corporate Accounting</td>
</tr>
<tr>
<td>LBC202</td>
<td>LBC202 Management Accounting</td>
</tr>
<tr>
<td>LBC203</td>
<td>LBC203 Computer Cost Accounting Systems</td>
</tr>
<tr>
<td>LBC204</td>
<td>LBC204 Financial Management</td>
</tr>
</tbody>
</table>

Details of minors

These combinations are recommended. Other combinations or subject choices may be negotiated.

Marketing

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBM100</td>
<td>LBM100 Marketing Concepts</td>
</tr>
<tr>
<td>LBM200</td>
<td>LBM200 Market Behaviour</td>
</tr>
<tr>
<td>LBM201</td>
<td>LBM201 Marketing Planning</td>
</tr>
<tr>
<td>LBM202</td>
<td>LBM202 Marketing Communications</td>
</tr>
<tr>
<td>LBM203</td>
<td>LBM203 Marketing Research 1</td>
</tr>
</tbody>
</table>

Details of minors

These combinations are recommended. Other combinations or subject choices may be negotiated.
Accounting
Stage 1
LBI100 Accounting 1
Stage 2
LBI202 Management Accounting 1
LBI203 Computer Cost Accounting Systems
LBI204 Financial Management 1
Stage 3
LBC303 Strategic Cost Management
Business Computing
Stage 1
LC100 Information Technology
Stage 2
LBI200 Data Analysis and Design
LBI201 Business Computing
LBI202 Business Computing Applications
Stage 3
LBT300 Information Technology Strategies
Economics
Stage 1
LBE100 Microeconomics
Stage 2
LBE200 Macroeconomics
LBE201 Managerial Economics
LBE202 Macroeconomic Policy
Stage 3
One of:
LBE300 Financial Institutions and Monetary Policy
LBE301 International Finance
Economics/Finance
Stage 1
LBC120 Accounting 1
LBE100 Microeconomics
Stage 2
LBE200 Macroeconomics
LBC204 Financial Management 1
Stage 3
LBC304 Financial Management 2
LBE301 International Finance
Law
Stage 1
LBR100 Introduction to Commercial Law
Stage 2
LBL100 Company Law
LBL101 Marketing Law
Stage 3
LBC301 Taxation
LBC305 Advanced Taxation
Marketing
(For students who do not major in Marketing)
Stage 1
LBM100 Marketing Concepts
Stage 2
LBM200 Marketing Behaviour
LBM201 Marketing Planning
Stage 3
LBM200 Product Management
LBM201 Services Marketing and Management
Entry requirements
The normal entry requirement for the Bachelor of Business degree program is successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification. Students must have passed in year 12 English with a grade average of D or equivalent.

Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

Special entry
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background. Applicants must sit a Special Tertiary Admissions Test (STAT) after negotiating with VTAC.

Advanced standing
Apart from established local and international pathways where block credit arrangements exist, particularly for TAFE students, students admitted to the degree may be granted advanced standing for previous studies on a case-by-case basis. All applications for subject exemptions should be submitted on the appropriate form at the time of enrolment, for consideration by exemption advisers, who make recommendations to the Academic Assembly.

Further information
Contact the Swinburne at Lilydale Division Office on (03) 9215 7000.

L050 Bachelor of Social Science
1998 VTAC course code - Full-time: 3501
Part-time: 3511

The Bachelor of Social Science provides students with skills and abilities pertinent to a variety of professional careers in the public and private sectors of employment. Students are encouraged to develop a theoretical insight of their chosen disciplines to enable them to understand not only current developments in society and the workplace, but also to adapt and respond appropriately to future developments as they occur. In addition, the course is designed to enhance a number of generic skills highly valued by employers and important for the development of the individual such as self-awareness, presentation and communication skills and skills for the maintenance of learning and knowledge.

This course offers a combination of breadth and specialisation: breadth as a foundation for lifelong learning and specialisation as a preparation for future professional and vocational pursuits. In the implementation of these principles attention will be given to the process of learning and thinking involved as well as the content. A student's choice of subject combinations will be expanded by allowing significant selections across other degree streams.

The Bachelor of Social Science is planned to enable students to:
- develop learning skills in an interdisciplinary environment;
- communicate effectively in writing, orally and electronically;
- experience breadth of disciplinary studies and intellectual processes;
- specialise in the field of their chosen profession;
- study combinations of subjects leading to professional accreditation;
- use technology in ways that support learning and vocational aspirations;
- develop a regional and international outlook in relation to learning;
- understand the cross-cultural issues of interdisciplinary study and teams;
- articulate easily from previous tertiary study to complete a degree program;
- develop the personal qualities and attitudes needed for professional success.

Course duration and delivery
The Bachelor of Social Science course is a three year full-time degree program. Students may undertake the Bachelor of Social Science on a part-time basis, taking around six years to complete the course.

Students undertake a total of twenty-four subjects, consisting of core subjects, majors and minors. Students are required to complete at least four subjects at stage 3 and no more than ten subjects at stage 1.

Satisfactory completion of the course will require the inclusion of either:
- one major and two minors; or
- one major and one minor; or
- two majors.

At least one major must be taken from either media, psychology or sociology. In addition students may select minors in accounting, computing, marketing, tourism, or enterprise management. Some combinations, for example both psychology and sociology, are not permitted. Additional subjects may be taken to meet professional recognition or enterprise management requirements.

A minor consists of six subjects post first stage, with at least two subjects at stage 3. For professional recognition in Accounting or Psychology, students must take...
subjects as specified. A minor comprises four subjects post first stage with at least one subject at stage 3, except in the case of Psychology.

Social Science specialisations

Media Studies

Media Studies at Swinburne offers a broad range of lively subjects which are essentially analytical and critical in their approach. During the later stage of the major, students can acquire hands on skills in publishing and production procedures. Students undertaking the Bachelor of Social Sciences can choose from seven subjects in Media Studies, but only six subjects are required for completion of the Media Studies major. Minimum requirements for the major in the Media Studies are one stage one subject, two stage two subjects and three stage three subjects. The media field offers appealing opportunities for employment and community opportunities. Students who have graduated from the BA with a major in Media Studies have been employed in many related fields - commercial and public relations and television, print journalism, radio production, publishing, research, public relations, advertising and telecommunications research and marketing. Many students have found that, though not directly employed in a media industry, the knowledge and communications skills acquired in the course many have useful applications in their work and life.

Psychology

The undergraduate psychology program provides students with a broad introduction to psychology in all three stages. In stage one, some attention is given to vocational skills and knowledge relevant to applied fields. The stage one course in psychology introduces students to a range of topics in psychology and experimental design and analysis. Students intending to major in the subject are required to take LSY100 Psychology 100 and LSY101 Psychology 101. Each of these subjects compiles lectures, practical work and instruction in statistical analysis.

In stage two, LSY200 Cognition and Human Performance, LSY201 Development Psychology and LSY202 Social Psychology are offered and for students wishing to major in psychology LSY203 Design and Measurement 2 must be taken.

In stage three, subjects offered are LSY300 The Psychology of Personality, LSY301 Psychological Measurement and LSY302 Psychological Foundations of Counselling. In addition, students majoring in psychology must take LSY303 Design and Measurement 3. It should be noted that the undergraduate psychology program is sequential in nature; completion of the prescribed subjects at one stage of the program is a prerequisite for study at the next level. All subjects at one stage of the program are prerequisites for students at the next level. All subjects offered in this program are semester subjects. Thus a student must complete both stage one psychology subjects before enrolling in any stage two psychology subjects, and must complete all stage two psychology subjects before enrolling in any stage three subjects. Details of these prerequisite arrangements are shown in entries for all psychology subjects.

Students should note that each psychology subject is worth one semester subject.

Sociology

Sociology is the study of people in groups ranging from the family to whole societies like Australia. It is about how individual and group behaviour shapes groups and society, and in turn, how behaviour is shaped by society and its institutions. A group may be as diverse as a large firm, a school, a rock band, the public service, or a voluntary agency like a sporting club or community housing association. Important to sociology is the appreciation of the different ways social group behaviour can be explained, and the various methods which can be used to get a better understanding of the social world.

Understanding group behaviour, being familiar with different explanations for this behaviour, and being able to gather data to explore aspects of the social world are important skills, both for employment purposes and for being a knowledgeable and participating citizen of Australian society.

The teaching of sociology is focused on applied skills including problem identification, statistics, research methods, the formation of life-long learning skills, policy design and implementation. What differentiates sociology at Swinburne from what is taught by sociology departments at other tertiary institutions is our emphasis on comparing Australia with other parts of the world, and in applying sociology to solve practical problems.

There are four specific types of skills we try to develop. First, we develop an awareness of core sociological concepts such as class, gender and ethnicity. Second, we show the different ways these concepts have been applied to specific fields of study such as the family, the city, deviance, gender and migration. Third, we explore how governments respond to social problems through policy initiatives, and we explain how these initiatives can be evaluated. Finally, we develop an acute awareness of how to gather data about the social world, and how these data can be used for policy purposes.

Few people who complete a major in sociology end up being employed as sociologists. This is equally so for graduates of many other disciplines in the social sciences. Sociology graduates typically find careers in the areas of social research, administration, planning, community development, human resources, policy development, and marketing. These positions all require the conceptual and skill-based training that comes from undertaking a degree in sociology.

Students undertaking the Sociology major can choose from seven subjects but only six subjects are required for a major. Minimum requirements for the major in the Sociology are one stage one subject, two stage two subjects and three stage three subjects.

Course structure

Students are required to complete four core subjects in first year. Some combinations of majors may require a variation to these requirements. In addition students must complete prerequisite subjects for chosen majors and minors.

The four core subjects are:

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>LS1100</th>
<th>Psychology 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS1101</td>
<td>Psychology 101</td>
<td></td>
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<tr>
<td>Stage 2</td>
<td>LS200</td>
<td>Cognition and Human Performance</td>
</tr>
<tr>
<td>LS201</td>
<td>Developmental Psychology</td>
<td></td>
</tr>
<tr>
<td>LS202</td>
<td>Social Psychology</td>
<td></td>
</tr>
<tr>
<td>LS203</td>
<td>Design and Measurement 2</td>
<td></td>
</tr>
<tr>
<td>Stage 3</td>
<td>LS300</td>
<td>The Psychology of Personality</td>
</tr>
<tr>
<td>LS301</td>
<td>Psychological Measurement</td>
<td></td>
</tr>
<tr>
<td>LS302</td>
<td>Psychological Foundations of Counselling</td>
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</tr>
<tr>
<td>LS303</td>
<td>Design and Measurement 3</td>
<td></td>
</tr>
</tbody>
</table>

Details of majors

Media

Stage 1

| LSM100 | An Introduction to Media, Literature and Film |

Stage 2

<table>
<thead>
<tr>
<th>LSM200C</th>
<th>Popular Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSM201</td>
<td>Writing for the Media</td>
</tr>
<tr>
<td>LSM203</td>
<td>New Media: The Telecommunications Revolution</td>
</tr>
</tbody>
</table>

Stage 3

<table>
<thead>
<tr>
<th>LSM300</th>
<th>Cinema Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSM302</td>
<td>Electronic Writing</td>
</tr>
<tr>
<td>LSM302</td>
<td>Information Society: Promises and Policies</td>
</tr>
</tbody>
</table>

Psychology

Stage 1

<table>
<thead>
<tr>
<th>LSY100</th>
<th>Psychology 100</th>
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<tbody>
<tr>
<td>LSY101</td>
<td>Psychology 101</td>
</tr>
</tbody>
</table>

Stage 2

<table>
<thead>
<tr>
<th>LSY200</th>
<th>Cognition and Human Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSY201</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>LSY202</td>
<td>Social Psychology</td>
</tr>
<tr>
<td>LSY203</td>
<td>Design and Measurement 2</td>
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</tbody>
</table>

Stage 3

<table>
<thead>
<tr>
<th>LSY300</th>
<th>The Psychology of Personality</th>
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<tbody>
<tr>
<td>LSY301</td>
<td>Psychological Measurement</td>
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<tr>
<td>LSY302</td>
<td>Psychological Foundations of Counselling</td>
</tr>
<tr>
<td>LSY303</td>
<td>Design and Measurement 3</td>
</tr>
</tbody>
</table>

Sociology

Stage 1

| LSS100 | Introduction to Sociology |
**Stage 2**
- LSS200 Difference, Deviance and Conformity
- LSS201 Sociological Perspectives
- LSS202 Ethnicity, Culture and Diversity Management

**Stage 3**
- LSS300 Organisational and Society
- LSS302 Methodology of Social Research
- LSS303 Sociology and Social Policy

**Details of minors**

**Media**
- **Stage 1**
  - LSM100 An Introduction to Media, Literature and Film
  - LCT100 Science, Technology and Society
- **Stage 2**
  - LSM200 Popular Culture
  - LSM201 Writing for the Media
  - LSM202 New Media: The Telecommunications Revolution
- **Stage 3**
  - One of:
    - LSM300 Cinema Studies
    - LSM301 Electronic Writing
    - LSM302 Information Society: Promises and Policies

**Psychology**
- **Stage 1**
  - LSY100 Psychology 100
  - LSY101 Psychology 101
- **Stage 2**
  - LSY200 Cognition and Human Performance
  - LSY201 Developmental Psychology
  - LSY202 Social Psychology
  - LSY203 Design and Measurement 2

**Sociology**
- **Stage 1**
  - LSS100 Introduction to Sociology
- **Stage 2**
  - LSS200 Difference, Deviance and Conformity
  - LSS201 Sociological Perspectives
  - LSS202 Ethnicity, Culture and Diversity Management
- **Stage 3**
  - Two of:
    - LSS300 Organisations and Society
    - LSS302 Methodology of Social Research
    - LSS303 Sociology and Social Policy

**Social Statistics**
- **Stage 1**
  - LST100 Statistics and Research Methods
- **Stage 2**
  - Two or three of:
    - LST200 Design and Measurement 2
    - LST201 Survey Research Methods
    - LST202 Qualitative Research
- **Stage 3**
  - One or two of:
    - LST300 Design and Measurement 3
    - LST301 Research Project

**Entry requirements**
The normal entry requirement for the Bachelor of Social Science degree program is successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification. Students must have passes in year 12 English with a grade of D or equivalent. Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

**Special entry**
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational and general background.

**Advanced standing**
Apart from established local and international pathways, there are block credit arrangements exist, particularly for TAFE students, admittance to the degree may be granted advanced standing for previous studies on a case-by-case basis. All applications for subject exemptions should be submitted on the appropriate form at the time of enrolment, for consideration by exemption advisors, who make recommendations to the Divisional Board.

**Further information**
Contact the Swinburne at Lilydale Divisional Office on (03) 9215 7000.

*** Bachelor of Tourism and Enterprise Management

**1998 VTAC course code - Full-time: 35031 Part-time: 35032**

The Bachelor of Tourism and Enterprise Management degree is designed to prepare graduates for self-employment or professional careers in public and private sector organisations concerned with tourism. The core subjects provide the knowledge and basic skills required in the broad business environment, while the enterprise management stream extends and reinforces these foundations as they apply in the operation of small and medium sized organisations. The tourism stream provides a more industry-specific focus for the understandings provided in the business subjects, and uses an interdisciplinary approach which views tourism as a form of human behaviour as well as a business interest. All subjects will encourage the development of important generic skills in presentation, problem-solving, communication and lifelong learning. Throughout the course, students will also be encouraged to develop appropriate attitudes with respect to conservation of the natural and cultural environments. Students are free to follow personal interests in their choice of elective subjects.

The degree course has the following objectives:
- to provide students with a strong, interdisciplinary knowledge base in such business-related areas as accounting, financial management, marketing, human resource management and enterprise management;
- to develop understanding of the nature, history and culture of tourism, and of the key role of communications in enhancing management of tourism organisations and destination regions;
- to develop awareness of and commitment to the principles of sustainability in enterprise management and;
- to equip graduates with the skills and knowledge required for successful management of small to medium-sized enterprises, especially those involved with tourism.

**Career opportunities**
Tourism is a rapidly growing area of the Australian economy. While a high percentage of the positions offered are relatively unskilled, part-time and casual, there is recognition in the industry of the need for professionally qualified managers in whom business expertise is combined with an understanding of tourism. Graduates of this course may find employment in diverse range of organisations (eg, attractions, transport and tour services), in other enterprises where tourists are involved (eg, museums and national parks), and in administrative or coordinating organisations such as regional tourism authorities. They will also be equipped to develop and run their own businesses in the tourism field.

**Course duration and delivery**
The Bachelor of Tourism and Enterprise Management is a full-time three-year degree program. Students may undertake the course on a part-time basis, which normally requires six years for completion. To qualify for the award, students must accumulate a minimum of 300 credit points. Subjects will normally be delivered on-campus, with lectures, tutorials and fieldwork sessions involving about 12 to 15 contact hours. Provision will be made for multimodal learning options. Students should expect to devote about 12 hours per week to each subject.

Students undertake a total of twenty-four subjects, consisting of core subjects, majors and minors. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1.

Students may qualify for award of the degree by:
- completing the majors in Tourism and Enterprise Management plus the core subjects and other subjects offered by Swinburne at Lilydale for which prerequisites have been met; or
• completing a major in Tourism plus a minor in Enterprise Management, core subjects and other subjects offered by Swinburne at Lilydale for which prerequisites have been met; or
• completing a major in Enterprise Management plus a minor in Tourism, core subjects and other subjects offered by Swinburne at Lilydale for which prerequisites have been met.

A major consists of six subjects post Stage 1, with at least two subjects at Stage 3. A minor comprises four subjects post Stage 1, with at least one subject at Stage 3.

Course structure
Students are required to complete four core subjects in first year. These are:
- LCI100 Information Technology
- LCL100 Learning and Communication Behaviour
- LCT100 Science, Technology and Society
- LCR100 Statistics and Research Methods

There are also core business subjects required for this course. These are:
- LBC100 Accounting I
- LBC204 Financial Management I
- LBL100 Introduction to Commercial Law
- LBM100 Marketing Concepts
- LBM200 Marketing Behaviour
  (required only for Tourism major)

Details of majors
Tourism
Stage 2
- LTT200 Introduction to Tourism
- LTT201 Tourist Destination Management
- LTT202 Tourism Enterprise Development

Stage 3
- LTT300 Tourism Channels and Travel Management
- LTT301 Tourism Services
- LTT302 Planning and Management in Ecotourism

Enterprise Management
Stage 2
- LTE200 Organisations and Management
- LTE201 Human Resource Management
- LTE202 Organisation Behaviour

Stage 3
- LTE300 Managing Diversity/Culture in the Workplace
- LTE301 Strategic Planning and Project Management
- LTE302 Managing Quality in Organisations

Details of minors
Tourism
Stage 2
- LTT200 Introduction to Tourism
- LTT201 Tourist Destination Management
- LTT202 Tourism Enterprise Development

Stage 3
- LTT300 Tourism Channels and Travel Management
  Note: Students may be permitted to choose one of the other Stage 3 subjects to complete the Tourism minor.

Enterprise Management
Stage 2
- LTE200 Organisations and Management
- LTE201 Human Resource Management
- LTE202 Organisation Behaviour

Stage 3
- LTE301 Strategic Planning and Project Management

Entry requirements
The normal minimum requirement for admission to the Bachelor of Tourism and Enterprise Management program is satisfactory completion of VCE, including satisfactory completion of Units 3 and 4 English work requirements with a grade average of D or equivalent. Interstate and international equivalents will be recognised.

Special entry
Applicants who do not have a Year 12 qualification or have a non-competitive Year 12 score and no other tertiary study may be considered for admission if they have relevant employment experience and can demonstrate motivation and ability to succeed.

Advanced standing
Apart from established local and international pathways where block credit arrangements exist, particularly for TAFE students, students admitted to the degree may be granted advanced standing for previous studies on a case-by-case basis. All applications for subject exemptions should be submitted on the appropriate form at the time of enrolment.

Further information
Contact the Swinburne at Lilydale Divisional Office on (03) 9215 7000.
Postgraduate Courses
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Campus</th>
<th>Course Duration</th>
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<table>
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<tr>
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<th>Course Duration</th>
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**Graduate Diplomas**

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<td>M025</td>
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**Higher Degrees (by coursework)**

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<td>I090</td>
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**Design**

**Higher Degrees (by research)**

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**Engineering & Technology**

**Graduate Certificates**

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<tbody>
<tr>
<td>M094</td>
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<td>H</td>
<td>.5 yr</td>
<td>1 yr</td>
<td>156</td>
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<tr>
<td>4190J</td>
<td>Graduate Certificate in Cleaner Production</td>
<td>H</td>
<td>NA</td>
<td>1 yr</td>
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<tr>
<td>E075</td>
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<td>.5 yr</td>
<td>1 yr</td>
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<td>.5 yr</td>
<td>2 yrs</td>
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<tr>
<td>****</td>
<td>Graduate Certificate of Engineering in Construction Management (Performance Building Surveying)*</td>
<td>H</td>
<td>NA</td>
<td>1 yr</td>
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<td>Z110</td>
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**Graduate Diplomas**

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<td>G059</td>
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* Subject to Accreditation
### Postgraduate Course Chart

<table>
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<th>Course Code</th>
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<tr>
<td>N083</td>
<td>Graduate Diploma in Japanese</td>
<td>H</td>
<td>NA</td>
<td>2 yrs</td>
<td>167</td>
</tr>
<tr>
<td>N087</td>
<td>Graduate Diploma in Japanese for Professionals</td>
<td>H</td>
<td>NA</td>
<td>2 yrs</td>
<td>167</td>
</tr>
<tr>
<td>N088</td>
<td>Graduate Diploma in Korean for Professionals</td>
<td>H</td>
<td>NA</td>
<td>2 yrs</td>
<td>168</td>
</tr>
<tr>
<td>N089</td>
<td>Graduate Diploma in Urban Management and Policy</td>
<td>D</td>
<td>1 yr</td>
<td>2 yrs</td>
<td>169</td>
</tr>
<tr>
<td>N090</td>
<td>Graduate Diploma in Writing</td>
<td>H</td>
<td>NA</td>
<td>2 yrs</td>
<td>169</td>
</tr>
<tr>
<td>N091</td>
<td>Master of Arts in Counselling Psychology</td>
<td>H</td>
<td>NA</td>
<td>4 yrs</td>
<td>169</td>
</tr>
<tr>
<td>N091</td>
<td>Master of Arts in Health Psychology</td>
<td>H</td>
<td>NA</td>
<td>4 yrs</td>
<td>170</td>
</tr>
<tr>
<td>N092</td>
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<td>H</td>
<td>2 yrs</td>
<td>4 yrs</td>
<td>171</td>
</tr>
<tr>
<td>N093</td>
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<td>H</td>
<td>2 yrs</td>
<td>4 yrs</td>
<td>171</td>
</tr>
<tr>
<td>N095</td>
<td>Master of Communications</td>
<td>H</td>
<td>1.5 yrs</td>
<td>3 yrs</td>
<td>172</td>
</tr>
<tr>
<td>N096</td>
<td>Master of Housing Management and Policy</td>
<td>H</td>
<td>1.5 yrs</td>
<td>4 yrs</td>
<td>172</td>
</tr>
<tr>
<td>N097</td>
<td>Urban Management and Policy</td>
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<td>4 yrs</td>
<td>173</td>
</tr>
<tr>
<td>N090</td>
<td>Masters of Arts</td>
<td>H</td>
<td>2 yrs</td>
<td>4 yrs</td>
<td>173</td>
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<tr>
<td>N091</td>
<td>Doctor of Philosophy (Arts)</td>
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<td>3 yrs</td>
<td>6 yrs</td>
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<tr>
<td>N092</td>
<td>Psychology</td>
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**Humanities and Social Science**

<table>
<thead>
<tr>
<th>Graduate Certificates</th>
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<td>N070</td>
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<th>Graduate Diplomas</th>
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<tbody>
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<th>Higher Degrees (by coursework)</th>
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<table>
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<tr>
<th>Higher Degrees (by research)</th>
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</tr>
<tr>
<td>N091</td>
</tr>
<tr>
<td>N092</td>
</tr>
</tbody>
</table>
Abbreviations of postgraduate awards

Applied Science

Graduate Certificates
Graduate Certificate of Applied Science
- Computer Science: GradCertAppSc
- Health Statistics: GradCertAppSc
- Social Statistics: GradCertAppSc

Graduate Certificate in
- Cleaner Production: GradCertAppSc
- Disaster Management: GradCertDisMgt

Graduate Diplomas
Graduate Diploma of Applied Science
- Computer Science: GradDipAppSc
- Health Statistics: GradDipAppSc
- Industrial Chemistry/Biochemistry: GradDipAppSc
- Social Statistics: GradDipAppSc

Graduate Diploma in
- Cleaner Production: GradDipAppSci
- Disaster Management: GradDipDisMgt

Degree of Master
Master of Applied Science (by research or coursework)
- Cleaner Production: MApS
- Computational Chemistry: MApS
- - Biomolecular Design: MApS
- Social Statistics: MApS

Business

Graduate Certificates
Business Administration: GradCertBA
Enterprise Management: GradCertEntMgt
Enterprise Management (Family Business): GradCertEntMgt(FamBus)
Export: GradCertEntMgt
Management: GradCertEntMgt
Organisation Dynamics: GradCertOrgDyn
Taxation and Finance: GradCertTax&Fin
Training Management: GradCertTrainMgt

Graduate Diplomas
Business Administration: GradDipBusAdmin
Entrepreneurship and Innovation: GradDipEntInnov
Human Resources Management: GradDipHRM
Management: GradDipMgt
Management (Manufacturing): GradDipMgt(Manuf)
Market Modelling: GradDipMktMod
Organisation Dynamics: GradDipOrgDyn

Degree of Master
Master of Business (by research)
- Management: MBus
- Organisation Behaviour: MMgt
- MBA: MBus(OrgBeh)
- MEI: MBA
- MIntBus: MMgt

Design

Degree of Master
Master of Design (by research): MDes

Engineering

Graduate Certificates
- Aviation Human Factors: GradCertHumFac
- Building Surveying: GradCertEng
- CAD/CAM: GradCertEng
- Cleaner Production: GradCertEng
- Computer Systems Engineering: GradCertEng
- Industrial Engineering: GradCertEng
- Maintenance Engineering: GradCertEng
- Modelling and Process Analysis: GradCertEng
- Open Systems: GradCertEng
- Risk Management: GradCertEng
- Robotics and Automation: GradCertEng
- Telecommunications: GradCertEng

Graduate Diplomas
- Aviation Human Factors: GradDipHumFac
- Building Surveying: GradDipEng
- Chemical Engineering: GradDipEng
- Cleaner Production: GradDipEng
- Computer Integrated Manufacture: GradDipEng
- Computer Systems Engineering: GradDipEng
- Construction Management: GradDipEng
- Industrial Engineering: GradDipEng
- Maintenance Engineering: GradDipEng
- Modelling and Process Analysis: GradDipEng
- Open Systems: GradDipEng
- Risk Management: GradDipEng
- Robotics and Automation: GradDipEng
- Telecommunications: GradDipEng

Degree of Master
Master of Engineering (by coursework)
- Cleaner Production: MEng
- Computer Integrated Manufacture: MEng
- Computer Systems Engineering: MEng
- Construction Management: MEng
- Industrial Engineering: MEng
- Modelling and Process Analysis: MEng
- Open Systems: MEng
- Risk Management: MEng
- Robotics and Automation: MEng
- Telecommunications: MEng

Master of Technology
Aviation Human Factors: M Tech
Risk Management: M Tech
Master of Engineering (by research): M Eng

Humanities and Social Science

Graduate Certificates
Applied Media: GradCertAppMedia
Housing Management and Policy: GradCertHseMgtandPol
Housing Management and Policy (Property): GradCertHseMgtandPol
Human Services: GradCertHumServ
- (Planning and Management): GradCertHumServ
- (Community Mental Health): GradCertHumServ

Graduate Diplomas
Applied Media: GradDipAppMedia
Applied Psychology: GradDipAppPsych
Family Therapy: GradDipFamTher
Housing Management and Policy: GradDipHseMgtandPol
Human Services: GradDipHumServ
- (Planning and Management): GradDipHumServ
- (Community Mental Health): GradDipHumServ
Japanese: GradDipJapanese
Japanese for Professionals: GradDipJapanese(Prof)
Korean: GradDipKorean
Postgraduate general information

Amendment to Enrolment
Refer Undergraduate section, page 41.

Application procedure
All applications for enrolment in postgraduate courses other than Master degree by research and by publication or PhD and Professional Doctorates must be made to the
Admissions Officer from whom application forms are available, (03) 9214 8386.
Information on application for admission to postgraduate courses can be received by
the relevant Schools:
- Biophysical Sciences and Electrical Engineering
- Business
- Design
- Engineering and Science
- Information Technology
- Mathematical Sciences
- Social and Behavioural Sciences
- Swinburne Graduate School of Management

Closing dates for 1998 entry
Round 1 (timely applications)
Closing date: 10 November 1997
Round 2 (late applications)
Closing date: 19 January 1998

International students
Applications by international students for entry to all Swinburne courses must be
made through the International Student Unit. Because of Australian Government
regulations, part-time study is not available to full-fee paying international students.
Telephone: (03) 92148151 or (03) 92148647.

Awards (application to receive qualification)
Students eligible to be admitted to an award are required to apply for the award on
the form prescribed. Forms are available from and must be lodged at the Awards
Office, Room AD127 Administration Building.
Applications for all awards close on 30 May (for students completing their courses
at the end of first semester) or 30 October (for students completing their courses in
December) of the year in which the student anticipates completion of the academic
work for the award.

Certification of Official Documents
Refer Undergraduate section, page 43.

Course completion
Except where otherwise specified in course rules, full-time students are normally
expected to complete their course of study within a period equal to the minimum
duration of the course plus one year (excluding any periods of leave of absence). Part-
time students are normally expected to complete their course of study within a
period equal to twice the full-time completion time for their course plus one year
(excluding any periods of leave of absence).

Entrance requirements
Applicants for admission to postgraduate courses normally are expected to have
completed a degree or diploma.
The specific requirements vary from course to course: some are open to those with
any tertiary qualification, others may require a qualification in a specific discipline or
range of disciplines.
Provision is made for admission of applicants who have qualifications other than or less
than the normal requirements outlined above but whose employment positions or
experience indicates an ability to benefit from the course.
Requirements for specified courses are set out in the relevant sections.
Requirements for admission to higher degrees by research are set out in a separate
Policies and Procedures handbook.
Fees

Postgraduate Course Fee Refund Policy and Procedures

This policy applies to students who are Australian permanent residents and enrol in any fee-paying postgraduate course offered by the University.

Procedures

- Students who withdraw from their course by the due date for payment will be refunded their fees without penalty.
- Students who withdraw from their course between the day after the due date for payment and the HECS census date (31 March or 31 August) will be charged a $100 administrative fee.
- Students who withdraw from their course after the HECS census date will not be refunded fees for the current semester. A student seeking exemption from this procedure may appeal on the grounds of exceptional or unforeseen circumstances to the relevant School Administration Manager.
- Students who withdraw from a subject or subjects before the HECS census date will be refunded the applicable subject fee for the current semester, provided they remain enrolled in at least one other subject in that semester.
- A student who withdraws from a subject or subjects after the HECS census date will not be refunded fees for the current semester. A student seeking exemption from this procedure may appeal on the grounds of exceptional or unforeseen circumstances to the relevant School Administration Manager.
- A student who resumes study after an approved leave of absence will be charged the postgraduate course fee applicable at the time of resuming the course.

Higher Degrees by research

All initial enquiries regarding higher degrees by research (Masters, PhD or professional doctorates) should be made to the School or discipline area in which the applicant is interested in undertaking the degree, or to the Swinburne Graduate Research School, on 9214 5412, for more general enquiries on fields in which supervision may be available.

Enquiries about the Professional Doctorate in Organisation Dynamics (by coursework and Research) can be made to the Graduate School of Management. Enquiries about the Professional Doctorate in Psychology can be made to the School of Social and Behavioural Sciences.

Enrollment and admission to candidature are two separate processes, both of which must be completed to accordance with University regulations. Applicants may be accepted for provisional enrolment by the Head of School, subject to their being admitted to candidature for the degree. Alternatively, persons may apply for admission to candidature and then enrol. The initial steps in approval for admission to candidature, is undertaken within Schools. Enrolment takes place at the Swinburne Graduate Research School. Admission to candidature then requires approval of the relevant University committee at Divisional or University level. Further Information on the steps involved in candidature is available from Swinburne Graduate Research School.

Identity Cards

Refer Undergraduate section, page 46.

Leave of Absence

Refer Undergraduate section, page 46.

Nested suite of programs

A number of disciplines offer suites of programs (Graduate Certificate, Graduate Diploma and Masters) which enable students the flexibility of entry and exit points. Suites are available in a number of disciplines including business administration, Information systems, innovation, management, open systems, organisation dynamics, risk management and telecommunications.

Graduate Certificate

This is usually an entry level postgraduate qualification for applicants with several years experience and is an alternative for those without any formal undergraduate qualifications and is normally completed in one year of part-time study.

Graduate Diploma

Generally a one year full-time course or a two year part-time course. Applicants must normally have an undergraduate degree, though not necessarily in the proposed areas of study. Applicants without a degree, but with substantial appropriate experience, may also be eligible for entry.

Admission with advance standing

Graduates with good results in a relevant Graduate Certificate course are eligible to apply for a Graduate Diploma. Students may receive credits for some or all subjects already studied, thereby reducing time taken to complete the Graduate Diploma.

Masters degree by coursework

The duration of the course varies by subject but it is generally from one to two years full-time (or equivalent part-time). Applicants must normally have an undergraduate degree.

Admission with advanced standing

Graduates with good results in a relevant Graduate Diploma course are eligible to apply for a Masters by coursework. Students may receive credits for some or all subjects already studied, thereby reducing time taken to complete the Masters.

PAGE (Professional and Graduate Education)

PAGE Pty Ltd is a company owned by eight Australian universities including Swinburne University of Technology which has been established to provide practitioners in a wide range of professions with access to quality academic programs that are designed to keep people abreast of professional practice and assist them to acquire the advanced qualifications needed to progress their careers. PAGE courses are developed to reflect industry and professional requirements, are self-paced and modular in style and utilise technology to provide learners with real choice over the location and time of study. Arrangements between the members ensure participants have ready access to learning support services such as library and computer support facilities.

The course schedule is continually being expanded as the member universities respond to the needs of a wide range of industries for professional updating and education. All of the programs offered by PAGE are accredited and lead directly to, or articulate with, a recognised postgraduate award. Candidates normally hold a Bachelor degree together with relevant work experience. Frequently, candidates holding other acceptable academic or professional qualifications and relevant work experience are admitted at the graduate entry level.

Each subject consists of packaged resource materials and is supported by specialist academic coordinators. Most subjects comprise a television component (broadcast nationally by SBS and internationally by AV). PAGE courses are offered in the following areas:

- Arts/Humanities
- Education
- Engineering
- Health
- Management
- Professional Courses

The following universities are members of PAGE:

- The University of Auckland
- Central Queensland University
- Edith Cowan University
- La Trobe University
- Macquarie University
- RMIT Melbourne Institute of Technology
- Swinburne University of Technology
- University of Wollongong

Associates members of PAGE are:

- Victoria University of Technology
- The Pearson Group
- Special Broadcasting Service Corporation (SBS)
- Television New Zealand Limited (TVNZ)

Further information on PAGE and the courses available can be obtained by contacting the following:

- Freecall 1800 948 700
- Freecall 1800 971 006
- Email pagemain@rmit.edu.au
- Website: http://mpd.uow.edu.au/PAGE

Swinburne University of Technology | 1998 Handbook
Research Scholarships
A number of different research scholarships are available. Contact the Swinburne Graduate Research School for details. Telephone (03) 9214 5412.

Results
Refer Undergraduate section, page 48.

Semester Address for Correspondence
Refer Undergraduate section, page 60.

Standards of Progress
Refer Undergraduate section, page 51.

Student Administration Enquiries Office
The Student Administration Office provides information and procedural advice on forms, certifying University documents, maintenance of students’ result records, amendments to enrolment form, result certificates, academic statements, enrolment cards, production of passport photos, providing enrolment processing forms (e.g. status letters, authorising travel concession forms and international student card forms, certifying University documents, maintenance of students’ result records, hire of lockers and academic gowns.

Location and office hours
Hawthorn campus
Enquiries (03) 9214 8898, (03) 9214 8239
The Student Administration Enquiries Office is located in Room AD121, Administration Building (AD), John Street, opposite the Business and Arts Building (BA) and the Library (see map on page 10).
Office hours are as follows:
During teaching weeks pre census date:
8.30am - 6.00pm Monday to Thursday
8.30am - 5.00pm Friday
During teaching weeks post census date and non-teaching weeks:
8.30am - 5.00pm Monday to Friday
Note: The office is closed on public holidays.

Prahran campus
Enquiries (03) 9214 6744
The Student Administration Enquiries Office is located in Room F107, Building F, 142 High Street, Prahran
Office hours are as follows:
8.30am — 5.00pm Monday to Friday
Note: The office is closed on public holidays.

Swinburne at Lilydale campus
Enquiries (03) 9215 7000
Office hours are as follows:
8.30am — 5.30pm Monday to Friday
Note: The office is closed on public holidays.

Swinburne Graduate Research School (SGRS)

General Manager, Research and Graduate Studies
J. Baird

The School exists to provide a University-wide point of contact and communication for all postgraduate research students, to coordinate research services, and to ensure quality in research training.

The School runs regular seminars and workshops to assist staff and students to develop their research skills. It also offers induction programs for new researchers and postgraduates, offers advice on resources and provides a focus for interaction and development. The School is managed by the Office of Research and Graduate Studies.

Doctoral study and scholarships
The SGRS is responsible for the administration of PhD degrees and coordination of other research studies. It provides prospective doctoral students with a variety of information on doctoral study including: details about admissions to candidature, expected duration of candidature, progress report requirements, HECS exemption, scholarships, guidelines for thesis presentation, guidelines for supervision, and University policies on research. The School also provides information, application forms and guidelines for a number of Australian scholarships for doctoral and research Masters degrees. Information is also available on other scholarships offered by non-profit organisations, and on overseas scholarship opportunities.

For further information about doctoral study and scholarships, telephone (03) 9214 5223.

Office of Research and Graduate Studies
The Office provides advice on University policies for the conduct of research and the implementation of Swinburne’s Research Management Plan. It also publishes Swinburne’s annual Research Report, which provides an overview of the University’s major research centres, research interests of staff, and details of current research projects.

The Office administers research grants and contracts across the University, ethics committee approvals and intellectual property issues.

External organisations seeking advice on Swinburne’s research capabilities should contact the Office on (03) 9214 5223.

The Office provides information on research grants and other opportunities for research funding, as well as details of programs where graduates are employed specifically by an organisation to conduct research. A weekly up-date detailing current opportunities is distributed widely around the University.

Swinburne Graduate Society of Business
The Graduate Society of Business is the oldest of the Swinburne alumni chapters, having been formed in 1977 from the original graduating students of the first course of the Postgraduate Diploma in Business Administration.

Now in its nineteenth year, the Society has a network of over one thousand past students and encompasses and supports all current and past students in the Graduate Certificate, Postgraduate Diploma and Masters programs.

The Society operates as an independent official body, represented by a committee, and relies on members’ cooperative efforts to assist the cause of industry relevant and supported further education, extension of qualifications and industry networking both internally and externally to the University.

Current activities include regular newsletters, seminars, meetings and speakers, an extensive personal network, working business lunches, library membership and other benefits as part of the wider Alumni of the University.

For information contact: Brian Golland, PO Box 145, Camberwell 3124. Telephone: (03) 9672 3548 SH or (03) 9435 6614 AH or fax (03) 9432 2500 or Swinburne Alumni Office on (03) 9214 6705.
### Applied Science

**Graduate Certificates**

**Z078 Graduate Certificate of Applied Science (Health Statistics)**

A one-year part-time program aimed at training people who may not have a specialist mathematical or statistical background who wish to work in, or are already employed in, health-related areas which require data analytical skills. The emphasis will be on skills development giving the participants the opportunity to become proficient with a variety of statistical tools used in the health sciences. It will concentrate on descriptive methods but includes an introduction to statistical inference.

Applicants for the Graduate Certificate should have a relevant first degree or diploma qualification, although it is expected that they will have worked in a health-related area. Other applicants whose occupation and experience indicate that they have the capacity to succeed may be accepted into the course.

**Course structure**

The course is made up of four subjects. The class contact hours will normally be three hours per night, two nights per week for two semesters, consisting of a combination of lectures and practical work as applicable to the topic.

**Application procedure**

Refer to page 134.

**Further information**

Refer to page 134.

**Note:** No exemptions are available to candidates for the Certificate.

**Credit points**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Credit Points</th>
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<tbody>
<tr>
<td>SM751</td>
<td>Introduction to Data Analysis</td>
<td>12.5</td>
</tr>
<tr>
<td>SM750</td>
<td>Basic Statistical Computing</td>
<td>12.5</td>
</tr>
<tr>
<td>SM753</td>
<td>Survey Methods</td>
<td>12.5</td>
</tr>
<tr>
<td>SM754</td>
<td>Introduction to Health Statistics</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Applicants for the Graduate Certificate should have a relevant first degree or diploma qualification, although it is expected that they will have worked in a health-related area. Other applicants whose occupation and experience indicate that they have the capacity to succeed may be accepted into the course.

**Course structure**

The course is made up of four subjects. The class contact hours will normally be three hours per night, two nights per week for two semesters, consisting of a combination of lectures and practical work as applicable to the topic.

**Application procedure**

Refer to page 134.

**Further information**

Contact the School of Mathematical Sciences on (03) 9214 8484.

### Graduate Diplomas

#### **Graduate Diploma of Applied Science in Cleaner Production**

The main aim of the course is to produce graduates equipped with the knowledge, skills and attitudes to enable them to audit, operate and design industrial systems according to the principles of cleaner production. The aim is to be achieved by providing a course which covers technical foundations in a general introduction to cleaner production (i.e., the current Graduate Certificate in Cleaner Production), then follows with more detailed courses in Environmental Economics and Eco-Design and Auditing. These three subject areas form the base for the graduate diploma and masters degree. The knowledge gained will then be applied in three case study based subjects in cleaner production, covering manufacturing, chemical processes and primary industries. For candidates in the masters degree, the synthesis of all of these subject areas will occur through the completion of a research project. The research project will normally be industry based and will focus on an audit and redesign of a particular activity of that industry to bring about a "cleaner" method of production.

**Entry requirements**

Applicants for Graduate Diplomas are required to possess either a degree or diploma in science or applied science or equivalent. However, consideration will be given to students who do not possess the formal admission requirements, but who, by virtue of an extensive period of industrial or other experience, can demonstrate that they are of satisfactory standard for entry.

**Course duration**

The Graduate Diploma program is a one-year part-time or equivalent part-time. Students must complete the subjects specified for the Graduate Certificate and an additional 4 subjects, for a total of 100 credit points.

**Course structure**

**Semester 1**

<table>
<thead>
<tr>
<th>Core subjects</th>
<th>Credit points</th>
</tr>
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<tbody>
<tr>
<td>CP001 Principles of Cleaner Production</td>
<td>7.5</td>
</tr>
<tr>
<td>CP002 Resource Technology</td>
<td>7.5</td>
</tr>
<tr>
<td>CP003 Environmental Regulation</td>
<td>7.5</td>
</tr>
<tr>
<td>CP004 Environmental Management</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**Evaluative subjects (Minimum 2 required)**

| CPE01 Biological Waste Management                   | 10            |
| CPE02 Environmental Auditing                        | 10            |
| CPE03 Design and Manufacture for Cleaner Production | 10            |
| CPE04 Minor Research Project                        | 10            |
| CPE05 Environmental Monitoring                      | 10            |

**Semester 2**

<table>
<thead>
<tr>
<th>Core subjects</th>
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<tr>
<td>CP700X Environmental Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>CP701X Environmental Economics</td>
<td>12.5</td>
</tr>
<tr>
<td>CP702X Eco-Design and Auditing</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**and one of**

| CP700X Cleaner Production in Industry PART 1        | 12.5          |
| CP701X Cleaner Production in Industry PART 2        | 12.5          |
| CP702X Cleaner Production in Industry PART 3        | 12.5          |

**Further information**

Contact the School of Engineering and Science on (03) 9214 8377.

Website: www.fme.swin.edu.au

### Z189 Graduate Diploma of Applied Science (Health Statistics)

This course aims to extend the work done in the Graduate Certificate of Applied Science (Health Statistics). This will include using a wider variety of statistical techniques, providing a deeper and broader understanding of the relevant software; developing critical skills in the statistical evaluation of health literature and gaining personal contact with the work of statistical practitioners in the health sciences. The Graduate Diploma will qualify graduates to take up research assistant positions involving both the management and application of research in the health sciences that requires statistical methods for its design and analysis.

**Course duration and delivery**

The course is offered as a part-time program over two years. The class contact hours for
Z085 Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry)

This course is designed for graduates with a general background in chemistry or biochemistry who wish to become experienced in its application to industrial problems. Graduates of the course will not only have gained a thorough understanding of the specialist principles of industrial chemistry, but also exposure to such related issues as process economics, industrial issues and governmental regulations.

Course duration and delivery
This course will be offered on the basis of one year of full-time study, covering a full twelve months. It will comprise seventeen weeks of coursework related to industrial problems.

Course structure
Students choose four of the following subjects:
- SC720 Applied Chemistry Techniques
- SC721 Properties of Colloids and Interfaces
- SC723 Industrial Chemistry
- SC725 Practical Chemistry
- SC726 Practical Work

Biochemistry stream
Students choose four of the following subjects:
- SC720 Applied Chemistry Techniques
- SC725 Practical Chemistry
- SC729 Industrial Microbiology
- SC731 Practical Biochemistry
- SC760 Biochemistry

Semester 2
- SC709 Industry-Based Learning
- BS221 Business and Management

Credit points
- 12.5
- 12.5
- 12.5
- 12.5

Entry requirements
Entry to industrial chemistry is open to applicants with a first tertiary qualification in science, medicine, engineering and biological sciences. An applicant whose position or experience indicates an ability to succeed in the course may be accepted with other qualifications or with less than the usual entry qualifications.

Application procedure
Refer to page 134.

Further information
Contact the School of Mathematical Sciences on (03) 9214 8484.

Z086 Graduate Diploma of Applied Science (Social Statistics)

This course is for people with similar backgrounds to those undertaking the Graduate Certificate of Applied Science (Social Statistics), but who want to progress further and cover a wider range of topics at a greater depth.

Course duration and delivery
The class contact hours will normally be three hours per week, two nights per week for four semesters, which includes the two semesters of the Graduate Certificate. Classes will consist of a combination of lecture and practical work as applicable to the topic.

Course structure
The four subjects from the graduate certificate plus four subjects from:

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Subject Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM739</td>
<td>Demographic Techniques</td>
<td>12.5</td>
</tr>
<tr>
<td>SM750</td>
<td>Basic Statistical Computing</td>
<td>12.5</td>
</tr>
<tr>
<td>SM751</td>
<td>Introduction to Data Analysis</td>
<td>12.5</td>
</tr>
<tr>
<td>SM753</td>
<td>Survey Methods</td>
<td>12.5</td>
</tr>
<tr>
<td>SM754</td>
<td>Introduction to Health Statistics</td>
<td>12.5</td>
</tr>
<tr>
<td>SM756</td>
<td>Elementary Statistical Modelling</td>
<td>12.5</td>
</tr>
<tr>
<td>SM757</td>
<td>Epidemiological Methods</td>
<td>12.5</td>
</tr>
<tr>
<td>SM759</td>
<td>Analysis of Risks and Rates</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Credit points
- 12.5
- 12.5
- 12.5
- 12.5

Entry requirements
Normal entry is by successful completion of the subjects for the Graduate Certificate in Social Statistics. Other applicants with suitable backgrounds may be admitted to the program.

Application procedure
Refer to page 134.

Further information
Contact the School of Mathematical Sciences on (03) 9214 8484.

Higher Degrees (by coursework)

CHC53 Master of Applied Science in Cleaner Production

The main aim of the course is to produce graduates equipped with the knowledge, skills and attitudes to enable them to audit, operate and design industrial systems according to the principles of cleaner production. The aim is to be achieved by providing a course which covers technical foundations on a general introduction to cleaner production (i.e. the current Graduate Certificate in Cleaner Production), then follows with more detailed courses in Environmental systems, Environmental Economics and Eco-Design and Auditing. These three subject areas form the base for the graduate diploma and masters degree. The knowledge gained will then be applied in three case study based subjects in cleaner production, covering manufacturing, chemical processes and primary industries. For candidates in the masters degree, the synthesis of all of these subject areas will occur through the completion of a research project. The research project will normally be industry based and will focus on an audit and redesign of a particular activity of that industry to bring about a "cleaner" method of production.

Course duration
The masters program is a 3 semesters of full time or equivalent part time. Students must complete the subjects specified for the graduate certificate, graduate diploma and an additional 3 subjects, for a total of 150 credit points. The research project of 25 credit points must be included.

Course structure
Semester 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP001</td>
<td>Principles of Cleaner Production</td>
<td>7.5</td>
</tr>
<tr>
<td>CP002</td>
<td>Resource Technology</td>
<td>7.5</td>
</tr>
<tr>
<td>CP003</td>
<td>Environmental Regulation</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Note: 1. A maximum of two other approved subjects may be substituted for two of the subjects listed.
2. A maximum of two exemptions are permitted.
3. All the subjects will not necessarily be offered each year.

Contact the School of Engineering and Science on (03) 9214 8572.
The aim of the course is to develop students into a mastery of the basic scientific principles underlying computational chemistry, thus providing a sound theoretical base. To achieve mastery of software applications used in computational chemistry. To develop in students a thorough understanding of the methods of computational chemistry and competence in their application, so that students are able to develop in students a thorough understanding of the methods of computational chemistry.

To produce graduates who can fully take advantage of the revolution in information technology, and play a constructive role in the changes that this technology brings to society.

Further information Contact the School of Engineering and Science on (03) 9214 8372.

Website: www.mm.swin.edu.au

Z087 Master of Applied Science (Computational Chemistry/ Biomolecular Design)

The aim of the course is to develop students into a mastery of the basic scientific principles underlying computational chemistry, thus providing a sound theoretical base. To achieve mastery of software applications used in computational chemistry. To develop in students a thorough understanding of the methods of computational chemistry and competence in their application, so that students are able to develop in students a thorough understanding of the methods of computational chemistry.

Course duration and delivery The full-time course will be provided over 12 months.

1. It will include 9 months of coursework which may be completed by distance education using the internet.

3. A three month period of full-time on-campus study in one of the participating universities in which the student will carry out a research and write a thesis. The project report will be examined by the supervisor and one other person.

Part-time study The period of distance education using the internet, extending over a period of 8 months for full-time students may be extended to up to 20 months for part-time students. The other components will normally be available only on a full-time basis.

Entry requirements Applicants for masters are required to possess either a degree or diploma in science or applied science or equivalent. However, consideration will be given to students who do not possess the formal admission requirements, but who, by virtue of an extensive period of industrial or other experience, can demonstrate that they are of satisfactory standard for entry.

Further information Contact the School of Engineering and Science on (03) 9214 8372.

Website: www.mm.swin.edu.au

Z090 Master of Applied Science

In areas of applied chemistry, biochemistry, biophysics, instrumental science, computer science, mathematics, operations research, statistics and mathematics education.

By research and thesis. Enquiries should be made to the Swinburne Graduate Research School. Copies of the statute re in the separate publication Higher Education Policies and Procedures handbook.
Doctor of Philosophy

Z001 Applied Science

Programs are offered in areas of applied chemistry, biochemistry, biophysics, instrumental science, computer science, mathematics, operational research, statistics, mathematical modelling and mathematics education.

Applicants who are graduates at bachelor's or Masters degree level and who have shown a high standard of academic achievement may be admitted to candidature for the degree of PhD. Applicants shall have demonstrated to the higher Degrees Committee of the Academic Board a capacity for research and investigative work in the area of study proposed.

To be assessed for this degree, a candidate must present a major thesis based on original research, investigation or development work carried out either at Swinburne or externally. External work may be carried out at any approved industrial, governmental, educational, or research organisation.

Copies of the statute for the degree of PhD can be found in the separate publication Higher Education Policies and Procedures handbook or are available from the Swinburne Graduate Research School.

Business

Graduate Certificates

A170 Graduate Certificate in Business Administration

The Graduate Certificate in Business Administration is a one-year part-time course.

The Graduate Certificate in Business Administration provides entry to management studies for managers with excellent business experience. The course provides the skills needed for effective management. It can be viewed as the first step in the ongoing process of management education.

At the completion of the program, it is expected that candidates:

- will have completed a business program containing a body of knowledge and technology which is relevant to immediate and potential business opportunities;
- will have a recognised qualification which will assist them in developing their careers in business;
- will be equipped with suitable skills to continue with further postgraduate study in business administration.

Course duration and delivery

The Graduate Certificate and Graduate Diploma levels of the nested program each consist of four subjects, with each subject having a credit point value of 12.5. These eight subjects form the MBA core. The MBA level has two options: an Executive or a Coursework stream. The Executive MBA consists of three industry-based projects each equal to two subjects (25 credit points), with a total credit point value of 75. The Coursework stream is offered in a number of specialisations and has four subjects, with each subject having a credit point value of 12.5 plus a project equal to two subjects (25 credit points). It is possible to exit at each level of the program.

Course structure

Year 1 (Part-time) Credit points

B0490 Accounting for Managers 12.5
B0590 The Learning Organisation: Interpersonal, Leadership and Team Skills 12.5
B0690 International Business Foundations 12.5
B0790 Marketing Management 12.5

Progression to the Graduate Diploma in Business Administration

On successful completion of the Graduate Certificate in Business Administration students with appropriate academic achievement may seek to continue to the next award level - the Graduate Diploma in Business Administration.

Entry requirements

Applicants should be either:

- Managers with a degree or diploma in a discipline other than business with at least three years' management experience;
- Managers with no degree or diploma but with considerable relevant experience (at least five years) and level of responsibility in industry or business.

Application procedure

Application forms are available from the Graduate School of Management on telephone (03) 9214 5335.

Applications should be made directly to:

Graduate School of Management
Swinburne University of Technology
PO Box 218, Hawthorn, Victoria 3122

Applicants must be accompanied by a certified copy of original transcripts of official results.

Fees

The Graduate Certificate in Business Administration is a full-fee paying course.

Further information

Contact the Graduate School of Management on (03) 9214 5323 or (03) 9214 5335.

Y072 Graduate Certificate in Enterprise Management

Course objectives

The Graduate Certificate provides the basic entry level for people seeking careers and qualifications in the management of innovation, or it may serve to broaden the skills of managers qualified in other tertiary disciplines.

This program recognises the need to educate intending entrepreneurs and middle managers with existing organisations in the management of innovation based on integrating three key skill areas - organisational behaviour, marketing and quantitative assessment skills including basic accounting - into a multi-disciplinary assessment of the commercial feasibility of innovative opportunities. Not all 'great ideas' are commercially viable and worthy of full-scale business planning. These four subjects integrate and cultivate in an ability to screen out the viable opportunities from the non-viable. The final project is a commercial feasibility analysis of a real-world, real-time business opportunity. The course provides a sound theoretical base in organisational behaviour, marketing, basic accounting, and opportunity screening and the ability to apply that theory to management of an innovative profit centre; a new product development; a systems change or other project requiring professional management of activities new to, or different from, the established activities of the firm.

The program provides for articulation of accredited subjects in higher level programs offered by the CIE. The four subjects comprising the Graduate Certificate are also the first four subjects of both the Graduate Diploma in Entrepreneurship and Innovation and the Master of Enterprise Innovation programs.

Each subject may be taught in the traditional mode of one (three-hour) night class per week over a thirteen week semester or in 'block mode' (usually two-three day block modules). Students are expected to spend a minimum of the equivalent class contact hours per week in private study and/or team project work.

Subject to demand, the graduate certificate can be offered as an in-house training program for companies or other organisations. This makes it ideal for employees of organisations who have been charged with responsibility for creating and operating a genuinely new venture with high growth potential. The new venture may challenge existing company management practices and require the ability to manage the innovation process. The company not only reaps the benefits of individual employees acquiring the skills offered by the program, but students' team projects will provide the company with full commercial feasibility assessments of potential company projects.

Course duration

This course is one year part-time.

Course structure

Year 1 - The Graduate Certificate year

Also year one of the Graduate Diploma in Entrepreneurship and Innovation and the Master of Enterprise Innovation.

Semester 1

EF 713 The Entrepreneurial Organisation
EF 936 Opportunity Evaluation Techniques

Semester 2

EF 910 New Venture Marketing
EF 938 Commercialising Innovation

Entry requirements

For Graduate Certificate entry there are no prerequisites other than discipline and commitment to a task, role or project requiring skills in the management of innovation. A tertiary qualification would be an advantage. Applicants may be admitted to the program at the considered discretion of the Selection Committee.

Further information

Contact the Graduate School of Management on (03) 9214 8512, (03) 9214 5323 or (03) 9214 5335.
Y075  Graduate Certificate in Enterprise Management (Family Business)

Career opportunities
This program is interdisciplinary in content and expected outcomes, combining the strengths and opportunities of which the Division's existing subjects can provide with two new subjects specifically aimed at providing skills relevant to the operation of enterprises which are family owned and run.

It combines several skill areas - organisational behaviour, marketing and quantitative assessment - and draws them together to enable comprehensive analysis of the firm's competitive position and innovation performance in order to focus the firm's resources on the achievement of long-run success.

Recent studies have concluded that family businesses are fundamentally different from non-family businesses, having a number of unique problems, particularly in the areas of succession issues, dynastic tensions and funding of growth.

These issues, of considerable importance to those concerned with family businesses, have not previously been covered in depth in the existing suite of innovation and enterprise programs.

Course duration
Normally one year part-time

Course structure
EF713  The Entrepreneurial Organisation
EF926  Opportunity Evaluation Techniques
EF721  Operating the Family Business Internationally
EF722  Strategic Management of the Family Business

Entry requirements
A tertiary qualification would be an advantage. However, persons without formal qualifications who demonstrate that they can apply appropriate discipline and commitment to a task, role or project requiring skills in the area of the management of family businesses may be admitted to the program at the considered discretion of the selection committee.

Further information
Contact the Graduate School of Management on (03) 9214 8512, (03) 9214 5332 or (03) 9214 5336.

A076  Graduate Certificate in Export

The Graduate Certificate in Export is a one year course available to Graduates and/or those with significant experience in exporting.

Overview
The Graduate Certificate in Export is a unique course in that it combines essential business skills with exposure to current export experience.

This course offers students personalised teaching facilitated by maintaining relatively small intake groups.

Location
Hawthorn campus.

Career opportunities
This course offers students new areas of expertise which both enhance the likelihood of gaining employment and for those already in jobs, it ensures they become more productive, improving their mobility and promotional opportunities.

Group work makes for strong, net-working amongst members of the group and between group members and experienced exporters who present within the course.

This provides career and professional opportunities.

Course duration and delivery
The course is offered on a part-time basis. Classes are held on Saturday mornings, 8.00am - 1.00pm, over a period of thirteen weeks each semester. Each of the four subjects make up 12.5 credit points, making up 50 credit points for the Graduate Certificate qualification. Normally students would need to spend at least as much time out of class (4.5 hours) as in class. This will vary considerably according to the students' background and course content.

Course structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC4X1</td>
<td>12.5</td>
</tr>
<tr>
<td>BC4X2</td>
<td>12.5</td>
</tr>
<tr>
<td>BC4X3</td>
<td>12.5</td>
</tr>
<tr>
<td>BC4X4</td>
<td>12.5</td>
</tr>
</tbody>
</table>

BC4X1  Export Strategy - Major Determinants
BC4X2  Export Strategy - Applications
BC4X3  Export Administration
BC4X4  Exporting in Practice

Entry requirements
Applicants must have either completed an undergraduate degree or have approximately three years experience in exporting and be able to support their ability to complete the course.

Y170  Graduate Certificate of Management

The development of a growing economy depends directly on the quality of the management and leadership skills guiding and facilitating individual business ventures. This dependence is heightened in organisations actively engaged in innovative change processes and committed to the fundamental processes of continuous improvement.

The Graduate Certificate of Management provides a foundation management skill set for people developing business opportunities or seeking careers and qualifications in management. As such, it provides an end qualification in its own right. Additionally, the program is part of a nested suite of graduate programs in management that also includes the Graduate Diploma of Management and the Masters of Management.

Hence successful participants can continue their studies to either the Graduate Diploma or Masters level according to need. A consistent educational philosophy applies to all three programs that advocates:

- students be provided with an in-depth knowledge of management, but with an outward looking aspect;
- the graduate is not the mere administrator of a business, but is equipped with the specialist management and administrative skills necessary to effectively manage a productive commercial enterprise, and can lead the company into new fields;
- enterprise and change management requires a high degree of knowledge in many areas through interdisciplinary teaching;
- a growing economy is dependent upon the continuing recognition and development of growth enterprises;
- emphasis be placed on the management of change and new opportunities rather than administration of established practices;
- focus be given to the planning and control of rapid business growth and change processes;
- constant attention be given to integrating knowledge through interdisciplinary approaches rather than separating knowledge into functional specialties;
- commitment be given to the notion of “theory for practice’s sake” with emphasis on applying leading edge theory to seek practical solutions for complex real-world problems.

The program aims to prepare graduates for current, or future, management responsibilities that demand the acquisition of innovative management skills which have not been provided by their prior specialist training.

Course duration and delivery
A Graduate Certificate program consists of an approved grouping of subjects with a minimum value of 50 credit points. Delivery is over one semester full-time or equivalent part-time.

Course structure

<table>
<thead>
<tr>
<th>Stage One</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER115</td>
<td>12.5</td>
</tr>
<tr>
<td>ER116</td>
<td>12.5</td>
</tr>
<tr>
<td>ER117</td>
<td>12.5</td>
</tr>
<tr>
<td>ER118</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Entry requirements
Applicants not holding an appropriate degree or equivalent may initially be admitted to either the Graduate Certificate or the Graduate Diploma program. Students

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enrolled in either Bachelor of Engineering or Bachelor of Technology programs at Swinburne may be admitted to a combined program.

Application procedure

Australian residents
Contact the Graduate School of Management on (03) 9214 5337 or (03) 9214 5335.

International students
Students wishing to study at Swinburne and who are not Australian residents should call the International Student Unit.

Telephone: (03) 9214 8647
Facsimile: (03) 9214 3648
International: (+613) 9214 8647
International: (+613) 9214 3648

Fees
Fees are payable by all students selected into the program and are reviewed on a regular basis. The fees currently stand at $1,500 per subject. From 1998 a limited number of subsidised places will be available for local students which would reduce the fee to $1,750 per subject.

Students undertaking the courses full time are required to attend a residential bridging program at a fee of $1,500.

Further information
Contact the Program Leader, Brian Irons on

 Telephone: (03) 9214 8647 or Fax: (03) 9214 3648
 Or the Graduate School of Management on (03) 9214 8647 or (03) 9214 5335.
 Website: www.swin.edu.au/sgsm

A077 Graduate Certificate in Organisation Dynamics

This course is for managers and specialist role holders (e.g. organisation consultants) who wish to extend their knowledge and understanding of the dynamics of human behaviour in work settings. Most students in this course have significant experience of trying to achieve organisational outcomes with and through the efforts of other people, whether in large or small organisations.

At the completion of the program, it is expected that students will have:

- understood and be able to critique established and emerging systems of knowledge about organisations and human behaviour in organisational settings;
- strengthened through applied learning, their capabilities for tolerating and engaging with the dynamics of work life from particular organisational roles, especially those of managing and consulting;
- particular knowledge of, and skill in the processes of leading, following and changing in diverse, multifaceted, organisations;
- had the opportunity to establish the foundations for further post graduate study in organisation dynamics.

Professional recognition
Graduates of this course are eligible to apply to the Australian Human Resources Institute as a partial requirement of membership.

Course duration and delivery
The course entails two semesters of intensive part-time study. The experiential aspects of the learning method require a commitment to class participation and the applied emphasis requires a significant amount of field work outside of class times. A variety of learning methods are used ranging through didactic instruction, guided reading, discussion groups, simulations, fieldwork, and “here and now” exploration of the dynamics of the class as a group. The course is distinguished by its attention to both cognitive and emotional data in the analysis of organisation dynamics.

Each semester two subjects, each of two hours classtime, are offered and they must be taken in the required sequence.

Course Structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BH404 The Social Structure of Organisation Dynamics 12.5</td>
<td></td>
</tr>
<tr>
<td>BH405 Leading, Following and Group Dynamics 12.5</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BH406 The Dynamics of Culture and Diversity in Organisations 12.5</td>
<td></td>
</tr>
<tr>
<td>BH407 Consulting Processes for Organisations 12.5</td>
<td></td>
</tr>
</tbody>
</table>

Admission requirements
Entry is open to university or other graduates who hold a degree or diploma, or its equivalent and who have a minimum of 5 years relevant work experience.

Special Entry
The program is also available to a restricted number of candidates without a tertiary qualification, whose position or experience is sufficient to undertake the course.

Application procedure
Admission is determined by a selection committee. In addition to academic achievements, selection depends upon experience and development potential. According to, each applicant is invited to attach to the application form a detailed curriculum vitae and a description of their reasons for applying for this program. A letter of support from the employer is required at the selection interview.

Articulation arrangements
Students who complete the Graduate Certificate with appropriate academic achievement may seek entry to the Graduate Diploma in Organisation Dynamics. Further articulation is then possible through the Master of Business (Organisation Dynamics) and the Professional Doctorate in Organisation Dynamics.

Fees
The course is offered on a fee paying basis only.

Further information
Contact the Graduate School of Management on (03) 9214 5337 or (03) 9214 5335.

A074 Graduate Certificate in Taxation and Finance

This course develops the technical, practical, analytical and creative skills necessary to support a successful career in accounting, taxation and finance. It provides an entry level into tertiary study and the ability to obtain a tertiary qualification for a large number of accountants, advisors and managers. It is also valuable for those wishing to update their existing knowledge in the areas of tax planning, investment management and finance.

Location
Hawthorn campus.

Course duration and delivery
The duration of the course will be one year part-time. To qualify for the award of Graduate Certificate in Taxation and Finance students must accumulate a minimum of 50 credit points. Students should expect to make a commitment of approximately 12 hours per week, including formal class contact time of 4 hours per week.

Course structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC410 Introduction to Taxation 12.5</td>
<td></td>
</tr>
<tr>
<td>BC412 Introduction to Finance 12.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC411 Taxation Entities, Issues and Planning 12.5</td>
<td></td>
</tr>
<tr>
<td>BC413 Investment Analysis 12.5</td>
<td></td>
</tr>
</tbody>
</table>

Entry requirements
Applicants should have two years practical business experience and/or an interest in studying taxation and finance.

Fees
The Graduate Certificate in Taxation and Finance is a full-fee paying course.

Further information
Contact the School of Business on (03) 9214 5046 or the course convenor, Denis Vinen on (03) 9214 8474.

Y073 Graduate Certificate in Training Management

This program is offered by the Centre for Innovation and Enterprise Pty Ltd in association with the Australian Institute of Management (AIM) with classes conducted at the AIM Management Centre, 181 Fitzroy Street, St Kilda.

Career opportunities
The program is designed for people interested in the use and effects of training in the innovation process but will be of particular value to employees of organisations who have been charged with the responsibility of developing training interventions to support organisational change.

The courses in the program cover four key aspects of training management:

- principles and planning of training interventions;
- design and development of training programs;
- innovation and training;
- administration and evaluation of training.

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The program provides a sound theoretical base in all four areas and the major projects and exercises undertaken in the program will provide the opportunity for participants to apply their learning to their own or other organisations. A tangible outcome of the program will be some actual training programs designed and detailed ready for implementation.

**Course duration**
The program is designed to be completed within one calendar year of commencement of the first subject.

**Location**
Normaly classes will be held at the Australian Institute of Management (AIM), 181 Fitzroy Street, St Kilda.

**Course structure**
Subjects are block taught in a modular structure and the course is as follows:
- EF820 Planning of Training Programs
- EF821 Program Design
- EF822 Training Innovation and Evaluation
- EF823 Administration of Training

Each subject is taught over four consecutive Wednesdays of nine hours a day, with a month break between subjects. This includes evaluation and examination sessions.

**Entry requirements**
Applicants should comply with one of the following:
- A first degree in any discipline and commitment by an employee to a task, role or project requiring skills in training management.
- Applicants who lack a first degree may be admitted to the program at the considered discretion of the Head of the Division.

**Further information**
Dr Bruce Johnson on (03) 9214 8381 or the Swinburne Graduate School of Management on (03) 9214 5335.

**Graduate Diplomas**

**A180 Graduate Diploma in Business Administration**

The Graduate Diploma in Business Administration is a one-year full-time program. The course is also offered on a two-year part-time basis.

This program is offered for qualified executives or potential executives, who have not undertaken significant duties in the administration/management field, but in the course of their employment feel the need for a broader knowledge of this area. The aims and objectives of the course are to give candidates:

- a working knowledge of the factors affecting the task of the manager and methods of analysing these factors. Particular emphasis is on the needs of the middle management in both private and public enterprise, to manage in a changing global environment;
- an opportunity to examine and practice problem-solving and decision making in management situations, which should equip students in any type of business organisation with the ability to develop logical and creative approaches to their jobs.

After completion of the course, candidates will have improved their analytical skills and effectiveness in dealing with managerial responsibility. Moreover, participants will have a broader outlook extending beyond their immediate specialist needs.

**Course duration and delivery**
The Graduate Certificate and Graduate Diploma levels of the nested program each consist of four subjects, with each subject having a credit point value of 12.5. These eight subjects form the MBA core. The MBA level has two options: an Executive or a Coursework stream. The Executive MBA consists of three industry-based projects each equal to two subjects (25 credit points), with a total credit point value of 75. The Coursework stream is offered in a number of specialisations and has four subjects, with each subject having a credit point value of 12.5 plus a project equal to two subjects (25 credit points). It is possible to exit at each level of the program.

**Course structure (Part time)**

**Year 1**

- **Course**
  - BSC400 Accounting for Managers
  - BHA250 The Learning Organisation 1: Interpersonal, Leadership and Team Skills
  - BHA250 International Business Foundations
  - PA44000 Marketing Management

**Year 2**

- **Course**
  - BSC300 Financial Management
  - BHA240 The Learning Organisation 2: People, Change and Continuous Improvement
  - BTF350 Information Technology for Management
  - BMA320 Corporate Strategy

**Progression to the Master of Business Administration (MBA)**

In successful completion of the Graduate Diploma in Business Administration students with appropriate academic achievement may seek to continue to the next level: the Master of Business Administration.

**Entry requirements**

Entrance is open to graduates who hold a degree or diploma or its equivalent from a recognised tertiary institution. The course is also available to a restricted number of candidates whose position or experience in employment is sufficient indication of their capacity to complete the course. Admission is determined by a selection committee. In addition to academic achievements the selection criteria include at least four years industrial experience and executive potential. Accordingly each applicant is asked to attach a detailed curriculum vitae to the application form.

Graduates of the Swinburne Graduate Certificate of Business Administration can progress to the Graduate Diploma of Business Administration.

Applicants who do not hold an appropriate qualification but who have significant relevant work experience (normally five years or more) may be admitted to the Graduate Certificate level.

**Application procedure**
Application forms are available from the Swinburne Graduate School of Management on telephone (03) 9214 5332 or (03) 9214 5335.

Applications should be made directly to:
- Graduate School of Management
- Swinburne University of Technology
- P.O. Box 218
- Hawthorn
- Victoria 3122

Applications must be accompanied by a certified copy of original transcripts of official results.

**Fees**
The Graduate Diploma in Business Administration is a full fee-paying course.

**Further information**
Course convenor, Barbara Evans on (03) 9214 8388 or contact the Graduate School of Management on (03) 9214 5332 or (03) 9214 5335.

**Y082 Graduate Diploma in Entrepreneurship and Innovation**

The first four subjects of this program have already been outlined under the Graduate Certificate of Enterprise Management. The next four subjects, required for the award of a Graduate Diploma in Entrepreneurship and Innovation, extend the capability of commercial feasibility assessment to encompass the further skills required for production of a full-scale, multi-disciplinary, new venture business plan.

This program has been developed for people who intend to start new, innovative businesses or to play a leading role in an innovative unit of an established organisation. The core of the program provides the theoretical and practical skills required to produce a comprehensive business plan integrating marketing, organisational behaviour and financial planning via a flexible corporate strategy into a business plan capable of attracting the risk capital of equity investors - venture capitalists and others. This program provides professional capabilities not only to potential entrepreneurs, but also to ‘entrepreneurial professionals’ and managers with an entrepreneurial outlook who wish to stay within an organisation and practice entrepreneurship by generating new ventures under the corporate umbrella.

Each subject may be taught in the traditional or in one of three (three-hour) lecture and in block mode (usually two three-hour block modules).

Students are expected to spend a minimum of the equivalent of class contact hours per week in private study and/or on work project work.

**Location**
- Hawthorn campus.
The program aims to prepare graduates for current, or future, responsibilities that demand the acquisition of innovative management skills which have not been provided by their prior specialist training.

Course duration and delivery
A Graduate Diploma program consists of an approved grouping of subjects with a minimum value of 100 credit points. Delivery is over two semesters full-time or equivalent part-time.

Course structure

<table>
<thead>
<tr>
<th>Stage One</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF815 Intro. to Accounting and Finance</td>
<td>12.5</td>
</tr>
<tr>
<td>EF816 Management Fundamentals</td>
<td>12.5</td>
</tr>
<tr>
<td>EF817 Project and Asset Management</td>
<td>12.5</td>
</tr>
<tr>
<td>EF818 Management Practices</td>
<td>12.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester Two</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EF850 Marketing Management</td>
<td>12.5</td>
</tr>
<tr>
<td>EF845 New Venture Accounting and Finance</td>
<td>12.5</td>
</tr>
<tr>
<td>EF854 The Business Plan</td>
<td>12.5</td>
</tr>
<tr>
<td>EF861 Leadership Team Building &amp; Change Mgt</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Entry requirements
Applicants not holding an appropriate degree or equivalent may initially be admitted to either the Graduate Certificate or the Graduate Diploma Program. Students enrolled in either Bachelor of Engineering or Bachelor of Technology programs at Swinburne may be admitted to a combined program.

Application procedure
Further information and application forms

Australian residents
Graduate School of Management on (03) 9214 5302 or (03) 9214 5305.

International students
Students wishing to study at Swinburne and who are not Australian residents should call the International Student Unit:
Telephone: (03) 9214 8647 International: (+613) 9214 8647
Facsimile: (03) 9214 3648 International: (+613) 9214 3648

Fees
Fees are payable by all students selected into the program and are reviewed on a regular basis. The fees currently stand at $1,100 per subject. From 1998 a limited number of subsidised places will be available for local students which would reduce the fee to $1,250 per subject.

Further information
Contact the Program Leader, Brian Irons on Telephone (03) 9214 6508 or fax (03) 9214 5245.
Or the Graduate School of Management on (03) 9214 5302 or (03) 9214 5305.
Website: www.swin.edu.au/sgsm

Y084 Graduate Diploma in Management (Manufacturing)

Career opportunities
This program prepares graduates to undertake the role of managers in an industrial/manufacturing setting through the acquisition of skills and knowledge in many of the areas of work in which they will be employed.

The program is interdisciplinary in content and in expected outcomes, thereby capitalising on the strengths and opportunities which the Division's existing subjects can provide. It allows students to engage relevant and contemporary issues by offering a combination of existing subjects from programs in management, innovation and entrepreneurship or other postgraduate programs offered by the Higher Education Division.

Location
Hawthorn campus. This course may also be offered as an in-house training program.

Course duration
Normally two years part-time or one year full-time.

Course structure
EB64 Manufacturing Management
EB82 TQM
There are three broad aims of this program:

The Graduate Diploma in Market Modelling is an important offering to business and government in order to improve workplace performance by:

a) the completion of a degree or diploma, with experience in manufacturing management; or
b) the completion of the Graduate Certificate in Management (Manufacturing) with no grade less than a credit and at least two grades of distinction or above; or
c) a limited number of applicants not meeting the criteria above may be admitted after interview on the basis of considerable relevant experience and level of responsibility in industry or business.

Further information

Contact the Graduate School of Management on (03) 9214 5332 or (03) 9214 5335.

A089 Graduate Diploma in Market Modelling

The Graduate Diploma in Market Modelling is an important offering to business and government in order to improve workplace performance by:

- increasing the level of skills and knowledge deemed necessary to generate efficient and appropriate information and forecasts;
- providing a basis for developing alternative models that can test the impact of decisions or proposed courses of action;
- improving the ability of graduates to conceptualise market problems and market dynamics;
- recognising the importance of incorporating information and forecasts into the strategic planning process.

There are three broad aims of this program:

- to develop course participants’ skills so that they will be better equipped to perform an evaluation of the dominant environmental factors which affect the markets in which different business organisations operate;
- to utilise the evaluation of the market and together with the necessary tools and knowledge to develop a market model. The model will then be used to obtain appropriately based forecasts for the market parameters considered important by business or government for the short, medium and long term horizons;
- to be able to take the results obtained in the above aims, and present necessary management and technical reports that will allow efficient and effective use of the information obtained.

Location

Hawthorn campus.

Course duration and delivery

The course is conducted on a part-time basis over a period of two years. Normally students would undertake two subjects per semester of two hours duration each. The program is timed to allow for the development of skills that will be highly valued by business or government for the short, medium and long term horizons.

The subject in Research Methodology has been designed to meet the needs of all students proceeding to postgraduate studies. The subject aims to provide students with the basics for pursuing self-directed learning relevant to their workplace.

The core subjects are designed to provide students with the basic knowledge and skills necessary for developing and applying market models.

The elective subjects may be chosen from a subset of accredited subjects from within existing graduate diplomas at Swinburne, graduate studies from other educational institutions or appropriate industry based structured education and training. In general, it will be expected that program participants will choose subjects from within existing graduate diplomas.

Course structure

The course structure consists of a generic core subject in Research Methodology, six core subjects and one elective subject.

Generic core subject

<table>
<thead>
<tr>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>B0200 Research Methodology</td>
</tr>
</tbody>
</table>

Core subjects

<table>
<thead>
<tr>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM901 Economics</td>
</tr>
<tr>
<td>BM902 Marketing Management 1</td>
</tr>
<tr>
<td>BM906 Marketing Research Methods</td>
</tr>
<tr>
<td>BM907 Market Modelling 1</td>
</tr>
<tr>
<td>BM908 Business Demography</td>
</tr>
<tr>
<td>BM907 Market Modelling 2</td>
</tr>
</tbody>
</table>

Plus one elective subject from:

<table>
<thead>
<tr>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC903 Introduction to Financial Management</td>
</tr>
<tr>
<td>BC912 Forecasting and the Planning Process</td>
</tr>
<tr>
<td>BH907 Organisational Psychology</td>
</tr>
<tr>
<td>BT906 Information Analysis</td>
</tr>
</tbody>
</table>

* Subject generally taken and designed for the course.

Entry requirements

Course participants will normally be selected from those applicants who possess an undergraduate degree or its equivalent from a recognised university or tertiary institution. It is expected that participants will have a minimum of two years relevant work experience subsequent to initial graduating.

It is anticipated that students wishing to undertake this program will have some background in information technology and statistics at undergraduate level through appropriate industry based training. Students who cannot demonstrate introductory knowledge in these areas may be required to undertake formal coursework.

In addition, a limited number of places (up to ten per cent) will be made available to persons who do not hold a formal tertiary qualification but who meet minimum standards as may be laid down from time to time by the University. A limited number of places (up to ten per cent) will also be offered to recent graduates who wish to embark on higher degree studies.

Recognition of prior learning

Candidates may receive recognition by way of credits for subjects of structured education and training completed at other tertiary education establishments or in the workplace. Recognition of prior learning will have a maximum credit transfer of twenty-five per cent of the course.

Fees

The Graduate Diploma in Market Modelling is a full-fee paying course.

Further information

Contact the School of Business on (03) 9214 5048 or the course convenor, John Pidgeon on (03) 9714 6166.

A185 Graduate Diploma in Organisation Dynamics

This course is an articulated extension of the Graduate Certificate in Organisation Dynamics, which is its prerequisite. It offers a second year of part-time postgraduate in organisation dynamics.

This course is for managers and specialist role holders (eg: organisation consultants) who wish to extend their knowledge and understanding of the dynamics of human behaviour in work settings. Most students in this course have significant experience of trying to achieve organisational outcomes not only through the efforts of others, but also through the efforts of other people, whether in large or small organisations.

Swinburne University of Technology | 1998 Handbook
At the completion of the program, it is expected that students will have:

- a clear understanding and the ability to critique established and emerging systems of knowledge about organisations and human behaviour in organisational settings;
- stronger communication and interpersonal skills, their capacity to tolerate and engage with the dynamics of work environments, especially as expressed through the demands on senior managers to give meaning to the aims of an organisation and to make judgements in times of uncertainty;
- particular skill in conceptualising and dealing with complex organisational dynamics such as change, culture, strategy and diversity, plus a deeper appreciation of the significance of the emotional life of an organisation;
- the opportunity to establish the foundations for further postgraduate study in organisational dynamics.

Professional recognition
Graduates of this course are eligible to apply to the Australian Human Resources Institute as a partial requirement of membership.

Course duration and delivery
The course entails two semesters of intensive part-time study. The experiential aspects of the learning method require a commitment to class participation and the applied emphasis requires a significant amount of field work outside of class times.

A variety of learning methods are used ranging from didactic instruction, guided reading, discussion groups, simulations, fieldwork, and "here and now" exploration of the dynamics of the class as a group. The course is distinguished by its attention to both cognitive and emotional data in the analysis of organisation dynamics.

Each semester two subjects, each of two hours class time, are offered and they must be taken in the required sequence.

Course structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester 1</strong></td>
<td><strong>Semester 2</strong></td>
</tr>
<tr>
<td>BH 512 Advanced Group Dynamics</td>
<td>BH 513 Innovation, Change and Power in Organisations</td>
</tr>
<tr>
<td>BH 514 Work Teams in Action: Observation and Research</td>
<td>BH 515 Strategy, Judgement and Institutional Management</td>
</tr>
</tbody>
</table>

Entry requirements
Entry is open to candidates who hold a Graduate Certificate in Organisation Dynamics or its equivalent.

Entry requirements
Admission is determined by a selection committee. In addition to academic achievement, selection depends upon performance in both individual and group-based assessment tasks within the Graduate Certificate of Organisation Dynamics, work experience and development potential. Accordingly, each applicant is asked to attach to the application form a detailed curriculum vitae, a personal assessment of their capacity for higher study in organisation dynamics and their reasons for applying for the graduate diploma. A letter of support from the employer is required and the applicant may be requested to participate in a selection interview.

Prerequisite subjects:
- BH404 The Social Structure of Organisation Dynamics
- BH405 Leading, Following and Group Dynamics
- BH406 The Dynamics of Culture and Diversity in Organisations
- BH407 Consulting Processes for Organisations

Articulation arrangements
Students who complete the Graduate Diploma may seek entry to the Master of Business in Organisation Dynamics. Further articulation to the Professional Doctorate in Organisation Dynamics is then possible.

Fees
The course is offered on a fee paying basis only.

Further information
Course convenor, John Newkirk or (03) 9214 6598, or the Graduate School of Management on (03) 9214 5302 or (03) 9214 5325.

Higher Degrees (by coursework)

**A190/191 Master of Business Administration (MBA)**

This is a general management program which meets the career needs of organisational leaders now and towards the year 2000.

Participants in the program focus on responsibility and success in a rapidly changing world, the need to make proper use of new technologies, the need to export and the skills of people management. In addition they will develop an integrated knowledge of the practical applications of the key business disciplines such as financial management, information technology for management, management strategy and strategic planning.

Graduates of this course will be equipped to move rapidly into positions of responsible organisational leadership. They will provide the professional management needed by all types of organisations in this time of change.

Both senior managers and young executives in the early stages of their careers will benefit from the course.

Course duration and delivery
The Master of Business Administration is a one year full-time program. The course is also offered on a part-time basis.

The Graduate Certificate and Graduate Diploma levels of the nested program each consist of four subjects, with each subject having a credit point value of 12.5. These eight subjects form the MBA core. The MBA level has two options: an Executive or a Coursework stream. The Executive MBA consists of three industry based projects each equal to two subjects (25 credit points), with a total credit point value of 75. The Coursework stream is offered in a number of specialisations and has four subjects, with each subject having a credit point value of 12.5 plus a project equal to two subjects (25 credit points). It is possible to exit at each level of the program.

Four days in residence
A residential program is organised for students to get to know other course members and the teaching staff, clarify expectations about the course and its themes, establish working teams, and consider the key behavioural aspects of organisational life.

Course structure
The minimum requirement for the award of an MBA is successful completion of the eight core subjects (100 credit points):

<table>
<thead>
<tr>
<th>Year</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BC490</td>
<td>Accounting for Managers</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>BH490</td>
<td>International Business Foundations</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>BH490</td>
<td>The Learning Organisation 1: Interpersonal, Leadership and Team Skills</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>BA490</td>
<td>Marketing Management</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>BH490</td>
<td>The Learning Organisation 2: People, Change and Continuous Improvement</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>BS590</td>
<td>Financial Management</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>BT590</td>
<td>Information Technology for Management</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>BH590</td>
<td>Corporate Strategy</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Plus an additional 75 credit points with the content determined by the student's choice of the Executive or Coursework stream at the MBA level.

The Executive stream will allow students to complete three, industry based projects (each worth 25 credit points) as their specialist study. The Coursework stream enables students to undertake four coursework subjects (50 credit points) and an applied project (25 credit points) in one of the following areas of specialisation:

**General Management**
- BH693 Strategy for Competitive Advantage
- EP943 Strategic Entrepreneurship
- and two of:
  - BB701 Management and Innovation
  - BB802 Technology and Management
  - BB804 Management and Society
  - BB701 Economics for Management
  - and the Project (two units) focussed on Corporate Strategy or:

**Construction Management**
- CB702 Construction Law & Safety
The formal admission requirement for the MBA program is an appropriate undergraduate qualification at an acceptable level from a recognised tertiary institution and at least two years of relevant work experience. Work experience gained in a cooperative education degree program will normally be accepted. Applicants with other qualifications and experience which, in the opinion of the Head of School, are of equivalent standard will also qualify for entry. In some cases, additional preliminary study may be required. For some specialisations, an interview may be necessary as part of the selection process. Applicants who do not hold an appropriate qualification but who have significant relevant work experience (normally five years or more) may initially be admitted to the Graduate Certificate level.

**Application procedure**
Application forms are available from the Graduate School of Management on telephone (03) 9214 5332 or (03) 9214 5335. Applications must be accompanied by a certified copy of original transcripts of official results. Applicants are requested to provide as much information as possible about themselves, and their employment history, to assist the selection panel.

**Information Technology Management**
- B702 Current Issues in Information Systems
- B701 Systems Project Management
- B702 Information Systems Management
- B706 Information Technology Effectiveness
- B709 Project (two unit value)

**Innovation and Enterprise**
- E936 Opportunity Evaluation Techniques
- E923 Growth Venture Evaluation
- E943 Entrepreneurship in Corporations
- E938 Commercialising Innovation
- E930 Managing the Growing Business
- E934 Project: Business Plan (two units)

**International Business**
- B912 International Marketing
- B921 International Trade and Finance
- B912 Legal Aspects of International Business
- B913 International Management
- B909 Project

**Manufacturing/Operations Management**
- OM683 Logistics Management
- OM681 Manufacturing/Operations Management
- OM682 Total Quality Management
- OM683 Project Management
- OM684 Risk Management
- OM689 Project (two units)

**Marketing**
- BM590 Communication Strategy
- BM591 Marketing Analysis
- BM592 Market Planning, Implementation and the Law
- BM593 Strategy for Competitive Advantage
- BM599 Project (two units)

**Note:** availability of specialisations is dependant upon demand.

**Entry requirements**
The formal admission requirement for the MBA program is an appropriate undergraduate qualification at an acceptable level from a recognised tertiary institution and at least two years of relevant work experience. Work experience gained in a cooperative education degree program will normally be accepted. Applicants with other qualifications and experience which, in the opinion of the Head of School, are of equivalent standard will also qualify for entry. In some cases, additional preliminary study may be required. For some specialisations, an interview may be necessary as part of the selection process. Applicants who do not hold an appropriate qualification but who have significant relevant work experience (normally five years or more) may initially be admitted to the Graduate Certificate level.

**Application procedure**
Application forms are available from the Graduate School of Management on telephone (03) 9214 5332 or (03) 9214 5335. Applications must be made directly to:

Graduate School of Management
Swinburne University of Technology
PO Box 218, Hawthorn, Victoria 3122

Applications should be made directly to:

Graduate School of Management
Swinburne University of Technology
PO Box 218, Hawthorn, Victoria 3122

Further information
Contact the Graduate School of Management on (03) 9214 5332 or (03) 9214 5335.

**AO91 Master of Business (Organisation Dynamics)**

This is a four year part-time degree by coursework and minor thesis. The first two years are the same as for the Graduate Diploma in Organisation Dynamics; year three comprises a further four coursework subjects and the final year is devoted to the preparation, under supervision, of a minor thesis. The general aim is to develop the capacity of participants to conduct applied research into behavioural issues in organisations.

**Course structure**

**Years 1 & 2**
Graduate Diploma in Organisation Dynamics

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BH708</td>
<td>Processes of Inquiry and Research in Organisation Dynamics 1</td>
</tr>
<tr>
<td>BH709</td>
<td>Processes of Inquiry and Research in Organisation Dynamics 2</td>
</tr>
<tr>
<td>BH710</td>
<td>Processes of Inquiry and Research in Organisation Dynamics 3</td>
</tr>
<tr>
<td>BH711</td>
<td>Processes of Inquiry and Research in Organisation Dynamics 4</td>
</tr>
</tbody>
</table>

These subjects have a generic structure and the content may vary from year to year. The general aim is to develop the capacity of participants to conduct applied research into organisational behaviour.

**Entry requirements**
Entry is open to those who have satisfied to an appropriate standard the entry requirements of the Graduate Diploma in Organisation Dynamics (or its equivalent). Admission is determined by a selection committee and places are limited. The potential for and interest in doing applied research is an important selection criterion. Accordingly, each applicant is asked to attach to the application form a detailed curriculum vitae and a personal statement.

**Further information**
John Newton, course convener on (03) 9214 8591 or the Graduate School of Management on (03) 9214 5332 or (03) 9214 5335.
Y091 Master of Enterprise Innovation (MEI)

The first eight subjects of the Master of Enterprise Innovation program are those already outlined for the Graduate Certificate of Enterprise Management and the Graduate Diploma in Entrepreneurship and Innovation.

The final four subjects extend the student beyond the frontiers of new venture business analysis and self-initiated projects.

The subject Strategic Intent and Corporations deepens their knowledge of a range of major issues based on the problem of effective strategy formulation as it impacts on entrepreneurial business development. The ability to conduct rigorous, formal research in the discipline of entrepreneurship is fostered by the Entrepreneurial Research Project. Finally, the development. The ability to conduct rigorous, formal research in the discipline of entrepreneurship is fostered by the Entrepreneurial Research Project. Finally, the combination of knowledge acquired in these three subjects can be added to students' existing skills to produce an advanced business plan - one capable of passing the most rigorous scrutiny of a professional investment analyst for a multinational venture capitalist company.

Each subject may be taught in the traditional mode of one (three or four hour) night class per week over a thirteen week semester or in "block mode" (usually two three-day class modules).

Students are expected to spend a minimum of the equivalent class contact hours per week in private study and/or team project work.

Location

Hawthorn campus

Course structure

The Master Year (Year 3 of the Master of Enterprise Innovation)

Year 1 of the Masters program is as per the Graduate Certificate in Enterprise Management.

Year 2 of the Masters program is as per year 2 of the Graduate Diploma in Entrepreneurship and Innovation.

Semester 1

<table>
<thead>
<tr>
<th>Subject</th>
<th>Total hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF923 Growth Venture Evaluation</td>
<td>30</td>
</tr>
<tr>
<td>EF924* Advanced Business Plan</td>
<td>20</td>
</tr>
<tr>
<td>EF934* Entrepreneurial Research Project</td>
<td>20</td>
</tr>
</tbody>
</table>

Semester 2

<table>
<thead>
<tr>
<th>Subject</th>
<th>Total hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF943 Strategic Intent And Corporations</td>
<td>40</td>
</tr>
<tr>
<td>EF934* Advanced Business Plan</td>
<td>20</td>
</tr>
<tr>
<td>EF954* Entrepreneurial Research Project</td>
<td>20</td>
</tr>
</tbody>
</table>

* These subjects extend over both semesters.

Entry requirements

Applicants at Master level should comply with one of the following:

- have completed a degree in a professional field at a recognised university or college, preferably at Honours level;
- have completed the Graduate Diploma in Entrepreneurship and Innovation or the Graduate Diploma in Management or the Graduate Diploma in Manufacturing Management with no less than four grades at or above the distinction level;
- have such other qualifications or experience as, in the opinion of the Selection Committee, are of a satisfactory standard and are suitable preparation for entry to the program.

Further information

Contact the Graduate School of Management on (03) 9214 5332 or (03) 9214 5335.

AO96 Master of International Business

The Master of International Business is a specialised, vocational and multi-disciplinary program aimed at preparing graduates for careers in the dynamic and diverse world of international business.

It has been developed to meet the demand by business and industry to educate managers and potential managers in the constantly changing multicultural and global perspective required to achieve and sustain international competitive advantage and world best practice now and beyond the year 2000.

At the completion of the program, students have a clear grasp of the key issues in international business, are capable of analysing problems and opportunities and encouraging, developing and evaluating innovative solutions to business opportunities, and are able to apply the latest theoretical concepts and tools in the pursuit of practical solutions.

Course duration and delivery

The program is taken over four semesters of full-time study or eight semesters of part-time study. Students are normally required to undertake either four or two subjects each semester, depending on whether they are enrolled in the full-time or part-time option. Additional summer semester studies may be offered as the program develops.

Subject to demand and resource limitations, the University may offer some or all subjects in an intensive, block-teaching format, enabling participants to complete the entire program within an elapsed time not less than 18 months or three normal semesters of full-time study.

Course structure

The program consists of sixteen subjects including a four-subject equivalent business project of 18,000 words. The subjects are organised into four stages, and are consistent with the objectives of providing a broad coverage and integration of the various disciplines studied. There are no electives, although students may choose the language and cultural stream they wish to pursue from those currently being offered. These streams will normally be based on the language and cultural study programs available at Swinburne, which at present include Italian, Japanese, Korean, Vietnamese, Chinese and Australian.

Students who wish to study a language and cultural program other than these six, may be allowed to do so if a suitable program at Swinburne or another accredited institution can be identified.

In 1998 this course will be offered both on a full-time and part-time basis.

Stage 1

B1711 Foundation of International Business
B1712 International Marketing
B1713 Business Language and Cultural Context A
B1715 International Business Project - Research Methodology.

Stage 2

B1721 International Trade and Finance
B1722 International Marketing Research
B1723 Business Language and Cultural Context B
B1725 International Business Project (Minor Thesis)

Stage 3

B1811 International Financial Management
B1812 Legal Aspects of International Business
B1813 International Management
B1825 International Business Project (contd.)

Stage 4

B1821 Global Information Strategies
B1822 International Logistics Management
B1823 International Business Policy
B1825 International Business project (contd.)

Further information

Richard Donkin, course convenor on (03) 9214 9410 or the Graduate School of Management on (03) 9214 5332 or (03) 9214 5335.

Y190 Master of Management

The development of a growing economy depends directly on the quality of the management and leadership skills guiding and facilitating individual business ventures. This dependence is heightened in organisations actively engaged in innovative change processes and committed to the fundamental processes of continuous improvement.

Master of Management provides a comprehensive, integrated and practical management skill set for people developing business opportunities or seeking careers and qualifications in management at the Masters level. The program is part of a nested suite of graduate programs in management that also includes the Graduate Certificate in Management and the Graduate Diploma in Management. A consistent education philosophy applies to all three programs that advocates:

- students be provided with an in-depth knowledge of management, but with an onward looking aspect;
- the graduate is not the mere administrator of a business, but is equipped with the specialist management and administrative skills necessary to effectively manage a productive commercial enterprise, and can lead the company into new fields;
A Masters program consists of an approved grouping of subjects with a minimum value of 150 credit points. Delivery is over three semesters full-time or equivalent part-time.

Course structure

**Stage One**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB15</td>
<td>Intro to Accounting and Finance</td>
<td>12.5</td>
</tr>
<tr>
<td>EB16</td>
<td>Management Fundamentals</td>
<td>12.5</td>
</tr>
<tr>
<td>EB17</td>
<td>Project and Asset Management</td>
<td>12.5</td>
</tr>
<tr>
<td>EB18</td>
<td>Management Practices</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Stage Two**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB630</td>
<td>Marketing Management</td>
<td>12.5</td>
</tr>
<tr>
<td>EB645</td>
<td>New Venture Accounting and Finance</td>
<td>12.5</td>
</tr>
<tr>
<td>EB654</td>
<td>The Business Plan</td>
<td>12.5</td>
</tr>
<tr>
<td>EB651</td>
<td>Leadership Team Building &amp; Change Mgt</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Stage Three**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB652</td>
<td>Strategic Intent in Enterprise Management</td>
<td>12.5</td>
</tr>
<tr>
<td>EB655</td>
<td>Employee Relations</td>
<td>12.5</td>
</tr>
<tr>
<td>EB658</td>
<td>Research Project to a total of 37.5</td>
<td>37.5</td>
</tr>
</tbody>
</table>

**Entry requirements**

The formal admission requirement to a Masters degree program is successful completion of an appropriate degree or its equivalent. Applicants not holding an appropriate degree or equivalent may initially be admitted to the Graduate Certificate or Graduate Diploma program. Applicants with other qualifications and experience will also qualify for entry. In some cases extra preliminary studies may be required. For some applicants, an interview may be necessary.

**Application procedure**

**Australian residents**

Contact the Graduate School of Management on (03) 9214 5332 or (03) 9214 5335.

**International students**

Students wishing to study at Swinburne and who are not Australian residents should contact the International Student Unit:

- Telephone: (03) 9214 8547
- Facsimile: (03) 9214 3646

**Fees**

Fees are payable by all students selected into the program and are reviewed on a regular basis. The fees currently stand at $1,500 per subject.

Students undertaking the courses full time are required to attend a residential and bridging program at a fee of $1,500.

**Further information**

Contact the Program Leader, Brian Irons on telephone: (03) 9214 8508 or Fax (03) 9214 5245 or the Graduate School of Management on (03) 9214 5332 or (03) 9214 5335.

**Website:** www.swin.edu.au/sgsm

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**Higher Degrees (by research)**

**A090 Master of Business**

The Division offers the degree of Master (by research and thesis) on a full-time or part-time basis. Applicants should have at least an undergraduate degree or the equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies must be of a high standard. Other relevant activities, including work experience, will be taken into account in assessing applications.

Intending applicants should approach the Research Coordinator, or the Executive Officer, of the School in which they intend to undertake their studies. The Research Coordinator will refer the applicant to the appropriate member(s) of the staff who may act as supervisor(s) for the degree. Formal applications for candidature, bearing the signatures of the supervisors and Head of School, are considered by the Divisional Research Committee.

The Statute for the degree of Master (by research) sets out the regulations governing this qualification.

**Course structure**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITS84</td>
<td>Management Practices</td>
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</tr>
<tr>
<td>ITS99</td>
<td>Management</td>
<td>12.5</td>
</tr>
<tr>
<td>ITS100</td>
<td>Strategic Human Resource Management 2000 and Beyond</td>
<td>12.5</td>
</tr>
<tr>
<td>ITS101</td>
<td>Human Relations</td>
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<tr>
<td>ITS102</td>
<td>Research Project</td>
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</tr>
</tbody>
</table>

**Clusters**

- **Software and Software Clusters**
- **Automated Systems Development**
- **Human Computer Interaction**
- **Intelligent Systems Engineering**
- **Research Project**

**Contact**

See entry under 'General Postgraduate Information', page 134.

**Y095 Master in Innovation & Enterprise**

See entry under Doctor of Philosophy in Innovation and Enterprise (by Research).
A001 Doctor of Philosophy (Business)
The Division offers the degree of Doctor of Philosophy on a full-time or part-time basis. Applicants should have a Master degree or the equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies should be of a very high standard. Other relevant activities, including work experience, will be taken into account in assessing applications.

Intending applicants should approach the Research Coordinator, or the Executive Officer, of the School in which they intend to undertake their studies. The Research Coordinator will refer the applicant to the appropriate member(s) of staff who may act as supervisor(s) for the degree. Formal applications for candidature, bearing the signatures of the supervisors and the Head of School, are considered by the Divisional Research Committee and the University Higher Degrees Committee. A candidate may be required to undertake preliminary coursework as part of the candidature.

The Statute for the degree of Doctor of Philosophy sets out the regulations governing this qualification, see the separate 1998 Policies and Procedures booklet.

Scholarships
Higher Education Contribution Scheme (HECS) exemption-Full-time higher degree students will normally receive a HECS exemption scholarship.

Australian Postgraduate Research Award-The Australian Research Council (ARC) offers 400 Australian Postgraduate Research Awards (APRAs) per year to postgraduate researchers of exceptional promise.

Industry Sponsored Scholarships-The Division of Business, Humanities and Social Science has been fortunate to obtain a number of scholarships from industry for which its higher degree students can apply.

Division Scholarships-The Division of Business, Humanities and Social Science is able to offer scholarships for part-time higher degree students from time to time.

Application procedure-Applicants should note that two to three months should be allowed for a successful application to be evaluated. Additionally, applicants wishing to apply for a postgraduate award must submit their application to the University by 31 October in order to have the candidature finalised by the closing date for these awards.

Prospective candidates in the first instance should contact the Higher Degrees and Research Office, Division of Business, Humanities and Social Science on (03) 9214 8744 from whom copies of the Statute for the degree of Doctor of Philosophy and the degree of Master (by research) may be obtained. Also see the publications Policies and Procedures.

Y001 Doctor of Philosophy in Innovation and Enterprise
The Centre for Innovation and Enterprise has a strong commitment to research in entrepreneurship, management and associated disciplines. There are currently many PhD theses in progress including research into the commercialisation of Australian research, government policy on the development and performance of small manufacturing businesses, factors influencing strategic alliances in high-tech industries and evaluating the value of training investment. There are also a small number of students undertaking Master degrees by research.

A002 Professional Doctorate in Organisation Dynamics
The Professional Doctorate in Organisation Dynamics is at the highest level of accredited management education in the discipline of Organisation Dynamics. The philosophy of the course is to develop further, ‘reflective practitioners’ and build on the Master of Business (Organisation Dynamics).

A strength of the course is its focus on applied research and a work based practical with attention paid to organisational role analysis, institutional and inter-organisational thinking, transitional dynamics and supervised reflection on professional practice.

Program objectives
The course focuses on applied learning, designed to link practice with theory, with a strong emphasis on leadership, transition and the management of Organisation Dynamics.

At completion of the course, graduates will be:
- capable of carrying out independent research into Organisation Dynamics and related management issues;
- capable of contributing to the field of knowledge and practice of Organisation Dynamics.

These capabilities will be developed via a program of study and supervised practice which involves formal assessment, peer and client review, and rigorous self assessment.

Professional recognition
This program is recognised by the Australian Human Resources Institute for membership purposes.

Course duration and delivery
The course consists of eight subjects organised into four years of part-time study, practice and supervised research extending over eight semesters. The course includes applied coursework subjects, a practicum focused on the development of high level management and consulting skills through an action learning method, and a research thesis, developed and implemented within a collaborative framework with industry. There is a strong emphasis on action research methods.

Course structure
Stage 1
BH708, BH709, BH710, BH711 Processes of Inquiry and Research
See details listed under the Master of Business (Organisation Dynamics) course entry.

Stage 2
BH803 Doctoral Practicum
BH804 Private Reading Unit A (Elective subject)
BH805 Private Reading Unit B (Elective subject)
BH804E Professional Doctorate Thesis

Stage 3
BH804 Professional Doctorate Thesis

Stage 4
BH804 Professional Doctorate Thesis

Entry requirements
The normal requirements for admission will be significant experience as a manager, organisational consultant or social scientist working with organisations, together with appropriate academic qualifications, normally at the Master level.

Where candidates do not have a Master degree, entry will normally be into the Master of Business (Organisation Dynamics).

Further information
Contact the Graduate School of Management on telephone (03) 9214 5332, (03) 9214 5335 or (03) 9214 8812.

Or Susan Long, Program Manager Professional Doctorate in Organisation Dynamics on (03) 9214 8145.

Computing & Information Technology
Graduate Certificates
M084 Graduate Certificate of Engineering (CAD/CAM)
The aim of this course is to prepare graduates, mainly from engineering and the physical sciences, for future roles in the application of Computer Aided Design (CAD) and/or Computer Aided Manufacturing (CAM) in the Australian manufacturing industry.

Computer aided design is defined as a system that uses a computer to assist in the creation or modification of a design. Computer aided manufacturing is defined as the effective utilisation of computer technology in the management, control and operation of the manufacturing facility through direct or indirect interface with the physical and human resources of the company.

Swinburne University of Technology | 1998 Handbook
The Graduate Certificate of Information Systems is a full-fee paying course. It can be completed part-time over two semesters.

Course duration
The Graduate Certificate of Engineering (CAD/CAM) is a one semester full-time course. It can be completed part-time over two semesters.

Course structure
Semester 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM662</td>
<td>Computer Aided Design</td>
<td>12.5</td>
</tr>
<tr>
<td>MM663</td>
<td>Manufacturing Management Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>MM664</td>
<td>Advanced Robotics</td>
<td>12.5</td>
</tr>
<tr>
<td>MM665</td>
<td>Numerical Control Systems</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Entry requirements
Candidates for the Graduate Certificate of Engineering (CAD/CAM) should have completed a degree or diploma in engineering or science at a recognised university or college or have other qualifications which, in the opinion of the Divisional Board, are of a satisfactory standard, and are suitable preparation for the Graduate Certificate program.

Continuing students
Candidates continuing to the Graduate Diploma (DM) must be aware that there are limits to the provision of multiple awards. Students who continue from one stage to the next stage without interruption to enrolment will not be eligible to take the award of the stage just completed. In this way students may not seek multiple awards for the same study sequence.

Further information
Contact the School of Engineering and Science on (03) 9214 8372
Website: www.mm.swin.edu.au

Z170 Graduate Certificate of Engineering in Open Systems
See entry under Z190 Master of Engineering in Open Systems, page 153.

AO75 Graduate Certificate of Information Systems
This course is equivalent to one semester of full-time study or two semesters part-time. There are options which are relevant to people without any computing experience and to those with substantial computing experience.

Course objectives
- To widen the opportunities for access and participation in the tertiary education system of those currently employed in the business sector;
- To provide a re-entry to tertiary study for graduates who, for whatever reason, would benefit from a more supportive learning environment;
- To provide an entry to postgraduate study for those people with excellent business experience but no formal undergraduate qualifications and who, by virtue of their age, experience, work responsibilities and other commitments, are in practical terms excluded from undergraduate and TAFE certificate courses; and
- To prepare candidates for further postgraduate studies in business information technology.

Course structure
To cater for the diverse needs of a range of experienced applicants, the course consists of four subjects from the Graduate Diploma of Information Systems. Students will be able to select subjects appropriate to their needs provided the prerequisite requirements of the subject are met.

Progression to the graduate diploma or masters program
On completion of the Graduate Certificate of Information Systems, students gaining entry to the Graduate Diploma of Information Systems, or Masters of Information Systems will be admitted with advanced standing. Entry is not automatic and is subject to academic performance and selection quotas.

Entry requirements
In order to be accepted into this course, applicants should have:
- a recognised undergraduate or postgraduate degree in a discipline other than computing; or
- at least five years significant and relevant industry experience; and/or
- professional experience in a consultancy environment.

Fees
The Graduate Certificate of Information Systems is a full-fee paying course.
The Graduate Diploma of Engineering in Computer Integrated Manufacture (CIM) aims to prepare graduates from engineering and the physical sciences for future roles in the development and application of computer integrated manufacturing in Australian manufacturing industry. Such graduates must have proven academic ability.

Computer integrated manufacturing is an important and effective means of achieving productivity improvements which must be seriously considered by manufacturing companies wishing to become and remain competitive, and which should be encouraged in the national interest so that application of appropriate technology can improve our ability to compete on international markets and against cheaper, high quality imports in the domestic market.

Course duration
The Graduate Diploma in Computer Integrated Manufacture (CIM) is a one year full-time program, but may be taken over two years part-time.

M085 Graduate Diploma of Engineering
(Computer Integrated Manufacture) (CIM)

The aim of the program is to prepare graduates from engineering and the physical sciences for future roles in the development and application of computer integrated manufacturing in Australian manufacturing industry. Such graduates must have proven academic ability.

Computer integrated manufacturing is an important and effective means of achieving productivity improvements which must be seriously considered by manufacturing companies wishing to become and remain competitive, and which should be encouraged in the national interest so that application of appropriate technology can improve our ability to compete on international markets and against cheaper, high quality imports in the domestic market.

Course structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM962 Computer Aided Design</td>
<td>12.5</td>
</tr>
<tr>
<td>MM963 Manufacturing Management Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>MM964 Advanced Robotics</td>
<td>12.5</td>
</tr>
<tr>
<td>MM965 Numerical Control Systems</td>
<td>12.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM966 Intelligent Manufacturing Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>MM967 Computer Control and Sensing</td>
<td>12.5</td>
</tr>
<tr>
<td>MM968 Expert Systems Simulation and Modelling</td>
<td>12.5</td>
</tr>
<tr>
<td>MM969 Computer Modelling and FEAs</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Entry requirements
Candidates for the Graduate Diploma (CIM) shall have completed an approved degree in Engineering for normal entry. Other applicants may be considered on their individual merits, but must have qualifications and experience which, in the opinion of the Divisional Board, are of satisfactory standard to qualify for entry.

Continuing students
Candidates continuing to the Master of Engineering (CIM) must be aware that there are limits to the provision of multiple awards. Students who continue from one stage to the next stage without interruption to enrolment will not be eligible to take the award of the stage just completed. In this way students may not seek multiple awards for the same study sequence.

Further information
Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

Z180 Graduate Diploma of Engineering
in Open Systems

For information on this course please refer to Z190 Master of Engineering in Open Systems, page 153.

A082 Graduate Diploma of Information Systems

This course is designed as an entry level course for graduates in any discipline who wish to utilise computing skills in their existing profession or who may be contemplating a change in career direction. No prior knowledge of computing will be assumed.

The course aims to assist students whose career aspirations depend on obtaining specific skills and knowledge of computing as applied to business.

Specifically the course is aimed at giving students:

- Practical skills in:
  - common business software packages;
  - computer programming;
  - structured analysis;
  - database management systems;
  - data communication;
  - expert system tools.

- Conceptual knowledge about:
  - evaluating systems development tools;
  - choosing appropriate methods of systems development and appropriate processing facilities;
  - solving problems associated with implementing computer and office automation systems;
  - the role of information technology in meeting an organisation's business objectives.

Career opportunities
The type of work that graduates may be involved in includes:

- liaising between user areas and the computer department (business analyst);
- analysing and designing information systems;
- programming;
- evaluating software and hardware;
- coordinating computer projects;
- administering a computer function within an organisation;
The subjects are delivered at three levels:

Level 1
- BT550 Introduction to Information Systems
- BT551 Business Programming 1

Level 2
- BT561 Business Computing
- BT562 Business Computing
- BT563 Information Systems 1
- BT564 Business Programming 2A
- BT565 Business Programming 2B

Level 3
- BT570 System Architecture 1
- BT571 System Architecture 2
- BT572 Information Systems 2
- BT573 Information Technology Strategies
- BT574 Business Software Engineering
- BT575 Information Systems Project
- BT576 Database Management Systems 1
- BT577 Business Computing Applications
- BT578 Knowledge Based Systems
- BT579 Database Management Systems 2
- BT580 Database Management Systems 3

Entry requirements
Entry is open to graduates who have a degree, diploma or equivalent in any discipline from a recognised university or other institution.

Standards of progress
A sub-committee reviews the results of any candidate who fails to reach a satisfactory standard of progress. The decision rests with this committee as to whether the candidate is to be allowed to continue the course.

Preclusions
Candidates may be precluded from attempting a subject if they have recently passed an equivalent subject elsewhere. In such instances candidates may select another subject after consultation with appropriate staff members.

Progression to the Master of Information Systems
Students who have completed the Graduate Diploma of Information Systems may apply for admission with advanced standing, to the Master of Information Systems program. Progression is not automatic and students would normally be expected to have attained an average of at least credit throughout their studies.

Fees
Full-time is a HECS paying course. Part-time is a full-fee paying course.

Higher Degrees (by coursework)

M086 Master of Engineering (Computer Integrated Manufacture)

The aim of the course is to prepare graduates from engineering and the physical sciences for future roles in the development and application of computer integrated manufacturing in Australian manufacturing industry. Such graduates must have proven academic ability.

Computer-integrated manufacturing is an important and effective means of achieving productivity improvements which must be seriously considered by manufacturing companies wishing to become and remain competitive, and which should be encouraged in the national interest so that application of appropriate technology can improve our ability to compete on international markets and against cheaper, high quality imports in the domestic market.

Course duration and delivery
The course is a one and a half year equivalent full-time program incorporating the academic program for the Graduate Diploma in Computer Integrated Manufacture. The coursework and the project work for Masters of Engineering (CAD) may be completed in one calendar year for a full-time course. Further options include a three and four year part-time format. Students may commence their studies in either the first or second semester of any year and spend the first two semesters enjoyed in course work.

Course structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM682 Computer Aided Design</td>
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</tr>
<tr>
<td>MM683 Manufacturing Management Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>MM684 Advanced Robotics</td>
<td>12.5</td>
</tr>
<tr>
<td>MM685 Numerical Control</td>
<td>12.5</td>
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</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM686 Intelligent Manufacturing Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>MM687 Computer Control and Sensing</td>
<td>12.5</td>
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<tr>
<td>MM688 Expert Systems Simulation and Modelling</td>
<td>12.5</td>
</tr>
<tr>
<td>MM689 Computer Modelling and FEA</td>
<td>12.5</td>
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</table>

<table>
<thead>
<tr>
<th>Semester 3</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM681 Research Project</td>
<td>50.0</td>
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</tbody>
</table>

Further information
Contact the School of Engineering and Science on (03) 9214 8372
Website: www.mm.swin.edu.au
Course structure

Year 1

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
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<td>IT906</td>
<td>12.5</td>
</tr>
<tr>
<td>SD252</td>
<td>12.5</td>
</tr>
<tr>
<td>SD254</td>
<td>12.5</td>
</tr>
<tr>
<td>SD257</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Year 2

| IT926      | 12.5          |
| SD253      | 12.5          |
| SD255      | 12.5          |
| SD252      | 12.5          |

Masters

<table>
<thead>
<tr>
<th>Semester 1 (Elective)</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG962</td>
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</tr>
<tr>
<td>SG966</td>
<td>12.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2 (Elective)</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG965</td>
<td>12.5</td>
</tr>
<tr>
<td>SG967</td>
<td>12.5</td>
</tr>
<tr>
<td>Electives, other than those shown (Masters level only), may be proposed by the student for approval.</td>
<td></td>
</tr>
</tbody>
</table>

Entry requirements

A four year degree in a computing discipline or a lesser qualification but substantial and relevant experience. In some cases, students may be admitted to the course provisionally, pending the successful completion of some bridging units.

Application procedure

Applications for places in the Master of Engineering (Open Systems) must be made on the official application form, available from the School of Information Technology, telephone (03) 9214 8160; fax (03) 9819 0823. Certified copies of academic transcripts must accompany the application form.

Fees

The course is offered on a fee-paying basis. For 1998 entry, the fee is $1000 per subject. The tuition fee may be allowable as a self-education deduction for income tax purposes. A General Service Fee is also payable to Swinburne annually.

Further information

Further information may be obtained from the School of Information Technology, telephone (03) 9214 8160; Email: it-info@swin.edu.au, or from our Website: www.it.swin.edu.au or the Information Office, telephone (03) 9214 8444. International students should, in the first instance, contact the International Student Unit, telephone (03) 9214 8467.

AO97 Master of Information Systems

The objective of this program is to provide advanced study in the discipline of information systems. This includes:

- an examination of the issues and directions in information technology
- the development of analytical and managerial skills to manage these issues and directions of IT
- the provision of a contextual framework which facilitates appropriate selection and effective use of advanced techniques
- acquisition of advanced skills in the application of systems development tools and methods

Two streams address the demand for advanced skills:

- IT Management - the effective management of information technology for strategic advantage
- IS Development - the awareness of and ability to utilise advanced technologies and methodologies for the implementation of information technology.

This course will meet the needs of applicants who wish to pursue advanced studies in IS with the aim of enhancing their career opportunities through the development of managerial or technical skills.

Course duration

The course takes two years full-time or four years part-time study.
Entry requirements

Entry is open to applicants who have a degree, diploma or equivalent in any discipline from a recognised university or other institution.

Advanced standing allowing some exemptions in Stage 1 of the Master of Information Technology will be given to applicants who, through formal study at the appropriate level or through relevant work experience, have gained knowledge equivalent to that acquired in the Stage 1 subjects. An admissions panel will be responsible for enforcing academic standards, assessing the prior learning and experience of applicants and determining appropriate bridging programs of study for Stage 1. The type of degree, when it was obtained and the relevance and extent of work experience will be taken into consideration.

Further information

Further information may be obtained from the School of Information Technology, telephone (03) 9214 8444, or from our website: www.it.swin.edu.au or the Information Office, telephone (03) 9214 8444. International student students should, in the first instance, contact the International Student Unit, telephone (03) 9214 8647.

I090 Master of Information Technology

The Master of Information Technology Degree provides the opportunity to study some of today’s most exciting IT developments in depth. Primarily aimed at practising computing professionals, the curriculum covers the important areas of object-oriented software development and human-computer interaction. As well as advanced coursework, the MIT provides students with the opportunity to engage in a large-scale software development project or to undertake applied research leading to a minor thesis.

Career opportunities

The course provides flexible programs of study for students with either a business computing or a computer science background. It allows students to further develop information technology skills, which are in great demand.

Course duration and delivery

The course will normally be completed in two academic years of part-time study, or one year of full-time study. A total of 100 credit points is required.

A feature of the course is that some taught subjects require attendance at two all-day Saturday workshops, which enable major issues to be considered in depth. In addition, students who elect to study the Object-Oriented Software Engineering discipline cluster will be expected to attend a short course in the C++ programming language which will be offered over one Saturday and four consecutive evenings in the week prior to commencement of Semester 2.

Formal classes are timetabled from 4.30 pm to 9.30 pm, in order to accommodate the requirements of part-time students. Subjects are timetabled so that part-time students will have to attend Swinburne on only one night per week, plus four Saturdays per semester, during the course.

Course structure (1993 Syllabus)

The units of study in the Master of Information Technology course are organised into clusters, which are of three types:

Discipline clusters

Consisting of four subjects with a common theme. The discipline clusters currently offered are: Object-Oriented Software Engineering, Human-Computer Interaction and Information Systems Development.

Research cluster

Equivalent to a minor thesis. Swinburne is a major centre for research in Object-Oriented Software Engineering under the leadership of Professor Brian Henderson-Sellers and in Human-Computer Interaction (under the leadership of Professor Penelope Sanderson).

Information systems development project cluster

The Information Systems Development Project Cluster, equivalent to four subjects, consists of an information systems modelling project and an information systems development project. The Information Systems Development Project Cluster may only be chosen if the student also selects the Information Systems Development Discipline Cluster.

Details of the clusters to be offered in 1998 are given below.

Software Engineering

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT901</td>
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</tr>
<tr>
<td>IT911</td>
<td>12.5</td>
</tr>
<tr>
<td>IT921</td>
<td>12.5</td>
</tr>
<tr>
<td>IT931</td>
<td>12.5</td>
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Human Computer Interaction

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
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<td>IT916</td>
<td>12.5</td>
</tr>
<tr>
<td>IT926</td>
<td>12.5</td>
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</tbody>
</table>

Information Systems Development

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT911</td>
<td>12.5</td>
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<tr>
<td>IT921</td>
<td>12.5</td>
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</table>

Research/Project

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT903</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Fees

The course is offered on a fee-paying basis. For 1998 entry, the fee is $388 per subject. The tuition fee may be allowable as a self-education deduction for income tax purposes. Full-time students may be granted HECS places. A General Service Fee is also payable to Swinburne, annually.

Further information

Further information may be obtained from the School of Information Technology, telephone (03) 9214 8183, fax (03) 9819 0823. Certified copies of academic transcripts must accompany the application form.
Design

MD90 Master of Design (by research)
The MDes by research involves the investigation of a design-related topic using appropriate research methods. It can be pursued on a full or part-time basis. Supervision is available in the areas of Design History and Critical Theory, and Design Psychology (particularly in Aesthetics and Colour Cognition). Emerging areas of interest within the School are in Public Perceptions of Design, 20th Century Australian Design, and User Friendly Information Design. Admission is not restricted to those with a design background. Applicants from any academic area are welcome. Applicants should have either an honour degree or (b) degree or diploma plus professional or educational experience. Informal enquiries should be directed to Professor Allan Whitfield on (03) 9214 6882.

DD90 Doctor of Philosophy in Design
Informal enquiries should be directed to Professor Allan Whitfield on (03) 9214 6882.

Engineering & Technology

Graduate Certificates

M094 Graduate Certificate in Aviation Human Factors
The aims of the course are to develop an advanced understanding of the principles of human factors as they apply within the operational environment. The skills necessary to conceptualise and undertake applied human factors research within the operational environment. An understanding of how management factors impact on an organisation's ability to implement a successful human factors program. An ability to embark on a research project in a disciplined fashion.

These courses are designed primarily to meet the needs of personnel currently involved in the aviation industry who wish to upgrade their skills at tertiary level in the specialist area of human factors. In addition, however, the courses are designed to have considerable application for personnel in other technologically based industries including rail, shipping, heavy industry, chemical industry and energy production.

Course duration
The course will be available by distance education only and will be delivered by technologically advanced means. There will be a requirement for attendance at a mandatory two and a half day residential seminar/workshop for each subject. For Graduate Certificate, two semesters of full time study or equivalent part time.

Course structure

Year 1
Semester 1
Credit points
MF601 Introductory Human Factors 12.5
MF602 Air Trans. Manage & Facilitation 12.5

Semester 2
MF603 Crew Resource Management/Leadership 12.5
MF604 Organisational Change in Aviation 12.5

Entry requirements
To be eligible for consideration for entry to the course, students would be a university graduate or completed at least 2 years operational experience in Air Traffic Controllers, Licensed Aircraft Maintenance Engineers, Mid-Level company managers, Military pilots who have completed a "Wings Course", Pilots holding an Airline Transport Pilot's Licence.

Further information
Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mrswin.edu.au

E075 Graduate Certificate in Computer Systems Engineering
Refer Master of Engineering in Computer Systems Engineering, page 161.

M073 Graduate Certificate in Engineering (Industrial Engineering)
The aim of this program is to provide graduates with knowledge and skills in the application of scientific methods to increase productivity by re-engineering of processes, systems modelling and analysis. The Industrial Engineering G program is designed in response to the critical need in modern society for an engineering approach to solving problems relating to the interplay of people, productivity, information, and management. It relates to the total picture of productivity improvement through the analysis, design, installation, control, evaluation, and improvement of integrated systems of people, materials, information, equipment, processes.

In the first semester emphasis is placed on fundamental through a thorough coverage of the fundamental concepts of IE, to provide students early on with important insights into the IE profession. This is supplemented with other subjects emphasizing the detailed aspects of total quality and procedures for productivity improvement, and the modern ways of managing manufacturing systems including JIT. An emphasis on manufacturing, the technology management subjects introduce all aspects of adoption of new technology including financial analysis, project management and provides an overview of both traditional and modern production methods.

Career opportunities
The unique feature of IE graduates is their ability to apply their knowledge in any organisation. Examples are Banks, Hospitals, Insurance and Airline companies, Governmental offices, Transport, retail and telecommunications and all types of manufacturing companies.
The aim of the course is to advance the knowledge and skills of graduate students in three stages, each of which aims to prepare the student for the next. The objectives of the course are of a satisfactory standard and are suitable preparation for the Modelling and Process Analysis disciplines to comply with the requirements from industry, locally and worldwide. To achieve this aim, the course is divided into three stages, each of which aims to prepare the student for the next. The objectives of the proposed courses are to develop the basic skills in thermo-fluids engineering, a solid foundation in numerical methods, an acceptable level of CAD proficiency, a basic understanding of technology modelling techniques and a thorough understanding of scale modelling.

### Course duration

The graduate certificate program will be run over one semester on full-time basis, or two semesters on a part-time basis.

### Course structure

**Semester 1**

- **MM630 Advanced Energy Systems** 12.5
- **MM631 Intro. to program. for Engineers & Virtual Reality** 12.5
- **MM632 CAD** 12.5
- **MM633 Intro. to Numerical Modeling** 12.5

### Entry requirements

Candidates should have completed a degree or diploma in engineering or science at a recognized university or college or have other qualifications which, in the opinion of the Divisional Board, are of a satisfactory standard and are suitable preparation for the Graduate Certificate program.

### Further information

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

**M078 Graduate Certificate in Maintenance Engineering**

This program addresses needs of industry to improve the management of resources associated with short and long term risk to people, assets and production. The program provides further studies for graduates from all branches of engineering, applied science and business who wish to gain more specialist knowledge in Risk Management.

**Course duration**

This is a one year part-time course commencing in March.

### Course structure

**Semester 1**

- **MM720 Maintenance Management Systems** 6.25
- **MM721 Maintenance Strategies** 6.25
- **MM722 Maintenance Tools and Techniques** 6.25
- **MM723 Quantitative Risk and Modelling** 6.25

**Semester 2**

- **MM720 Maintenance Management Systems** 6.25
- **MM721 Maintenance Strategies** 6.25
- **MM722 Maintenance Tools and Techniques** 6.25
- **MM723 Quantitative Risk and Modelling** 6.25

### Entry requirements

A degree or diploma in any branch of Engineering, Applied Science or Business.

### Further information

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

**Z170 Graduate Certificate of Engineering in Open Systems**

Refer page 161.

**M091 Graduate Certificate of Engineering (Robotics & Automation)**

This course may lead to the Graduate Diploma and Master of Engineering (Robotics & Automation).

### Career opportunities

Graduates from this program will be able to work on the implementation of Robotics systems in manufacturing.

### Course duration

This is a six month full-time or one year part-time course commencing in March.

### Course structure

**Semester 1**

- **MM634 Advanced Robotics** 12.5
- **MM634 Non-Contact Inspection & Measurement** 12.5
- **SQ634 Object Oriented Programming** 12.5
- **MM636 Computer Control & Sensing** 12.5

### Entry requirements

A degree in Engineering, (Mechanical, Electrical), Electronics, Manufacturing.

### Further information

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

**M077 Graduate Certificate of Risk Management**

This course may lead to the Graduate Diploma and Master of Engineering (Risk Management). This is a one year part-time course commencing in March.

**Entry requirements**

A degree or diploma in any branch of Engineering, Applied Science or Business.

### Course structure

**Semester 1**

- **MM720 Risk Perception and Analysis** 6.25
- **MM721 Risk Management Principles** 6.25
- **MM722 Quantitative Risk and Modelling** 6.25
- **MM723 Financial Risk Management** 6.25

**Semester 2**

- **MM720 Risk Perception and Analysis** 6.25
- **MM721 Risk Management Principles** 6.25
- **MM722 Quantitative Risk and Modelling** 6.25
- **MM723 Financial Risk Management** 6.25

### Further information

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

**EO76 Graduate Certificate in Telecommunications**

Refer Master of Engineering in Telecommunications, page 163.
Graduate Diplomas

M095  Graduate Diploma in Aviation Human Factors

The aims of this course are to develop an advanced understanding of the principles of human factors as they apply within the operational environment. The skills necessary to conceptualise and undertake applied human factors research within the operational environment. An understanding of how management factors impinge on an organisation’s ability to implement a successful human factors program. An ability to embark on a research project in a disciplined fashion.

These courses are designed primarily to meet the needs of personnel currently involved in the aviation industry who wish to upgrade their skills at a tertiary level in the specialist area of human factors. In addition, however, the courses are designed to have considerable application for personnel in other technologically based industries including rail, shipping, heavy industry, chemical industry and energy production.

Course duration

The course will be available by distance education only and will be delivered by technologically advanced means. There will be a requirement for attendance at a mandatory two and a half day residential seminar/workshop for each subject. For Graduate Diploma, four semesters of full time study or equivalent part time.

Course structure

Year 1

Semester 1

MRF01 Introductory Human Factors

Semester 2

MRF02 Air Trans. Manage & Facilitation

Year 2

Semester 1

MRF03 Crew Resource Management/Leadership

Semester 2

MRF04 Organisational Change in Aviation

Course duration and delivery

The course will be available by distance education only and will be delivered by technologically advanced means. There will be a requirement for attendance at a mandatory two and a half day residential seminar/workshop for each subject. For Graduate Diploma, four semesters of full time study or equivalent part time.

Entry requirements

To be eligible for consideration for entry to the course, students would be a university graduates or completed at least 2 years operational experience in Air Traffic Controllers, Licensed Aircraft Maintenance Engineers, Mid-Level company managers, Military pilots who have completed a “Wings Course”, Pilots holding an Airline Transport Pilot's Licence.

Further information

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

P083  Graduate Diploma in Chemical Engineering

The purpose of the program is to provide students with a basic core of chemical engineering knowledge. It is designed to meet the needs of graduates who are not chemical engineers but who are working in the chemical industry or some related field.

Course duration and delivery

The program is planned to be completed in two years (four semesters) of part-time study although timetable restrictions may mean, on occasions, that five semesters will be required. It is also possible that the program could be completed in one year of full-time study. Some day-time classes are involved and these are timetable as blocks to cause as little inconvenience as possible to students in full-time employment. Some subjects are available as evening subjects.

Subjects involved in this course are classified as either Schedule A or Schedule B subjects. Schedule A subjects provide the basic chemical engineering information; Schedule B subjects offer topics more peripheral to the chemical engineering aspects of the course. To obtain the qualification, a minimum of 100 credit points must be completed. Choice of subjects is restricted so that at least 60 credit points of Schedule A subjects are included. The remaining credit points can be taken from either Schedule A or Schedule B.

Course structure

Schedule A subjects

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Schedule B subjects

The subjects offered under Schedule B are included to allow students to follow a particular field of interest related to chemical engineering. They have been divided into interest groups. The final choice of subjects will be made with significant consultation between the student and the lecturers involved.

Group 1: Risk Engineering Group

Note:

1. MM714 and MM715 are prerequisites for MM811 and MM814
2. These subjects are currently under review by the School of Engineering and Science

Further information

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

CHC50  Graduate Diploma of Engineering in Cleaner Production

The main aim of the course is to provide graduates equipped with the knowledge, skills and attitudes to enable them to audit, operate and design industrial systems according to the principles of cleaner production. The aim is to be achieved by providing a course which covers technical foundations in a general introduction to cleaner production (ie. the current Graduate Certificate in Cleaner Production), then follows with more detailed courses in Environmental systems, Environmental Economics and Eco-Design and Auditing. These three subject areas form the base for the graduate diploma and masters degree. The knowledge gained will then be applied in three case study based subjects in cleaner production, covering manufacturing, chemical processes and primary industries. For candidates in the masters degree, the synthesis of all of these subject areas will occur through the completion of a research project. The research project will normally be industry based and will focus on an audit and redesign of a particular activity of that industry to bring about a “cleaner” method of production.

Course duration

The graduate diploma program is a one year full time or equivalent part time. Students must complete the subjects specified for the graduate certificate and an additional 4 subjects, for a total of 100 credit points.
### Course structure

#### Semester 1

<table>
<thead>
<tr>
<th>Core subjects</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP001</td>
<td>7.5</td>
</tr>
<tr>
<td>CP002</td>
<td>7.5</td>
</tr>
<tr>
<td>CP003</td>
<td>7.5</td>
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<tr>
<td>CP004</td>
<td>7.5</td>
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<tr>
<td>Elective subjects</td>
<td></td>
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<tr>
<td>CP010</td>
<td>10</td>
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<tr>
<td>CP011</td>
<td>10</td>
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<tr>
<td>CP012</td>
<td>10</td>
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<tr>
<td>CP013</td>
<td>10</td>
</tr>
<tr>
<td>CP014</td>
<td>10</td>
</tr>
</tbody>
</table>

#### Semester 2

<table>
<thead>
<tr>
<th>Core Subjects</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP700</td>
<td>12.5</td>
</tr>
<tr>
<td>CP701</td>
<td>12.5</td>
</tr>
<tr>
<td>CP702</td>
<td>12.5</td>
</tr>
</tbody>
</table>

And one of

| CP703 | 12.5 |
| CP704 | 12.5 |
| CP705 | 12.5 |

<table>
<thead>
<tr>
<th>Entry requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicants for Graduate Diploma are required to possess either a degree or diploma in engineering. However, consideration will be given to students who do not possess the formal admission requirements, but who, by virtue of an extensive period of industrial or other experience, can demonstrate that they are of satisfactory standard for entry.</td>
</tr>
</tbody>
</table>

### Further information

Contact the School of Engineering & Science on (03) 92148372.

Website: www.mm.swin.edu.au

#### M074 Graduate Diploma of Engineering (Industrial Engineering)

The aim of this program is to provide graduates with knowledge and skills in the application of scientific methods to increase productivity by re-engineering of processes, systems modelling and analysis. The Industrial Engineering (IE) program is designed in response to the critical need in modern society for an engineering approach to solving problems relating to the interplay of people, productivity, information, and management. IE relates to the total picture of productivity improvement through the analysis, design, installation, control, evaluation, and improvement of integrated systems of people, materials, information, equipment, processes.

In the first semester emphasis is placed on fundamental through a thorough coverage of the fundamental concepts of IE, to provide students early on with important insights into the IE profession. This is supplemented with other subjects emphasizing the detailed aspects of total quality and procedures for productivity improvement, and the modern ways of managing manufacturing systems including JIT. An emphasis on manufacturing, the technology management subjects introduce all aspects of adoption of new technology including financial analysis, project management and provides an overview of both traditional and modern production methods.

### Career opportunities

The unique feature of IE graduates is their ability to apply their knowledge in any organisation. Examples are Banks, Hospitals, Insurance and Airline companies, Governmental offices, Transportation industry, Telecommunication and all types of manufacturing companies.

### Course structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE770</td>
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<tr>
<td>CE771</td>
<td>12.5</td>
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<tr>
<td>OR</td>
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</tbody>
</table>

#### Minor strand (Construction)

- CE770 Construction Engineering (1)
- CE771 Construction Project (3)
- OR

#### Minor strand (Building)

- CE777 Quantity Surveying A
- OR

#### Minor strand (Infrastructure Asset Management)

- CE597 Infrastructure Systems
- OR

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit Points</th>
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<tbody>
<tr>
<td>CE691</td>
<td>12.5</td>
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<tr>
<td>CE695</td>
<td>12.5</td>
</tr>
<tr>
<td>CE692</td>
<td>12.5</td>
</tr>
<tr>
<td>CE688</td>
<td>12.5</td>
</tr>
</tbody>
</table>

### Further information

Contact the School of Engineering and Science on (03) 92148372.

Website: www.mm.swin.edu.au
The aim of the course is to advance the knowledge and skills of graduate students in the Modelling and Process Analysis disciplines to comply with the requirements of scale modelling. The graduate diploma program will be run over two semesters on a full-time basis, or four semesters on a part-time basis.

Course structure

**Semester 1**
- MM638 Advanced Energy Systems 12.5
- MM639 Introduction to program. for Engineers & Virtual Reality 12.5
- MM640 CAD 12.5
- MM641 Introduction to Numerical Modelling 12.5

**Semester 2**
- MM645 Object Oriented Numerical Computing for Engineers 12.5
- MM646 Advanced Experimental Modelling Techniques 12.5
- MM647 Numerical Analysis with Engineering Applications 12.5

Entry requirements

Candidate should have completed a degree or diploma in engineering for normal entry. Other applicants may be considered on their individual merits, but must have qualifications and experience which, in the opinion of the Divisional Board, are suitable for study in the graduate diploma program.

Further information

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

**M092 Graduate Diploma in Risk Management**

This course may lead to the Master of Engineering (Robotics & Automation).

Career opportunities

Graduates from this program will be able to design and put into operation robotic and automated systems in manufacturing environments.

Course duration and delivery

This is a one year full-time or two year part-time course commencing in March or July.

Course structure

**Semester 1**
- MM664 Advanced Robotics 12.50
- MM665 Non-Contact Inspection 12.50
- SE204 Object Oriented Programming 12.50
- MM667 Computer Control & Sensing 12.50

**Semester 2**
- MM668 Robot Systems 12.50
- MM669 Computer Modelling & FEA 12.50
- SE201 Industrial Electronics 12.50
- MM666 Technology Management 12.50

Entry requirements

A degree in Engineering, (Electrical, Mechanical, Electronic, Manufacturing).

Further information

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au
Semester 3
- MM724 Risk Management Systems (6.25)
- MM725 Risk Technology Strategies (6.25)
- MM726 Industrial Environment & Human Factors in Risk (6.25)
- MM727 Risk Research & Project (6.25)

Semester 4
- MM724 Risk Management Systems (6.25)
- MM725 Risk Technology Strategies (6.25)
- MM726 Industrial Environment & Human Factors in Risk (6.25)
- MM727 Risk Research & Project (6.25)

Entry requirements
A degree or diploma in any branch of Engineering, Applied Science or Business.

Further information
Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

E085  Master of Engineering (Computer Systems Engineering)

E086  Graduate Diploma in Telecommunications

For information on this course please refer to E086 Master of Engineering (Telecommunications), page 163.

Higher Degrees (by coursework)
CHC52  Master of Engineering in Cleaner Production

The main aim of the course is to produce graduates equipped with the knowledge, skills and attitudes to enable them to audit, operate and design industrial systems according to the principles of cleaner production. The aim is to be achieved by providing a course which covers technical foundations in a general introduction to cleaner production (ie, the current Graduate Certificate in Cleaner Production), then follows with more detailed courses in Environmental systems, Environmental Economics and Eco-Design and Auditing. These three subject areas form the base for the graduate diploma and masters degree. The knowledge gained will then be applied in three case study based subjects in cleaner production, covering manufacturing, chemical processes and primary industries. For candidates in the masters degree, the synthesis of all of these subject areas will occur through the completion of a research project. The research project will normally be industry-based and will focus on an audit and redesign of a particular activity of that industry to bring about a "cleaner" method of production.

Course duration
The masters program is a 3 semesters of full time or equivalent part time. Students must complete the subjects specified for the graduate certificate, graduate diploma and an additional 3 subjects, for a total of 150 credit points. The research project of 25 credit points must be included.

Course structure
Semester 1
Core subjects
- CP001 Principles of Cleaner Production (7.5)
- CP002 Resource Technology (7.5)
- CP003 Environmental Regulation (7.5)
- CP004 Environmental Management (7.5)

Elective subjects (Minimum 2 required)
- CP031 Biological Waste Management (10)
- CP062 Environmental Audition (10)
- CP063 Design and Manufacture for Cleaner Production (10)
- CP064 Minor Research Project (10)
- CP065 Environmental Monitoring (10)

Semester 2
Core subjects
- CP700 Environmental Systems (12.5)
- CP701 Environmental Economics (12.5)
- CP702 Eco-Design and Auditing (12.5)
- CP703 Cleaner Production in Industry PART 1 (12.5)
- CP704 Cleaner Production in Industry PART 2 (12.5)
- CP705 Cleaner Production in Industry PART 3 (12.5)
- CP800 Research Project 50.0

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

E095  Master of Engineering (Computer Systems Engineering)

E096  Graduate Diploma in Engineering (Computer Systems Engineering)

This program normally involves three years of part-time or one and half years of full-time study. This program of advanced studies in the hardware and software engineering of computer systems is intended for graduates in Engineering, Science or Computing, seeking careers in the computer applications field, e.g., as engineers in the computer, electronics or telecommunications manufacturing industries.

Course structure
Students must complete 50 credit points for the Graduate Certificate, 100 credit points for the Graduate Diploma and 150 credit points for the Masters (by coursework)

Semester 1
- E730* Engineering Software (12.5)
- E740* Project Management & Research Methods (12.5)
- E781 CAD & High Level Synthesis (12.5)
- E786 Advanced Image Processing (12.5)

Alternative subjects (subject to approval)
- E750 Analog Electronic Instrumentation & Techniques (12.5)
- E761 Telecommunications Network Design & Management (12.5)
- E764 Broadband Multimedia Networks (12.5)
- SD197 Local Area Networks (12.5)

Semester 2
- E730* Engineering Software (12.5)
- E740* Project Management & Research Methods (12.5)
- E732 Computer Architecture & Hardware (12.5)
- E762 Digital Communications (12.5)
- E763 Digital Signal Processing Systems Engineering (12.5)
- E764 Advanced Computer Architecture (12.5)

Alternative subjects (subject to approval)
- E757 Personal & Mobile Communications (12.5)
- E767 Advanced Computer Architecture (12.5)
- SE790 Communications Systems (12.5)

Semester 3 (Masters students only)
- E770* Research Project A (25)
- E781* Research Project B (25)
- E782* Major Research Project (50)

Subjects marked with an asterisk * are available in either semester.

Entry requirements
Entry to the Graduate Diploma/Masters of Engineering is open to applicants with a four year engineering or science (Electrical, Communications or Computer Systems) qualification or to those with lesser qualifications but substantial and relevant experience.

Further information
Contact the School of Biophysical Sciences and Electrical Engineering on (03) 9214 8372.
Website: www.mm.swin.edu.au

Swinburne University of Technology | 1998 Handbook
C092 Master of Engineering (Construction Management)

The main aim of the course is to provide graduates of proved academic ability the skills required for future roles in managing technology and human resources in construction and building operations.

It is proposed to achieve this aim by providing a structured study of advanced management and engineering techniques in the fields of construction and building.

The course aims to develop the following:
- skill at allocation, organisation and direction of manpower and material resources;
- awareness of and ability to apply modern construction technology;
- understanding of the financial considerations of project funding;
- understanding of human resource management on construction sites;
- knowledge of the bidding process and other aspects of economic decision-making;
- appreciation of contractual obligations and risks;
- quality management.

Course duration
This course has been designed to take place over one and a half years on a full-time basis. Students may commence their studies in either the first or second semester of any year and spend the first two semesters engaged in coursework. The course can also be undertaken part-time over six semesters.

Course structure

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core topics</td>
<td>CE690 Civil Eng Project Control</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>CE791 Construction Management</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CE793 Contract &amp; Law</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>CE794 Financial Management</td>
<td>10</td>
</tr>
<tr>
<td>Minor strand (Construction)</td>
<td>CE70 Construction Technology</td>
<td>12.5</td>
</tr>
<tr>
<td>OR</td>
<td>Minor strand (Building)</td>
<td>12.5</td>
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<tr>
<td></td>
<td>CE777 Quantity Surveying A</td>
<td>12.5</td>
</tr>
<tr>
<td>OR</td>
<td>Minor strand (Infrastructure Asset Management)</td>
<td>12.5</td>
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<tr>
<td></td>
<td>CE887 Infrastructure Systems</td>
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<thead>
<tr>
<th>Semester 2</th>
<th>Core topics</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE680 Building Admin &amp; Law</td>
<td>7.5</td>
<td></td>
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<tr>
<td>CE681 Civil Eng Management</td>
<td>12.5</td>
<td></td>
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<tr>
<td>CE685 Property Management</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>CE682 Communications</td>
<td>12.5</td>
<td></td>
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<tr>
<td>CE782 Health &amp; Safety in Construction</td>
<td>5</td>
<td></td>
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<tr>
<td>Minor strand (Construction)</td>
<td>CE72 Construction Technology</td>
<td>12.5</td>
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<tr>
<td>OR</td>
<td>Minor strand (Building)</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>CE777 Quantity Surveying B</td>
<td>12.5</td>
</tr>
<tr>
<td>OR</td>
<td>Minor strand (Infrastructure Asset Management)</td>
<td>12.5</td>
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<tr>
<td></td>
<td>CE785 Infrastructure Asset Management</td>
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<table>
<thead>
<tr>
<th>Year 2</th>
<th>Semester 1</th>
<th>Credit points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE773 Research Project*</td>
<td>50.0</td>
<td></td>
</tr>
</tbody>
</table>
* One semester subject which can be taken in either semester.

| Semester 1 (For part-timers) | CE773P Research Project | 25.0 |
| Semester 2 (For part-timers) | CE773P Research Project | 25.0 |

Entry requirements
Candidates for the degree of Master of Engineering shall:
- have completed the degree of Bachelor of Engineering, or equivalent qualifications; OR
- have completed successfully a four year degree in Building or Architecture;
- have qualifications and experience which, in the opinion of the Divisional Board, are of a satisfactory standard and are a suitable preparation for study in the Masters program; AND
- preferably have appropriate experience.

M075 Master of Engineering (Industrial Engineering)

The aim of this program is to provide graduates with knowledge and skills in the application of scientific methods to increase productivity by re-engineering of processes, systems modelling and analysis.

The Industrial Engineering [IE] program is designed in response to the critical need in modern society for an engineering approach to solving problems relating to the interplay of people, productivity, information, and management. IE relates to the total picture of productivity improvement through the analysis, design, installation, control, evaluation, and improvement of integrated systems of people, materials, information, equipment, processes.

The first semester emphasis is placed on fundamental through a thorough coverage of the fundamental concepts of IE, to provide students early on with important insights into the IE profession. This is supplemented with other subjects emphasising the detailed aspects of total quality and procedures for productivity improvement, and the modern ways of managing manufacturing systems including JIT. As an emphasis on manufacturing, the technology management subjects introduce all aspects of adoption of new technology including financial analysis, project management and provides an overview of both traditional and modern production methods.

Career opportunities
The unique feature of IE graduates is their ability to apply their knowledge in any organisation. Examples are Banks, Hospitals, Insurance and Airline companies, Governmental offices, Transportation industry, Telecommunication and all types of manufacturing companies.

Course structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM649 Fundamentals of Industrial Engineering</td>
<td>12.5</td>
</tr>
<tr>
<td>MM650 Quality and Productivity</td>
<td>12.5</td>
</tr>
<tr>
<td>MM652 Manufacturing Management Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>MM655 Decision Analysis</td>
<td>12.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM653 Expert Systems, Simulation and Modelling</td>
<td>12.5</td>
</tr>
<tr>
<td>MM656 Optimisation and Reliability</td>
<td>12.5</td>
</tr>
<tr>
<td>MM657 Computing for IE</td>
<td>12.5</td>
</tr>
<tr>
<td>MM658 Design of Physical Facilities</td>
<td>12.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 3</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM659 Minor Thesis</td>
<td>50.0</td>
</tr>
<tr>
<td>OR</td>
<td>2 approved subjects and 1 small project</td>
</tr>
</tbody>
</table>

Further information
Contact the School of Engineering and Science on (03) 9214 8372
Website: www.mm.swin.edu.au

M072 Master of Engineering (Modelling & Process Analysis)

The aim of the course is to advance the knowledge and skills of graduate students in the Modelling and Process Analysis disciplines to comply with the requirements from industry, locally and worldwide. To achieve this aim, the course is divided into three stages, each of which aims to prepare the student for the next. The objectives of the proposed courses is to develop the basic skills in thermo-fluids engineering, a solid foundation in numerical methods, an acceptable level of MATLAB proficiency, a basic understanding of technology modelling techniques and a thorough understanding of scale modelling.

Coarse duration
The masters program will be run over three semesters on a full-time basis, or six semesters on a part-time basis.
Course structure

**Semester 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM639</td>
<td>Advanced Energy Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>MM649</td>
<td>Intro. to program, for Engineers &amp; Virtual Reality</td>
<td>12.5</td>
</tr>
<tr>
<td>MM652</td>
<td>CAD</td>
<td>12.5</td>
</tr>
<tr>
<td>MM640</td>
<td>Intro. to Numerical Modelling</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Semester 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM653</td>
<td>Expert Systems, Simulation &amp; Modelling</td>
<td>12.5</td>
</tr>
<tr>
<td>MM645</td>
<td>Object Oriented Numerical Computing for Engineers</td>
<td>12.5</td>
</tr>
<tr>
<td>MM646</td>
<td>Advanced Experimental Modelling Techniques</td>
<td>12.5</td>
</tr>
<tr>
<td>MM647</td>
<td>Numerical Analysis with Engineering Applications</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Semester 3**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM640</td>
<td>Project Work</td>
<td>50.0</td>
</tr>
</tbody>
</table>

**Entry requirements**

Candidates not holding an appropriate four year degree or equivalent may initially be admitted to the Graduate Certificate or Graduate Diploma program. Candidates for all three courses must be aware that there are limits to the provision of multiple awards. Students who continue from one stage to the next without interruption to their enrolment will NOT be eligible to take the award of the stage just completed. In this way students may not see multiple awards for the same study sequence.

**Further information**

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

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**M093 Master of Engineering (Robotics & Automation)**

**Course structure**

**Semester 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM684</td>
<td>Advanced Robotics</td>
<td>12.5</td>
</tr>
<tr>
<td>MM634</td>
<td>Non-Contact Inspection</td>
<td>12.5</td>
</tr>
<tr>
<td>SC364</td>
<td>Object Oriented Programming</td>
<td>12.5</td>
</tr>
<tr>
<td>MM667</td>
<td>Computer Control &amp; Sensing</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Semester 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM635</td>
<td>Robot Systems</td>
<td>12.5</td>
</tr>
<tr>
<td>MM669</td>
<td>Computer Modelling &amp; FEA</td>
<td>12.5</td>
</tr>
<tr>
<td>SE561</td>
<td>Industrial Electronics</td>
<td>12.5</td>
</tr>
<tr>
<td>MM656</td>
<td>Technology Management</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Semester 3**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM637</td>
<td>Project Work</td>
<td>50.0</td>
</tr>
</tbody>
</table>

**Entry requirements**

A degree in Mechanical, Electrical, Electronic or Manufacturing Engineering.

**Further information**

Contact the School of Engineering and Science on (03) 9214 8372.
Website: www.mm.swin.edu.au

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**E096 Master of Engineering (Telecommunications)**

**Course structure**

**Semester 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE740*</td>
<td>Project Management &amp; Research Methods</td>
<td>12.5</td>
</tr>
<tr>
<td>EE781</td>
<td>Telecommunications Network Design &amp; Management</td>
<td>12.5</td>
</tr>
<tr>
<td>EE784</td>
<td>Broadband Multimedia Networks</td>
<td>12.5</td>
</tr>
<tr>
<td>S2797</td>
<td>Local Area Networks</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Semester 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE740*</td>
<td>Project Management &amp; Research Methods</td>
<td>12.5</td>
</tr>
<tr>
<td>EE782</td>
<td>Digital Communications</td>
<td>12.5</td>
</tr>
<tr>
<td>EE787</td>
<td>Personal &amp; Mobile Communications</td>
<td>12.5</td>
</tr>
<tr>
<td>EE788</td>
<td>Digital Signal Processing Systems Engineering</td>
<td>12.5</td>
</tr>
<tr>
<td>EE789</td>
<td>Communications Systems</td>
<td>12.5</td>
</tr>
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</table>

**Semester 3**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE760*</td>
<td>Research Project A</td>
<td>25</td>
</tr>
<tr>
<td>EE761*</td>
<td>Research Project B</td>
<td>25</td>
</tr>
<tr>
<td>EE767*</td>
<td>Major Research Project</td>
<td>50</td>
</tr>
</tbody>
</table>

Subjects marked with an asterisk * are available in either semester.

**Entry requirements**

Entry to the Graduate Certificate, Graduate Diploma and Master of Engineering is open to applicants with a four year engineering or science qualification or to those with lesser qualifications but substantial and relevant experience.

**Further information**

Contact the School of Biophysical Sciences and Electrical Engineering on (03) 9214 8659.

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**M096 Master of Technology in Aviation Human Factors**

**Course structure**

**Semester 1**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE744</td>
<td>Mobile Communications</td>
<td>12.5</td>
</tr>
<tr>
<td>EE745</td>
<td>Computer Architecture &amp; Hardware</td>
<td>12.5</td>
</tr>
<tr>
<td>EE747</td>
<td>Advanced Computer Architecture</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Semester 2**

<table>
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<td>Advanced Computer Architecture</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Entry requirements**

Entry to the Graduate Certificate, Graduate Diploma and Master of Engineering is normally involves three years of part-time or one and half years of full-time study. This program is intended for graduates in Electrical, Communications, Computer Engineering or Computer Science seeking careers in engineering telecommunications networks to meet society's needs for human and information communications. It provides instruction in basic telecommunications theory, the engineering of modern telecommunications networks, and the emerging technologies underpinning the networks. The course makes extensive use of an advanced telecommunications/computer network simulation facility (DPNET).

**Course structure**

Students must complete 50 credit points for the Graduate Certificate, 100 credit points for the Graduate Diploma and 150 credit points for the Masters (by coursework).

**Semester 1**

<table>
<thead>
<tr>
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<th>Credit Points</th>
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<tbody>
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**Semester 2**

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<th>Course Name</th>
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<tbody>
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<td>Project Management &amp; Research Methods</td>
<td>12.5</td>
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<td>12.5</td>
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</tbody>
</table>

**Semester 3**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE760*</td>
<td>Research Project A</td>
<td>25</td>
</tr>
<tr>
<td>EE761*</td>
<td>Research Project B</td>
<td>25</td>
</tr>
<tr>
<td>EE767*</td>
<td>Major Research Project</td>
<td>50</td>
</tr>
</tbody>
</table>

Subjects marked with an asterisk * are available in either semester.

**Entry requirements**

Entry to the Graduate Certificate, Graduate Diploma and Master of Engineering is open to applicants with a four year engineering or science qualification or to those with lesser qualifications but substantial and relevant experience.

**Further information**

Contact the School of Biophysical Sciences and Electrical Engineering on (03) 9214 8659.

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Swinburne University of Technology | 1998 Handbook
Course duration
The course will be available by distance education only and will be delivered by technologically advanced means. There will be a requirement for attendance at a mandatory two and a half day residential seminar/workshop for each subject. For the master, six semester of full-time or equivalent part-time.

Course structure

**Semester 1**
- MM720 Risk Perception and Analysis 6.25
- MM721 Risk Management Principles 6.25
- MM722 Quantitative Risk and Modeling 6.25
- MM723 Financial Risk Management 6.25

**Semester 2**
- MM720 Risk Perception and Analysis 6.25
- MM721 Risk Management Principles 6.25
- MM722 Quantitative Risk and Modeling 6.25
- MM723 Financial Risk Management 6.25

**Semester 3**
- MM724 Risk Management Systems 6.25
- MM725 Risk Technology Strategies 6.25
- MM726 Industrial Environment & Human Factors in Risk 6.25
- MM727 Risk Research & Project 6.25

**Semester 4**
- MM724 Risk Management Systems 6.25
- MM725 Risk Technology Strategies 6.25
- MM726 Industrial Environment & Human Factors in Risk 6.25
- MM727 Risk Research & Project 6.25

**Semester 5**
- MM728 Industrial Environment & Human Factors in Risk 6.25
- MM727 Risk Research & Project 6.25

**Semester 6**
- MM727 Risk Research & Project 6.25

**Semester 7**
- MM726 Industrial Environment & Human Factors in Risk 6.25
- MM725 Risk Technology Strategies 6.25

**Semester 8**
- MM725 Risk Technology Strategies 6.25
- MM724 Risk Management Systems 6.25

**Semester 9**
- MM724 Risk Management Systems 6.25
- MM727 Risk Research & Project 6.25

**Semester 10**
- MM727 Risk Research & Project 6.25
- MM726 Industrial Environment & Human Factors in Risk 6.25

**Semester 11**
- MM726 Industrial Environment & Human Factors in Risk 6.25
- MM725 Risk Technology Strategies 6.25

**Semester 12**
- MM725 Risk Technology Strategies 6.25
- MM724 Risk Management Systems 6.25

**Entry requirements**
A degree in any branch of Engineering, Applied Science or Business.

Further information
Contact the School of Engineering and Science on (03) 9214 8372
Website: www.mm.swin.edu.au

**Higher Degrees (by research)**
- Master of Engineering
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Manufacturing Engineering

Graduates at Bachelor degree level who have shown a high standard of academic achievement may be admitted to candidature for the degree of Master of Applied Science or Master of Engineering.

To be assessed for this degree, a candidate must present a major thesis based on original research, investigation or development work carried out either at Swinburne or externally. External work may be carried out at any approved industrial, governmental, educational or research organisation.

Copies of the Statute for the degree of Master are in the separate publication Higher Education Policies and Procedures handbook and application forms are available from the Graduate Studies Officer.

**Doctor of Philosophy**
- Civil Engineering
- Electrical Engineering
- Mechanical and Manufacturing Engineering

Graduates who hold a Bachelor degree and who have shown a high standard of academic achievement in that course may be admitted to candidature for the degree of Doctor of Philosophy.

The higher degree programs currently available require the presentation of a major thesis based on original research, investigation or development work, carried out either within Swinburne or externally, providing that adequate facilities and supervision can be arranged. External work can be carried out in the approved industrial, governmental, educational or research organisation.

Copies of the Statute for the degree of Master or PhD appear in the separate publication Higher Education Policies and Procedures handbook and application forms are available from the Swinburne Graduate Research School.

Humanities and Social Science

**Graduate Certificates**
- Graduate Certificate in Applied Media

The Graduate Certificate in Applied Media is designed to provide both a theoretical base and a portfolio of skills applicable to a wide range of media activities. It is aimed at both developing the skills of people interested in working in media related industries, and enhancing the expertise of people already working in the media.

**Aims and objectives**
- to provide knowledge of and experience in the production of a range of traditional and new media
- to provide experience in the presentation and marketing of media production
- to introduce students to the changing face of media culture and the new technologies of electronic media
- to equip students with the skills to develop a substantial media production project

**Location**
This program is offered on the Hawthorn Campus.
Career opportunities
The Graduate Certificate in Applied Media provides a broad range of writing and production skills valued in many sectors of the print, broadcasting and electronic media, such as radio production, journalism and information technology. Graduates will be equipped with the kind of digital technology skills likely to be sought after by software developers working in the multi-media industry.

Course duration and delivery
The Graduate Certificate in Applied Media is taken over one year (two semesters) of part-time study.

Course structure
Students must satisfactorily complete three subjects: one of two core subjects and two elective subjects from the below list:

Core Subjects
- AM409 Media Work Experience/Placement
- AM412 Media Project

Elective Subjects
- AM402 Radio Production and Criticism
- AM403 Writing for the Media
- AM406 Electronic Writing
- AM411 Globalisation: Media and Telecommunications
- AM413 Multimedia Authoring 1
- AM414 Multimedia Authoring 2

The core subject involves two hours per fortnight over two semesters. Each elective subject involves three hours of course-work per week per semester.

Apart from formal class time, candidates are expected to spend a minimum of the equivalent class contact hours per week in private study and/or team project work. Most both core units and most elective units are offered in the evening from 6.00pm-9.00 p.m.

Entry requirements
Applicants should comply with one of the following:

a. have completed a bachelor's degree from a recognised tertiary institution; or
b. have such other qualifications or experience which, in the opinion of the Selection Committee, are of a satisfactory standard and is suitable preparation for entry to the program.

Students are expected to be computer literate and to have Internet access outside of Swinburne.

Application procedure
Application forms are available from the School of Social and Behavioural Sciences on telephone (03) 9214 5209.

Applications should be made directly to:
The School of Social and Behavioural Sciences
Swinburne University of Technology
PO Box 218 Hawthorn, Victoria 3122

Applications must be accompanied by a certified copy of original transcripts of official results.

Closing dates for 1998 entry

Fees
The course fee for 1998 is $800 per subject for six subjects. The fee for 1998 is correct at the time of printing.

Single subjects
Applications may take single subjects if they wish, subject to availability. The cost of individual subjects is equivalent to the HECS charge for a semester subject.

Fees for 1998 are correct at the time of printing.

Further information
Further information can be obtained from:
Lisa Gye, Course Convener, on tel (03) 9214 8345 or fax (03) 3819 6574 or Email: lgye@swin.edu.au Website: www.swin.edu.au/sbs/
technologies of electronic media to equip students with the skills to develop a substantial media production.

**Location**
This program is offered on the Hawthorn campus.

**Career opportunities**
The Graduate Diploma in Applied Media provides a broad range of writing and production skills valued in many sectors of the print, broadcasting and electronic media, such as radio production, journalism and information technology. Graduates will be equipped with the kind of digital technology skills likely to be sought after by software developers working in the multi-media industry.

**Course duration**
The Graduate Diploma in Applied Media is taken over one year of full-time study, or on a part-time basis over two years.

**Course structure**
Students must satisfactorily complete six subjects: both core subjects and four elective subjects.

**Core Subjects**
- AM409 Media Work Experience/Placement
- AM410 Media Project

**Elective Subjects**
- AM401 Textuality and Discourse
- AM402 Radiography and Criticism
- AM403 Writing for the Media
- AM410 Electronic Writing
- AM411 Globalisation: Media and Telecommunications
- AM413 Multimedia Authoring 1
- AM414 Multimedia Authoring 2

The two core subjects involve two hours per fortnight over two semesters. Each elective subject involves three hours of course-work per week per semester. Apart from formal class time, candidates are expected to spend a minimum of the equivalent class contact hours per fortnight over two semesters. Both core units and most elective units are offered in the evening from 6:00pm-9:00pm.

**Entry requirements**
Applicants should comply with one of the following:

a. have completed a bachelor's degree from a recognised tertiary institution; or
b. have such other qualifications or experience which, in the opinion of the Selection Committee, are of a satisfactory standard and are suitable preparation for entry to the program.

Students are expected to be computer literate and to have Internet access outside of Swinburne.

**Application procedure**
Application forms are available from the School of Social and Behavioural Sciences on telephone (03) 9214 5209 or fax (03) 9819 0574. Applications should be made directly to:
The School of Social and Behavioural Sciences
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PO Box 218 Hawthorn Victoria 3122

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**Closing dates for 1998 entry**

**Fees**
The course fee for 1998 is $800 per subject for six subjects. The fee for 1998 is correct at the time of printing.

**Single subjects**
Applicants may take single subjects if they wish, subject to availability. The cost of individual subjects is equivalent to the HECS charge for a semester subject. Fees for 1988 are correct at the time of printing.

**Further information**
Lisa Gya, Course Convener; on tel (03) 9214 8345 or fax (03) 9819 0574 or Email: lgy@swin.edu.au Website: www.swin.edu.au/sbs/

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**N084 Graduate Diploma in Applied Psychology**

The course is offered as a one year full-time or two year part-time program. It is designed for students who have completed a first degree in psychology with a three-year major sequence of studies in psychology undertaken in a course (or courses) approved for this purpose by the Australian Psychological Society. The program is intended to complete students' foundation studies in psychology as a science and as a profession. The course is designed to prepare students to enter the profession by meeting the educational requirements for Associate Membership of the Australian Psychological Society.

The course has the following objectives:
- to enable students to understand and apply the principles of social science which underlie the discipline of psychology;
- to enable students to acquire knowledge of the principles of social and behavioural science research design and analysis;
- to enable students to extend skills in formulating research problems, gathering and analysing data, interpreting and communicating research findings;
- to enable students to acquire advanced knowledge in selected topic areas within psychology and applied psychology, building upon and extending basic undergraduate preparation;
- to provide students with an understanding of the nature of psychology as a profession, the ethical, moral, legal and social responsibilities of the psychologist, and the role of the Australian Psychological Society;
- to prepare students for entry level work as psychologists-in-training under supervision in occupational fields such as applied social research, the human services, and human resources.

**Course structure**
The course offers a ‘fixed menu’ of eight subjects. These subjects vary in the amount of time which they demand from students and also in their academic requirements. The course ensures that all students develop basic competencies in research design and analysis, and an understanding of the ethical, moral, legal and social responsibilities of psychologists engaged in social and applied research and professional practice. Students are also expected to acquire advanced knowledge in several areas of applied psychology.

It will be expected that all students will have basic competence in computer and keyboard skills including familiarity with SPSS-PC+.

Students without this competence will be offered a preliminary short course (fee charging) in order to acquire the requisite skills.

There is scope for students to exercise their preferences for particular topics in choosing among options within subjects.

The subjects offered are as follows:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours per week</th>
</tr>
</thead>
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**Full-time**
The course can be completed in one year of full-time study extending across two semesters. In the first semester students will be involved in twelve hours of class contact time per week. In the second semester students will be involved in five hours of weekly class time and will also be consulting regularly with an academic supervisor about data analysis for the research project and the writing of the report. Typically, time will also be spent undertaking work placement during the second semester.

**Part-time**
The course can also be completed in two years of part-time study extending over four semesters. Part-time students usually have weekly class contact hours as follows:

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<th>Year</th>
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Graduate Diploma in Family Therapy

Awarded by Swinburne University and Williams Road Family Therapy Centre, Family Therapy and Family Therapy Applications; Live Clinical Supervision. The Course involves 38 contact hours and satisfactory completion of 100 credit points over two years part-time.

Entry requirements
Completion of a first degree in the health or social sciences from a recognised Australian University, or equivalent qualifications.

Training or experience in counselling or psychotherapy for a minimum of one year.

Working in a therapeutic setting by the beginning of the second year of the course.

Staff
Director of training: Moshe Lang. Course coordinators: Sophie Holmes and Peter Cantwell. Additional staff from Williams Road Family Therapy Centre and invited lecturers.

Further information
Contact the School of Social and Behavioural Sciences on (03) 9214 5205.

Graduate Diploma in Housing Management and Policy

The Graduate Diploma in Housing Management and Policy is a postgraduate professional housing qualification which provides knowledge and skills in research, policy development and the Australian context and system of housing management. The course contains original and contemporary Australian housing subject material and builds on the material in the Graduate Certificate in Housing Management and Policy.

The Graduate Diploma program is designed for administrators, housing managers (public, not-for-profit and private real estate), research and policy workers in the public and community sectors who wish to advance their formal studies.

Course duration and delivery
This program has been developed as a distance education program offering a self-paced learning program, and is tutored by a team of some of the most experienced applied urban and housing academics and practitioners in Australia.

On average, one week’s work will involve up to 10 hours consisting of approximately 3 hours reading of notes, a further two to three hours for readings, and about the same for the exercises. Additional time will be necessary for assessments.

Course structure
Students studying the Graduate Diploma must complete six subjects of which three must be the Australian Housing System, Housing Management and Administration and Housing Research and Policy plus a research report. Students who have successfully completed the Graduate Certificate may articulate into the Graduate Diploma by completing two additional subjects plus the research report.

Core subjects
Australian Housing System
Housing Policy and Research
Housing Management and Administration
Research Report

Two electives from:
Housing Economics and Finance
Contemporary Issues in Housing
Urban Social Theory
Commercialisation of Public Enterprise

It is intended that Property Management will be added to the courses in 1998 so that students will be able to choose to do a tenancy, property management or housing policy and research stream.

Accelerated program
The structure for completing subjects depends on whether studies are full time or part time. The Graduate Diploma may be completed in accelerated format. The Graduate Diploma (six subjects) can be done either in twelve months (full-time) or over two years (part time).

Entry requirements
Applicants are eligible for the programs if they are over eighteen years of age and have either an undergraduate degree and/or have completed the Graduate Certificate in Housing Management and Policy at a satisfactory level of achievement. In special circumstances applicants with up to five years experience in social housing, real estate or human services will be considered.

Single subjects
Students may also choose to do only one subject. The choice will be limited to one subject per course and an $850 fee applies per subject. Should a student then decide to consolidate a single subject into an accredited program then full course fees apply to all subjects, including those subjects already completed. The difference in cost (up to $400 per subject) will be an additional charge for each subject completed contributing towards a qualification.

Single subject students will receive a pass or fail and statement of completion.

Further information
For course information contact Terry Burke, Course Convener on (03) 9214 8109. Email: ts Burke@swin.edu.au. General information and other housing education and training services can be obtained from Mike Polling, Business Development Manager on (03) 9214 8567, Email: mp polling@swin.edu.au or visit our Website: http://swin.edu.au/ sites/ cost/ courses/ ghfm.htm

Graduate Diploma in Human Services (Planning and Management)

For information on this course contact the School of Social and Behavioural Sciences on (03) 9214 5208.

Graduate Diploma in Japanese

The Graduate Diploma in Japanese is an intensive language course based on an examination of Japanese current affairs. It is designed to enable students to develop their language skills through reading recent Japanese newspaper articles and listening to media broadcasts and to extend their knowledge of contemporary Japan. Specific training is focused on reading, aural comprehension and speaking.

The course is planned so that students who have completed is three-year undergraduate program in Japanese can further their knowledge of the Japanese language to a stage where they are competent to deal with a wide variety of topics in the written and spoken language.

Development of expertise in grammar is essential, particularly in the understanding of long and complex sentence structures, the acquisition of a wider vocabulary and the inclusion of a large number of characters. Students become familiar with a wide variety of journalistic and written styles found in newspapers. Training in precis
writing, and in the various styles and speech levels which characterise modern
spoken Japanese, is also a part of the course.

Language development is focused on four major areas of Japanese studies: social,
cultural, business and political. Students consider:

- general problems and trends as they are analysed by Japanese writers within
the framework of the society as a whole; and
- the validity of assertions and generalisations which are made by Japanese, as
well as foreign writers.

Entry requirements

Applicants must have a degree with a major in Japanese language, or equivalent,
from a recognised university, college or institute. All applications are assessed by a
selection committee and in certain cases applicants may be required to complete
appropriate subjects of the Bachelor of Arts degree course, or undertake a
preliminary reading course before being accepted for enrolment.

Course structure

The course may be completed part-time in the evening over two years. It comprises
eight semester subjects in all and each subject involves four hours of class meetings
per week. Usually students enrol for two subjects concurrently in each of the four
semesters but may, in special circumstances, enrol for only one subject per
semester.

Reading material and tapes will be available at the Swinburne Bookshop
approximately one week before the commencement of the semester. In all
assignments, students are required to complete four minor tests, weekly
assignments, one research essay and one major test per subject. All classes are
conducted in Japanese.

The subjects offered are:

- AJ400 Japanese Society A
- AJ401 Japanese Society B
- AJ402 Japanese Culture A
- AJ403 Japanese Culture B
- AJ404 Japanese Business and Industry A
- AJ405 Japanese Business and Industry B
- AJ406 Japanese Politics A
- AJ407 Japanese Politics B

Preliminary reading

Swinburne Press, 1991

References

Matsuda, K. (ed.) Kenkyusha’s New Japanese-English Dictionary. 4th edn, Tokyo,
Kenkyusha, 1979
Nelson, A. Modern Readers, Japanese English Character Dictionary. Rev. edn, Tokyo,
Tuttle, 1978
S Lopez, M. Japanese Character Dictionary, Tokyo, Nichigai, 1989

Course convener

Tsunahiko Anamori on (03) 9214 8057.

N088 Graduate Diploma in Korean

The Graduate Diploma in Korean is an intensive language course based on an
examination of Korean current affairs. It is designed to enable students to develop
their language skills through reading recent Korean newspaper articles and listening
to media broadcasts, and to extend their knowledge of contemporary Korea. Specific
training is focused on reading, aural comprehension and speaking.

The course is planned so that students who have completed a three-year
undergraduate program in Korean can further their knowledge of the Korean language
to a stage where they are competent to deal with a wide variety of topics in the
written and spoken language. Training in the various styles and speech levels which
characterise modern spoken Korean is also a part of the course.

Language development is focused on four major areas of Korean studies: social,
cultural, business and political.

Students consider:

- general problems and trends as they are analysed by Korean writers within
the framework of the society as a whole; and
- the validity of assertions and generalisations which are made by Korean, as
well as foreign writers.

Course duration

The course may be completed part-time in the evening over two years. It comprises
eight semester subjects in all and each subject involves four hours of class meetings
per week. Usually students enrol for two subjects concurrently in each of the four
semesters but may, in special circumstances, enrol for only one subject per
semester.

Course structure

Subjects on Korean society and culture, and on business and politics, are offered in
alternating years.

The subjects offered are:

- AK400 Korean Society A
- AK401 Korean Society B
- AK402 Korean Culture A
- AK403 Korean Culture B
- AK404 Korean Business and Industry A
- AK405 Korean Business and Industry B
- AK406 Korean Politics A
- AK407 Korean Politics B

Entry requirements

Applicants must have a degree with a major in Korean language, or equivalent, from a
recognised university, college or institute. All applications are assessed by a
selection committee and in certain cases applicants may be required to complete
appropriate subjects of the Bachelor of Arts degree course, or undertake a
preliminary reading course before being accepted for enrolment.
The language component in the first year includes basic grammar, situational dialogues, aural comprehension and reading/writing sections which provide students with the basic knowledge of the mechanics of the language. 

The language component is six hours per week over four semesters.

Stage 1 (Year 1)
The language component in the first year includes basic grammar, situational dialogues, aural comprehension and reading/writing sections which provide students with the basic knowledge of the mechanics of the language.

Semester 1
AK420 Graduate Diploma in Korean for Professionals 1A
AK421 Graduate Diploma in Korean for Professionals 1B

Stage 2 (Year 2)
The language component of the second year level is divided into a core segment of advanced grammar and a segment in which language pertinent to students' professional needs is studied through reading and conversation.

Semester 1
AK422 Graduate Diploma in Korean for Professionals 2A
AK423 Graduate Diploma in Korean for Professionals 2B

Supporting components
Equivalent to two hours per week over four semesters.
The four supporting components are culture, society, politics/economy and communication.

These components take the form of five three-hour seminars per semester, at times to be arranged.

Entry requirements
Applicants must have a degree, or equivalent, from a recognised university, college or institute.

Further information
Dr Wol-Young Seo, course convener on (03) 9214 8042.

Course structure
This is offered as a part-time evening course.
The language component is six hours per week over four semesters.

Core subjects
AK420 Reading and Writing Seminar
AK421 Writing Project

Elective subjects
AK423 Narrative Writing
AK424 From Book to Film: Textuality and Discourse
AK425 Open Subject
AK426 Writing for the Media
AK427 Scriptwriting
AK428 Electronic Writing

Entry requirements
Applicants should hold a degree from a recognised tertiary institution, or a qualification approved as equivalent, or equivalent experience.

Further information
Contact the School of Social and Behavioural Sciences on (03) 9214 5209.

Higher Degrees (by coursework)

N091 Master of Arts in Counselling Psychology

It is designed for students who have completed a first degree and have completed a four year sequence of studies in psychology. The course is intended to prepare graduates for professional practice as counselling psychologists.
The course has been granted full accreditation as a fifth and sixth year course in psychology by the Australian Psychological Society.

Course objectives
Graduates of the course will be able to:
• assess the current level of psychosocial functioning of individuals, groups, couples and families and formulate appropriate helping interventions;
• provide counselling help to individuals, groups, couples and families experiencing difficulties connected with relationships, education, careers, work, marriage, parenting, crises, and life-transitions;
• evaluate and monitor the quality of helping services provided by a counselling services unit;
• provide consulting help to individuals, organizations and community groups in relation to psychosocial development and adaptation.

Course duration and delivery
This course is offered as a four year, part-time evening program.

Course structure
Counselling psychology is very diverse, with many particular applications. The course has been organised in such a way as to (a) teach generic skills and areas of knowledge which apply across the various areas of counselling psychology practice, and (b) examine selected areas of practice which exemplify the delivery of counselling-related services to persons with particular needs. There are three course components: coursework (50%), supervised placements (25%), and an empirical research project (25%).
The overall structure of the course will be as follows:

Year 1
Semester 1
AY510 Counselling Theory and Skills
AY513 Professional, Ethical and Legal Issues

Semester 2
AY510 Human Services Research and Evaluation
AY513 Supervised Practicum Internship A1

Year 2
Semester 1
AY513 Research Colloquium
AY515 Psychological Assessment
Three of the coursework subjects comprise advanced study in areas central to the practice of counselling psychology:

- AY617 Psychodynamics of the Individual

The Psychology Discipline offers a Master of Arts (Health Psychology) degree in their fourth year studies and relevant human services work experience will be needed in at least 3 separate practice settings. Initially students are placed at the Centre for Psychological Services and following this choice often placements suitable in terms of their clientele and mode of service delivery.

Entry requirements

The intake for 1998 will be limited to fifteen places. Applicants with good results in their fourth year studies and relevant human services work experience will be interviewed by a selection panel and an order-of-merit for entry will be prepared taking into account (a) academic preparation, (b) previous work and training experience, (c) academic and professional referees' reports.

In order to be accepted into the course, an applicant must (a) be qualified for the award of a degree from an Australian university, and (b) have completed a four-year sequence of studies in psychology in a course, or courses, approved by the Australian Psychological Society OR hold overseas qualifications recognised as equivalent for the purpose of Associate Membership by the Australian Psychological Society.

Satisfactory progress

Students’ progress will be monitored by the School’s Graduate Studies Committee. A student who is given an N or NA grade for a subject twice may not be permitted to re-enrol in the course. Students will be required to complete the course in not more than six years.

Further information

Contact the School of Social and Behavioural Sciences on (03) 9214 5209.

NO901 Master of Arts (Health Psychology)

The Psychology Discipline offers a Master of Arts (Health Psychology) degree program by coursework, practicum and minor thesis. Health psychologists may engage in health research, health promotion, disease prevention, health care, education, rehabilitation, and policy formulation. The program is designed to provide a broad range of professional skills which reflect the diversity of practice in health psychology.

The program is intended to meet the growing demand for professionals with a high level of training in health psychology. The objectives of the course are:

- to provide core professional skills relevant to practicing psychologists
- to provide specialist knowledge in the field of health psychology
- to provide practical experience in a variety of health-related settings

- to consolidate research skills through the experience of conducting a research project

Graduates of the course will be able to:

- engage in counselling and rehabilitation of clients
- train and counsel health professionals
- develop and deliver health promotion and education programs
- evaluate health care programs
- contribute to the formulation of public health policy
- consult with government, community, and business organizations
- conduct health-related research

Course duration

Four years part-time.

Course structure

The structure of the program follows the guidelines of the Australian Psychological Society. The overall structure of the course is as follows:

Year 1

Semester 1

- AY512 Counselling Theory and Skills
- AY510 Professional, Ethical and Legal Issues

Semester 2

- AY510 Human Services Research and Evaluation
- AY520 Supervised Health Placement A1

Year 2

Semester 1

- AY518 Foundations of Health Psychology
- AY513 Research Colloquium

Semester 2

- AY519 Culture, Gender and Health
- AY521 Supervised Health Placement A2

Year 3

Semester 1

- AY515 Psychological Assessment
- AY522 Supervised Health Placement B1

Semester 2

- SM789 Epidemiology for Health Psychologists
- AY523 Supervised Health Placement B2

Year 4

Semester 1

- A5540 Public Health Policy
- AY516 Research Project A

Semester 2

- AY517 Research Project B

Supervised placements (internships)

Students begin these in the first year of the program. Placements are organised individually, taking into account a student’s background experience, areas of interest, and work and family commitments. Part of the internship may be spent at the Swinburne Centre for Psychological Services, with supervision conducted by the staff and associates. The remainder of the internship may be spent in clinical care or research agencies under the supervision of a registered psychologist involved in activities such as health maintenance and promotion, disease prevention and treatment, health and lifestyle counselling, or public health policy. A total of 125 days is spent on placements.

Research project

Health Psychologists are expected to be skilled in framing research questions and designing, implementing, and interpreting research. During their first year, students, in consultation with an academic supervisor, will be required to design a suitable health-related study for empirical investigation. By the end of the first year, a written research proposal must be submitted and approved. By the end of the second year, a critical review of the relevant literature must be submitted and approved. The final report, in the form of two 4000-5000 word journal-type articles must be submitted by the end of year four.
The research topic can pertain to any Japan related area provided that a suitably qualified supervisor is available. It is offered as a full-time or a part-time program.

Entry requirements
- Bachelor of Arts degree with a major in Japanese with credit or above results in the third year. Japanese language subjects and overall high performance level in other discipline.
- Honours (Japanese) with H2A or higher results
- Graduate Diploma in Japanese with credit or above results in all subjects.

Course structure

**Bachelor of Arts graduates**

*Part 1*
- Six hours per week of advanced languages coursework over two semesters.

*Part 2*
- Six hours per week of advanced language coursework over two semesters. (The remaining four subjects of the Graduate Diploma in Japanese program.)

Minimum of one linguistics subject relevant to the topic of the thesis to be taken on a complementary study basis at another tertiary institution.

Minor thesis to be written in English with a substantial summary in Japanese. Thesis length: 15,000–20,000 words.

**Bachelor of Arts (Honours) (Japanese) graduates**

Six hours per week advanced language study over two semesters. Four semester subjects (not taken in the honours year) of the existing Graduate Diploma in Japanese. Alternatively a corresponding period of language study might be undertaken at an approved tertiary institution in Japan.

Minimum of one linguistics subject relevant to the topic of the thesis to be taken on a complementary study basis at another tertiary institution.

Minor thesis to be written in English with a substantial summary in Japanese. Thesis length: 15,000–20,000 words.

**Graduate Diploma in Japanese graduates**

At least one linguistics subject relevant to the thesis to be taken on a complementary study basis at another tertiary institution. For students undertaking research in linguistic aspects of the language.

The 'Philosophy of Inquiry' component of the honours cultural studies seminar.

Minor thesis to be written in English with a substantial summary in Japanese. Thesis length: 15,000–20,000 words.

Students undertaking the program on a part-time basis may choose to complete the language component (where applicable) before commencing research or, alternatively, enrol in one language subject and one research component per semester.

Assessment

Assessment is continuous and is based on satisfactory completion of both the language coursework and research components.
The course aims to provide:

- graduates, senior industry personnel, and international students with specialised knowledge at the cutting edge of communications culture, improve their research capabilities, and develop their range of applied communications skills.

The course will offer advanced course in the field of media and telecommunications. It will provide them with specialised knowledge at the cutting edge of communications culture, improve their research capabilities, and develop their range of applied communications skills.

Further information

Dr Wol-Young Seo, Course convener on (03) 9214 8042

NO95 Master of Communications

The course will offer graduates, senior industry personnel, and international students an advanced course in the field of media and telecommunications. It will provide them with specialised knowledge at the cutting edge of communications culture, improve their research capabilities, and develop their range of applied communications skills.

The course aims to provide:

- both theoretical and conceptual approaches to fields of debate in communication studies and the enhancement of practical skills;
- exploration of subjects, research and production approaches highly relevant to contemporary society;
- flexibility in terms of choice across streams of media and telecommunications policy analysis, cultural theory and textual analysis, production, writing and journalism, new communications technology, and marketing;
- a breadth of expertise which students can utilise in applied field work, for themselves, or with an employer;
- good opportunities for close liaison with industry personnel, including course presentations by industry specialists, and industry based research.

Course duration and delivery

The Masters degree consists of four subjects, including two compulsory core subjects, plus a minor thesis. Each subject involves three hours of coursework per semester. A minor thesis, of 20,000 words or equivalent, is to be undertaken concurrently. It is possible to select electives from NO09 Graduate Diploma in Writing.

Course structure

Core subject

AM600 Globalisation, Media and Telecommunications

And one of

AM601 Communication Environments

or

AM602 Asian Communications (not offered in 1997)

Core subject

AM608 From Book to Film: Textuality and Discourse

And one of

AM607 Writing for the Media (Graduate Diploma in Writing)

AM603 interrogating Texts: Cultural Dreaming

AM604 Professional Production

AM605 Workplace Practice

AM609 Scriptwriting

AM610 Narrative Writing

Also

AM666 Thesis (1-2 semesters Compulsory)

Entry requirements

Applicants should hold a fourth year or equivalent degree from a tertiary institution, or an approved equivalent qualification, or equivalent experience.

Further information

Contact the School of Social and Behavioural Sciences on (03) 9214 8099.
Research degrees

N090 Master of Arts (by research)
The Division offers the degree of Master of Arts (by research and thesis). Applicants should have a BA (Honours) degree or the equivalent of four years of undergraduate study in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies must be of a high standard. Other relevant experience, including work experience, will be taken into account in assessing applications.

Intending applicants should approach the Research Coordinator of the School of Social and Behavioural Sciences. The Research Coordinator will refer the applicant to the appropriate member(s) of staff who may act as supervisor(s) for the degree. Formal applications for candidature, bearing the signatures of the supervisors and the Head of School, are considered by the Office of Research and Graduate Studies.

A candidate may be required to undertake preliminary coursework as part of the candidature. The culmination of the candidature is a thesis of between 20,000 and 50,000 words. The Statute for the degree of Master (by research) sets out the regulations governing this qualification. See the separate Policies and Procedures booklet.

N001 Doctor of Philosophy (Arts)
The Division offers the degree of Doctor of Philosophy on a full-time or part-time basis. Applicants should have a Master degree or the equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies should be of a very high standard. Other relevant activities, including work experience, will be taken into account in assessing applications.

Intending applicants should approach the Research Coordinator, or the Executive Officer, of the School in which they intend to undertake their studies. The Research Coordinator will refer the applicant to the appropriate member(s) of staff who may act as supervisor(s) for the degree. Formal applications for candidature, bearing the signatures of the supervisors and the Head of School, are considered by the Divisional Research Committee and the University Higher Degrees Committee. A candidate may be required to undertake preliminary coursework as part of the candidature.

The Statute for the degree of Doctor of Philosophy sets out the regulations governing this qualification. See the separate Policies and Procedures booklet.

Scholarships

Higher Education Contribution Scheme (HECS) exemption
Full-time higher degree students will normally receive a HECS exemption scholarship.

Australian Postgraduate Research Award
The Australian Research Council (ARC) offers 900 Australian Postgraduate Research Awards (APRAs) per year to postgraduate researchers of exceptional promise.

Industry Sponsored Scholarships
The Division of Business, Humanities and Social Science has been fortunate to obtain a number of scholarships from industry for which its higher degree students can apply.

Division Scholarships
The Division of Business, Humanities and Social Science is able to offer scholarships for full-time higher degree students from time to time.

Application procedure
Applicants should note that two to three months should be allowed for a successful application to be evaluated. Additionally, applicants wishing to apply for a postgraduate award must submit their application to the University by 31 October in order to have the candidature finalised by the closing date for these awards.

Prospective candidates in the first instance should consult with the Coordinator of the program before lodging an application.

Further information
Dr. Jim McLennan, course convenor on (03) 9214 8104.

N002 Professional Doctorate in Psychology
This is a higher degree by research taken over three years. The course gives candidates the opportunity to develop professional skills in Counselling Psychology. The major component of the program (67%) involves the student undertaking a substantial research project, and reporting this research in the form of a thesis. Normally the thesis would be expected to be 40-60,000 words in length, not including appendices and references. A research topic must be mutually agreed upon by the candidate and a member of staff in the Psychology Discipline who is qualified to supervise the research.
Subject Details

How to find subjects
All subject descriptions are contained in this chapter. All subjects are allocated an alphanumeric code and are listed here in code order.

The alpha code is made up of two or three letters which indicates the discipline area, followed by three or four numbers. A guide to these alpha codes and the relevant page number is listed opposite.

The numeric code is made up of three or four digits, the first of which indicates the academic level: Stage 1 subject, Stage 2, Stage 3 and Stage 4. Any higher number indicates subjects at postgraduate level.

Subject length
Unless otherwise stated all subjects are semester subjects.

Textbooks
Texts or textbooks are material essential to the subject.

Recommended reading
Because of the frequency with which individual publications become out-dated, and are superseded, textbooks and recommended reading are not listed for all subjects.

Students are advised not to purchase textbooks or reference books until classes commence unless they have previously consulted the lecturer in charge of the subject.

In most subjects a detailed reading guide will be issued during the first week of classes.

Students wishing to carry out preliminary reading in a subject should consult the lecturer in charge of that subject for guidance.

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Subjects are listed in numerical order within the following alpha-codes.
AA199 Post-War Italy
3 hours per week • Hawthorn • Prerequisite: nil • Assessment: by essay, seminar presentation and class test
A subject in the Bachelor of Arts - elective only (not part of the Italian major).

Objectives and content
The aim of the subject is to explore some of those influences - internal, European and international - which have shaped the development of Italy into a modern industrial nation. After the initial class on Fascism, the following four lessons will consider the period 1943 - present chronologically. Subsequent classes will have a thematic focus. The themes are: emigration (internal and external); the women's movement, Church and State, Italian cinema, especially neo-realism, terrorism, organised crime, the new class structure and Italian politics in the "Second Republic".

References

AA181 Italian 1X
4 hours per week • Hawthorn • Prerequisite: nil • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts

Objectives and content
This is a practical introduction to the language; a basic grammatical and conversation ability will be achieved. The text Prego provides the basis for the grammar and conversational activities and provides an introduction to Italy and the Italian way of life.

Textbooks
Haque G., Italian it's our World, it's your World, Melbourne, Swinburne Press, 1989
References
Garzanti, Il Nuovo Dizionario Inglese-Italiano, Milano, Garzanti, 1984

AA182 Italian 1Y
4 hours per week • Hawthorn • Prerequisite: AA181 or approved equivalent • Corequisite: AA183 or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts

Objectives and content
The aims of the course aim to extend the work begun in AA181, develop the students' conversational and grammatical ability and enhance their communicative competence.

The course includes an historical perspective of the society and culture of modern Italy and provides an introduction to Italy and the Italian way of life.

Textbooks
Garzanti, Il Nuovo Dizionario Inglese-Italiano, Milano, Garzanti, 1984

AA183 Italian 1Z
4 hours per week • Hawthorn • Prerequisite: AA181 or approved equivalent • Corequisite: AA182 or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts

Objectives and content
The aims of the course are to extend the work undertaken in AA182. The four macro skills (oral and written reception, oral and written production) will be strongly developed by systematic review and extension of grammatical competence with the assistance of computer-assisted learning. A wide range of materials is used to enhance the communicative competence and provide socio-cultural insights.

Textbooks
Garzanti, Il Nuovo Dizionario Inglese-Italiano, Milano, Garzanti, 1984

AA184 Advanced Italian 1A
4 hours per week • Hawthorn • Prerequisite: VCE Italian or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts

Objectives and content
The program aims to develop students' proficiency in oral and written standard Italian. Students are exposed to an introduction to modern Italian literature (twentieth-century short stories) in order to develop students' reading ability and to contemporary Italian history (the period from the Unification of Italy to the rise of Fascism).

Textbooks

AA185 Advanced Italian 1B
4 hours per week • Hawthorn • Prerequisite: AA184 or approved equivalent • Corequisite: AA186 or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts

Objectives and content
The program aims to develop appropriate linguistic competence so that students can deal with a variety of topics in the written and spoken language. This will be achieved through a study of grammatical structures, newspaper articles, a collection of authentic texts and contemporary literature. The subject also develops in students an understanding of contemporary Italy through the study of Italian history which covers the period from the fall of Fascism to present day Italy.

Textbooks

AA186 Advanced Italian 1C
4 hours per week • Hawthorn • Prerequisite: AA184 or approved equivalent • Corequisite: AA185 or approved equivalent • Assessment: partly continuous, partly by examination

Objectives and content
The program aims to enhance the linguistic skills developed in AA185. This will be achieved through a study of grammar, newspaper articles, a collection of authentic texts and contemporary literature.

Textbooks
Leto R., Longo B. & Ludbrook M., Fra Le Righe, Melbourne, Cis Educational, 1984
References
McCorrick C.A., Basic Italian Grammar (3rd edn), Melbourne, Longman Cheshire, 1984
Garzanti, Il Nuovo Dizionario Inglese-Italiano Garzanti, Milano, Garzanti, 1984

AA206 Advanced Italian 2A
5 hours per week • Hawthorn • Prerequisite: AA107 or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts for students enrolled prior to 1999

Objectives and content
The course aims to consolidate students' Italian language knowledge through advanced grammatical exercises and the study of appropriate literary works. The subject will also develop in students an understanding of contemporary Italy through the study of Italian history which covers the period from the rise of Fascism to present day Italy.

Textbooks
Lazzarini, S., Da Cappo: An Italian Review Grammar, 3rd edn, Fort Worth, Harcourt, Brace, 1992
Sanguinetti, L., Ogni Giorno, Melbourne, Cis Educational, 1984

AA207 Advanced Italian 2B
6 hours per week • Hawthorn • Prerequisite: AA206 or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts for students enrolled prior to 1999

Objectives and content
The course aims to consolidate students' Italian language knowledge and extend the
work begun in semester one through advanced grammatical exercises and the study of appropriate literary works. The subject will also develop students' understanding of contemporary Italy through the study of Italian history which covers the period from the rise of Fascism to present day Italy.

**AA209 Italian 2X**

*6 hours per week • Hawthorn • Prerequisite: AA110 or approved equivalent • Assessment: partly continuous, partly by examination*

A subject in the Bachelor of Arts for students enrolled prior to 1998

**Objectives and content**
The main objective of this subject is to extend the knowledge of the Italian language through the study of contemporary literature, students will be able to develop further their competence in grammar, vocabulary and idioms.

**Textbook**

**AA210 Italian 2Y**

*6 hours per week • Hawthorn • Prerequisite: AA209 or approved equivalent • Assessment: partly continuous, partly by examination*

A subject in the Bachelor of Arts for students enrolled prior to 1998

**Objectives and content**
The main objective of this subject is to consolidate the knowledge of the Italian language and extend the work begun in semester one thus gaining linguistic competence that will enable students to deal with a wide range of topics in the written and spoken language.

Through a study of contemporary literature, students will be able to develop further their competence in grammar, vocabulary and idioms.

**Textbook**

**AA281 Italian 2X**

*4 hours per week • Hawthorn • Prerequisite: AA102 and AA103 or approved equivalent • Corequisite: AA2821 Assessment: partly continuous, partly by examination*

A subject in the Bachelor of Arts

**Objectives and content**
The program has been planned in order to develop students’ proficiency in oral and written standard Italian. Students are exposed to an introduction to modern Italian literature (twentieth-century short stories) in order to develop students' reading and speaking skills as well as an appreciation of the conventions of the Italian business world.

**References**

**AA282 Italian 2Y - Introductory Business Italian**

*4 hours per week • Hawthorn • Prerequisite: AA182 and AA183 or approved equivalent • Corequisite: AA287 • Assessment: partly continuous, partly by examination*

A subject in the Bachelor of Arts

**Objectives and content**
The course provides students with basic proficiency in the linguistic register which is used for operating in the Italian business and trade environments. Emphasis is placed on the development of reading and speaking skills as well as an appreciation of the conventions of the Italian business world.

**References**

**AA283 Italian 2Z**

*4 hours per week • Hawthorn • Prerequisite: AA281 and AA282 • Corequisite: AA287 • Assessment: partly continuous, partly by examination*

A subject in the Bachelor of Arts

**Objectives and content**
The program aims to develop appropriate linguistic competence so that students can deal with a variety of topics in the written and spoken language. This will be achieved through a study of grammatical structures, newspaper articles, a collection of authentic texts and contemporary literature. The subject also develops an understanding of contemporary Italy through the study of Italian history which covers the period from the fall of Fascism to present day Italy.

**Textbooks**

**AA284 Advanced Italian 2A**

*4 hours per week • Hawthorn • Prerequisite: AA185 and AA186 • Corequisite: AA285 • Assessment: partly continuous, partly by examination*

A subject in the Bachelor of Arts

**Objectives and content**
The course aims to consolidate and deepen students’ proficiency through advanced grammatical exercises, authentic texts, films and television news in Italian. The students' active and passive vocabulary and grammatical structures are augmented by means of authentic materials from different periods, in different linguistic registers and in different forms.

**Textbooks**

**AA285 Advanced Italian 2B - Introductory Business Italian**

*4 hours per week • Hawthorn • Prerequisite: AA185 and AA186 or approved equivalent • Corequisite: AA281 • Assessment: partly continuous, partly by examination*

A subject in the Bachelor of Arts

**Objectives and content**
The course provides students with basic proficiency in the linguistic register which is used for operating in the Italian business and trade environments. Emphasis is placed on the development of reading and speaking skills as well as an appreciation of the conventions of the Italian business world.

**References**

**AA286 Advanced Italian 2C**

*4 hours per week • Hawthorn • Prerequisite: AA284 and AA285 • Corequisite: AA287 • Assessment: partly continuous, partly by examination*

A subject in the Bachelor of Arts

**Objectives and content**
The course aims to consolidate students’ Italian language knowledge and extend the work begun in AA284 through advanced grammatical exercises and the study of appropriate literary works. The course consists of four components: grammar revision, conversation, language extension work emphasizing a variety of linguistic registers and sutorcional languages and an Italian literature component (selected short stories)

**Textbooks**

**References**
AA287 Post-War Italy
3 hours per week • Hawthorn • Prerequisite: AA281 and AA282 or AA284 and AA286 • Corequisite: AA283 or AA286 • Assessment: by essay, seminar presentation and class test
A subject in the Bachelor of Arts (only for students studying an Italian Major)

Objectives and content
Same as AA119

References
Ward W., Getting It Right in Italy A Manual for the 1990's, Bloomsbury, London, 1993

AA288 European Union
Offered intensively • Hawthorn • Prerequisite: any stage one subject • Assessment: continuous and examination
A subject in the Bachelor of Arts
Note: Students enrolled in the Bachelor of Arts prior to 1999 should use the old subject code AA212

Objectives and content
Introductory subject which outlines the historical, political, legal background of the European Union, analyses the role of European institutions and discusses the application of EU policy, with particular reference to Australian business.

Recommended reading

AA289 Twentieth Century European Literature and Thought
3 hours per week • Hawthorn • Prerequisite: any two stage one BA subjects • Assessment: essay, seminar presentation & class test
A subject in the Bachelor of Arts
Note: Students enrolled in the Bachelor of Arts prior to 1998 should use the old subject code AA280

Objectives and content
This is an interdisciplinary subject which examines writers who have shaped the European consciousness. It provides students with the opportunity to study influential works in twentieth century European literature and through this to gain an understanding of some of the main intellectual currents in western culture.
Note: This subject is interdisciplinary and may be accredited towards a major in Italian, Philosophy, Literature, European Studies or Cultural Studies.

Recommended reading

AA306 Advanced Italian 3A
3 hours per week • Prerequisite: AA207 or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts for students enrolled prior to 1998.

Objectives and content
The course aims to consolidate and develop students' proficiency by advanced language studies and by the study of nineteenth and early twentieth century narrative and drama (Verga, Svevo, Pirandello). Literary works to be advised.

AA307 Advanced Italian 3B
3 hours per week • Prerequisite: AA306 or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts for students enrolled prior to 1998.

Objectives and content
The course continues to develop students' proficiency by advanced language studies and by the study of twentieth century narrative (Pavese, Bassani, Sciascia).

References
Literary works to be advised.

AA309 Italian 3X
6 hours per week • Hawthorn • Prerequisite: AA210 or approved equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts for students enrolled prior to 1998.

Objectives and content
The main objectives of Italian 3X are to consolidate students' language skills and to develop these further through the study of appropriate literature and related grammar, to develop their oral skills through conversation and discussion in Italian, to develop in the students an understanding of contemporary Italy through the study of Italian history which covers the period from the rise of Fascism to present day Italy. It is complemented by contemporary documents on present day Italy and appropriate films and other media.

Textbook

AA310 Italian 3Y
6 hours per week • Hawthorn • Prerequisite: AA308 or approved equivalent • Assessment: continuous and examination
A subject in the Bachelor of Arts for students enrolled prior to 1999.

Objectives and content
The main objectives of Italian 3Y are to consolidate students' advanced level language skills and to develop these further through a study of appropriate literature and related grammar, to develop their oral skills through conversation and discussion in Italian, to develop in the students an understanding of contemporary Italy through the study of Italian history which covers the period from the rise of Fascism to present day Italy. It is complemented by contemporary documents on present day Italy and appropriate films and other media.

AA313 Contemporary Italy
3 hours per week • Hawthorn • Prerequisite: AA207 or AA210 • Assessment: continuous and examination
A subject in the Bachelor of Arts for students enrolled prior to 1999.

Objectives and content
The subject is designed to make students familiar with the contemporary Italian reality. It is complemented by contemporary documents on present day Italy and appropriate films and other media.

AA377 International Business in the Italian Context
3 hours per week • Hawthorn • Prerequisite: stage one Business subjects and stage two Italian subjects or equivalent • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts for students enrolled prior to 1999.

Objectives and content
This subject is designed to make students familiar with the contemporary Italian business environment and to develop students' proficiency in business Italian language with the support of a computer-assisted language learning program. Emphasis is placed on the development of speaking, reading and writing skills relevant to business and trade. A wide range of authentic materials is used to expose the students to different types of business language registers.

Textbooks
Hougaz L., Business Italian Through the Interactive Book, CAUT-funded project, Swinburne University Press, 1998
The course aims to expose students to specific types of Italian sectorial language e.g. socio-economic, environmental phraseology, through work on texts taken from Italian textbooks.

Objectives and content
The course concentrates on aspects of Italian society (family, women, youth, immigration) and issues such as drugs and AIDS, the environment, the education and health systems.

Textbooks

AA384 Individual Project
Hawthorn • Prerequisite: AA286 or equivalent and AA287 • Assessment: seminar presentation and assignment
A subject in the Bachelor of Arts

Objectives and content
The subject aims to give students the opportunity to undertake a project in an Italian organization or business enterprise in Australia in order to further develop their linguistic and cultural competence and develop contacts with the Italian community in Australia. Students will be required to spend time in a selected organization and will be required to report regularly to the subject convenor.

References
Gazzanti, Il Nuovo Dizionario Inglese-Italiano, Milano, Gazzanti, 1984

AA387 Advanced Business Italian
4 hours per week • Hawthorn • Prerequisite: AA381 or AA384 • Corequisite: AA388 • Assessment: partly continuous, partly by examination
A subject in the Bachelor of Arts

Objectives and content
The course aims to develop students' proficiency in business Italian language with the support of a computer-assisted learning program. Emphasis is placed on the development of speaking, reading and writing skills relevant to business and trade. A wide range of authentic materials is used to expose the students to different types of business language registers.

Textbooks
Hougaz L., Business Italian Through the Interactive Book, CAUT-funded project, Swinburne University Press, 1996

AA388 Contemporary Italy
3 hours per week • Hawthorn • Prerequisite: AA381 or AA384 • Corequisite: AA387 • Assessment: seminar presentation, examination
A subject in the Bachelor of Arts

Objectives and content
The course aims to expose students to specific types of Italian sectorial language e.g. socio-economic, environmental phraseology, through work on texts taken from Italian newspapers, magazines, journals and books.

Textbook

AA389 Industry Based Learning in Europe
Prerequisite: AA212 and AA237 • Assessment: continuous
A subject in the Bachelor of Arts

Note: Students enrolled in the Bachelor of Arts prior to 1998 should use the old subject code AA270

Objectives and content
The objective of this elective is to provide students with a three month experience of living in a European country and working in a European company as a regular employee. The Industry Based Learning subject aims to provide students with the linguistic skills and cultural competence critical to the international trade environment. The subject provides an opportunity for students to gain that essential hands-on experience in the European Union business world by exposing the students to the commercial environment of the European marketplace.

Recommended reading

AA390 European Union Study Tour
Prerequisite: AA119 and AA212 (recommended) • Assessment: continuous
A subject in the Bachelor of Arts

Note: Students enrolled in the Bachelor of Arts prior to 1998 should use the old subject code AA376

Objectives and content
This subject will expose students to the cultural, political and regulatory environments that currently constitute the European Union. The basis of the course is a study tour to several European countries. Students will visit the institutions of the European Union (such as the European Parliament, the European Court of Justice, the European Investment Bank and the offices of the European Commission) and European business enterprises. Lectures on topics relevant to the course will be provided by European universities. The tour will be preceded by three briefing sessions.

Recommended reading
European Documentation Series, Official Publications of the European Community, Luxembourg

AA392 European Union - Business Context
Offered intensively • Hawthorn • Prerequisite: Two stage two Bachelor of Arts or Bachelor of Business subjects • Assessment: assignments and examinations
A subject in the Bachelor of Arts

Note: Students enrolled in the Bachelor of Arts prior to 1998 should use the old subject code AA378

Objectives and content
This course has been developed in conjunction with industry and is offered off-campus and is also available to business people who are interested in increasing their knowledge of business in the rapidly developing European market. It is a 3rd year Bachelor of Business unit which may count towards both a Bachelor of Arts and Bachelor of Business. The course examines the main features of the European regulatory environment and identifies elements of the business strategy required and contractual problems experienced when working within the European Single Market. Specifically, the course will analyze European business opportunities, and present possible opportunities.

AB200 Knowledge Thought and Computers
10 credit points • 3 hours per week • Hawthorn

Objectives
To develop skills in critical and creative thinking, and to develop an understanding of the conceptual and ethical aspects of advanced computer technology, including the ways in which computers are transforming our concept of ourselves and our relationship to the environment.

Content
Reasoning and argument, philosophical logic, logic and language. Traditional and contemporary theories of knowledge and their relevance to knowledge engineering. Mind and machines computation as a model for thinking about (human) thinking — and vice versa.

Ethical questions arising from the above. Enquiry about this subject should be directed to the Division of Business, Humanities and Social Science.
AB310  Behavioural Studies and Communication
5 credit points  2 hours per week  Hawthorn
This is a second year subject of the Bachelor of Applied Science (Environmental Health)

Content
The course reviews the basic principles of communication with particular emphasis on the various skills needed to apply them in both personal and vocational settings. It identifies some of the barriers to good communication and some causes of communication breakdown. While the emphasis is largely on the use of language and developing written communication skills, these skills are development through an examination of the requirements of both large organisations and small groups.

Individual and group exercise provide students with the opportunity to develop specific communication skills which may be taken into the workplace and generalised to their other interpersonal interactions.

AB2100  Behavioural Studies and Communication
5 credit points  2 hours per week  Hawthorn
This is a first year subject of the Bachelor of Applied Science (Environmental Health)

Objectives and content
This course explores the nature of communication theory and the ways in which people can develop and apply their abilities in the key areas associated with written, spoken and graphic formats and styles.

AD104  Communication Skills
3 hours per week  Hawthorn  Prerequisite: nil  Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This subject explores the nature of communication theory and the ways in which people can develop and apply their abilities in the key areas associated with written, spoken and graphic formats and styles.

AD105  Individuals, Groups and Organisations
3 hours per week  Hawthorn  Prerequisite: nil  Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This subject explores the nature of communication theory and the ways in which people can develop and apply their abilities in the key areas associated with written, spoken and graphic formats and styles.

AD106/ Using Information Technology
3 hours per week  Hawthorn  Prerequisite: nil  Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This subject explores the nature of communication theory and the ways in which people can develop and apply their abilities in the key areas associated with written, spoken and graphic formats and styles.

AD107 1 and 2
3 hours per week  Hawthorn  Prerequisite: nil  Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This subject explores the nature of communication theory and the ways in which people can develop and apply their abilities in the key areas associated with written, spoken and graphic formats and styles.

AD108  Issues in Multicultural Australia
3 hours per week  Hawthorn  Prerequisite: nil  Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This subject explores the nature of communication theory and the ways in which people can develop and apply their abilities in the key areas associated with written, spoken and graphic formats and styles.

AD109  Language other than English
6 hours per week  Hawthorn  Prerequisite: nil  Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This subject explores the nature of communication theory and the ways in which people can develop and apply their abilities in the key areas associated with written, spoken and graphic formats and styles.

AD110  Technology and Society
3 hours per week  Hawthorn  Prerequisite: nil  Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This subject explores the nature of communication theory and the ways in which people can develop and apply their abilities in the key areas associated with written, spoken and graphic formats and styles.
AD112  Understanding the Mass Media
3 hours per week • Hawthorn  • Prerequisite: nil  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Examines the roles and functions of the major forms of mass media in Australian society. Particular emphasis is given to such factors as ownership and control of the media, mechanisms for media regulation and debates about the influence of mass media on individuals and social patterns.

AD200  Behaviour in Organisations
3 hours per week • Hawthorn  • Prerequisite: nil  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Examines the theories of organisational behaviour. Considers the ways in which groups and individuals interact with each other and the impact of organisational structures on the functioning of organisations. Particular emphasis is given to the analysis of organisational culture and how such phenomena affect behaviour in the workplace.

AD201  Culture and Ideas
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Examines theories of culture and the notions of cultural transmission, continuity and discontinuity and change in society. Includes case studies of cultural contexts, meaning systems, representations in film and text and the social sources and impact of cultural symbolism. The role of ideas and systems of meaning in Australian society is highlighted.

AD202  Data Usage and Interpretation
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This subject helps the student understand a range of forms of data and ways of organising both qualitative and quantitative data. It helps students comprehend basic methods of analysis of these data as well as how to interpret data for particular purposes in a variety of employment contexts.

AD203  Economic Decision-making in the Enterprise
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Develops an understanding of the role of the enterprise in a modified market economy. The emphasis is on concepts relevant to microeconomics but the importance of the macroeconomic context in which decisions are made will be stressed. The student should develop skills of analysis and synthesis based on an understanding of economic concepts. The aim will be to ensure that there is an appreciation of the complexity and the interrelationship between economic factors and their importance in making economic decisions within business organisations.

AD204  Equity and Opportunity in Australian Society
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Examines the ideas which underpin concepts of equity and opportunity and explores how these ideas and concepts are made evident in Australian society, in organisational structures and in related contexts. Evaluation of these concepts and the critical analysis of their applicability in particular work structures is investigated.

AD205  Health and Illness
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Examines the area of occupational health and safety both in its social and legislative contexts and in its organisational context. Investigates the impact of illness in the workplace and the broad legal and social issues of health and illness in the society and the workplace, e.g. prevention, rehabilitation, improved work practices, retraining, access to medical care.

AD206  Industrial Relations
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Investigates the forces for cooperation and conflict as they impact on the industrial relations arena in complex technological societies. Explores the roles and boundaries of government involvement and the legal dimensions of industrial relations as they affect the roles of employers and unions in a changing environment. Case studies of the interaction between these often competing groups are examined.

AD207  Information Systems, Society and Technology
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Explores the theoretical perspectives which influence understanding about the evolution of information technology and its place in different economic contexts. Investigates the design and use of information systems and develops the skills of needs analysis to arrive at decisions governing the selection and implementation of appropriate technological solutions to the needs of the workplace.

AD208  Negotiation and Change Management
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Considers how interpersonal and group communication theory can inform the skills of discussion, presentation and conciliation involved in negotiation. Analyses the dynamics of change and how change occurs within complex societies and organisations. Develops the ability to understand, devise, implement and monitor strategies to change aspects of the way workplaces operate.

AD209  Report Writing
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
Examines the nature, purposes, styles and formats for report writing. Particular audiences are used to highlight the need to decide what sort of data should be collected, how they should be analysed and how they should be presented in writing according to the judgments about purposes identified by the writer of the report. Setting out and production of reports will also be covered.

AD210  Research Skills
3 hours per week • Hawthorn  • Prerequisite: first year Associate Degree in Social Science  • Assessment: continuous
A subject in the Associate Degree in Social Science

Objectives and content
This course aims to assist students to develop skills in secondary and primary research. Students will develop the ability to distinguish appropriate from inappropriate research methodologies, to locate sources of published social data, to analyse secondary data and to carry out small-scale independent research projects using both qualitative and quantitative techniques.
AD211 Writing and Producing for Public Release

3 hours per week • Hawthorn • Prerequisite: first year Associate Degree in Social Science • Assessment: continuous

A subject in the Associate Degree in Social Science

Objectives and content
Instructs students in the appropriate formats and production media for preparing material to be disseminated through the written and electronic mass media. Prepares students to identify the characteristics of target audiences and to write text appropriate for particular audiences. Training in in-house journalism techniques will also be included.

AD212/ Language other than English

AD213

6 hours per week for two semesters • Hawthorn • Prerequisite: first year Associate Degree in Social Science • Assessment: continuous

A subject in the Associate Degree in Social Science

Objectives and content
Students continue with a study of a language commencing in Year 1.

AH101 History of Ideas

2.5 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
This subject is an introduction to the history of ideas. By using a particular intellectual focus or theme it seeks to show how our contemporary understanding of ourselves and our relationship to the world has been shaped by important developments in the past.

Themes which serve as a focus for this course may include one or more of the following: Darwin's theory of evolution; the concept of the self (from Descartes to Freud); God and nature; knowledge and belief.

Recommended reading
To be advised

AH103 Critical Thinking

2.5 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
The aim of this course is the development of critical reasoning skills which students will find very useful in both academic and everyday contexts. The course focuses on the study of argumentation. A variety of practical skills is taught. For example, how to distinguish claims from evidence, and assess claims in the light of the supporting evidence; identify fallacies; organise material in logically coherent patterns; identify problematic uses of language; critically evaluate extended arguments; and write evaluative essays. Such skills are central to the effective completion of academic assignments, as well as to good reasoning in everyday life.

Recommended reading
Please consult with lecturer before buying recommended readings.


AH201 Mind, Language and Thought

3 hours per week • Hawthorn • Prerequisite: one of AH100, AH101, AH103 or approved equivalent • Assessment: continuous

A subject in the Bachelor of Arts and Bache or of Social Science

Objectives and content
This subject explores theories of the relationship between mind, cognition, language and culture. Themes studied will be chosen from the following list: mind, brain and cognition; language, meaning and truth; language as representation and metaphor; signs, language and culture.

Recommended reading
Please consult with lecturer before buying recommended readings.


AH204 Philosophy of Culture

2.5 hours per week • Hawthorn • Prerequisite: one of AH100, AH101, AH103 or approved equivalent • Assessment: continuous

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
This subject is designed to provide students with the historical and philosophical background to current research in the study of culture, to examine the assumptions underlying the major theoretical developments and major schools of cultural studies and thereby to show the relationships between the different dimensions of culture, to reveal the practical implications of such research, and to consider what are the most promising lines of research for the future. The subject examines Marxist, hermeneuticist, structuralist, post-structuralist and other European approaches to culture, and the conflicts between the proponents of these different approaches.

Recommended reading
Please consult with lecturer before buying recommended reading.


AH205 Social Philosophy, Politics and Ethics*

3 hours per week • Hawthorn • Prerequisite: one of AH100, AH101, AH103 or approved equivalent • Assessment: continuous

A subject in the Bachelor of Arts and Bachelor of Social Science

Objectives and content
Ever since the Enlightenment, the project of modernity has dominated philosophical thinking about the social, political, and ethical principles, practices and institutions to which we owe allegiance. In recent times, however, the existing orthodoxy has been severely challenged by the cultural condition known as 'postmodernity'. The aim of this subject is to introduce students to the modernity/postmodernity debate, and to elucidate the social, political and ethical implications. To ensure a cohesive focus, the issues in dispute between J. Habermas and M. Foucault, two of the foremost contributors to the debate, serve as focal points for discussion, but the views of a range of other thinkers, ancient and modern, are also considered to the extent that these views are helpful in elucidating our contemporary condition in its social, political and ethical dimensions.

Recommended reading
Please consult with lecturer before buying recommended readings.


*Not available to students who have previously passed AH200 Moral and Political Philosophy.

AH301 Rationality

3 hours per week • Hawthorn • Prerequisite: two of AH100, AH101, AH103 or approved equivalents • Assessment: continuous

A subject in the Bachelor of Arts and the Bachelor of Social Science

Subject to accreditation

Objectives and content
What does it mean to be rational? Why be rational? These questions are central to this subject, which critically appraises recent accounts of rationality, and explores the possibility of forging a new approach, more adequate to our contemporary needs. Discussion will focus on such issues as: the challenges to rationality posed by our status as situated human agents; the treats to rationality posed by paradigm disputes in science; the problem of relativism; the links between western rationality and the rationality of other cultures; and the relationship between rationality and human well-being.

Recommended reading
Please consult with lecturer before buying recommended readings.


AH306 Practical Ethics
3 hours per week · Hawthorn · Prerequisite: two of AA208, AH201, AH202, AH203, AH204, AH205, AH206 or approved equivalent · Assessment: continuous
A subject in the Bachelor of Arts and Bachelor of Social Science

Objectives and content
This subject attempts to develop an understanding of the process of moral decision making, with a view to improving the ability of participants to form ethical judgements and to be tolerant of the judgements of others.

Presently, the two main areas of discussion are the moral value of human beings and environmental ethics. Further areas may be added in future years.

Recommended reading
Please consult with lecturer before buying recommended reading.


Elliott, R. & Gare, A. Environmental Philosophy. Brisbane, University of Queensland Press, 1983.


AH310 Approaches to Culture
3 hours per week · Hawthorn · Prerequisite: two of AA208, AH204, and any other Stage Two subject or approved equivalents · Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
Contemporary approaches to the study of culture draw on the European philosophical traditions of phenomenology, hermeneutics and structuralism. In this subject, we explore some key themes in these traditions. Themes include the notions of meaning and interpretation in relation to consciousness, signs and texts; different ways of understanding the contrasting methodologies of the natural and human sciences; different models that are proposed for the purpose of interpreting cultural phenomena; the interconnections between disciplines and the problematic nature of discipline boundaries.

Recommended reading
Please consult with lecturer before buying recommended reading.


AH311* Environmental Philosophy
3 hours per week · Hawthorn · Prerequisite: two of AA208, AH201, AH202, AH203, AH204, AH205, AH206 or approved equivalent · Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
The global destruction of the environment is perhaps the most serious crisis humanity has ever had to confront. This course examines the cultural, social and economic roots of this crisis, with specific reference to Australia, and considers what courses of action are open to us. While ethics and political philosophy are considered, the major focus of the course is on an economic theory and policy formation.

The assumptions of prevailing economic thought and prevailing forms of policy analysis are critically examined, and then the new approaches to economics and policy formation designed to take into account energetic and ecological processes and to provide the basis for an environmentally sustainable society are investigated.

Recommended reading
Please consult with lecturer before buying recommended reading.


Daly, H. and Cobb, J. For the Common Good Restructuring the Economy Toward Community, the Environment, and a Sustainable Future. 2nd ed., Boston, Beacon Press, 1994


* Not available to students who have previously passed AH309 Special Topics in Philosophy.

AJ102 Introduction to Japan – A Cultural Overview
3 hours per week · Hawthorn · Prerequisite: nil · Assessment: continuous
A subject in the Bachelor of Arts

Objectives and content
This subject introduces historical and cultural topics of direct relevance to the development of Japanese art forms, culture and society. The recommended reading texts used in the subject are in English.

Textbooks


Recommended reading


• Japan in the World Economy. New York, Oxford University Press, 1983


• Understanding Cultures. New York, Perren/Perren, 1986

• Contemporary Japanese Literature. Tokyo, Tuttle, 1978

• Japanese Architecture. Tokyo, Tokyo University Press, 1974

• Kabuki, the Traditional Music of Japan. Tokyo, Onagaki No Toma Shi, 1984


• Potzler, E. Music in Japan – A Historical Outline. Tucson, University of Arizona Press, 1973


• Senidensticker, E.G. Low City, High City, New York, Kropf, 1983

AJ107 Introductory Japanese 1A
6 hours per week · Hawthorn · Prerequisite: nil · Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To provide students with basic knowledge of the language, including basic literacy skills. Emphasis is placed on correct pronunciation, acquisition of vocabulary and the fundamentals of grammar.

Content
The course includes 4 components: basic grammar, reading/writing of the kana scripts and kanji, aural comprehension and oral expression. Hiragana and katakana (the two syllabaries) and approximately 150 kanji (Chinese characters) are sequentially introduced.

Textbook/Reference
Machida, T. and Skoutarides, A. NIHONGO -Reading and Writing, Vols 1-3, Melbourne, Swinburne Press, Revised Edition 1996


AJ108 Written Japanese 1B
3 hours per week · Hawthorn · Prerequisite: AJ107 or equivalent · Corequisite subject: AJ105 · Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students' basic knowledge of the written language through introduction of more complex grammar patterns and reading texts. Emphasis is placed on extension of literacy skills through introduction of further 350 kanji (Chinese characters).

Content
The course includes 3 components: basic grammar, reading and writing.

Textbook/Reference

Swinburne University of Technology | 1998 Handbook
AJ109  Spoken Japanese 1B
3 hours per week • Hawthorn • Prerequisite: AJ107 or equivalent • Corequisite: AJ108 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To extend students’ basic knowledge of the spoken language through introduction of more complex grammar patterns and aural comprehension texts. Emphasis is placed on development of oral skills for a limited range of inter-personal interactions.

Content
The course includes 2 main components: aural comprehension and oral expression. Grammar patterns are also included in support of the two components.

Textbook/Reference

AJ110  Advanced Japanese 1A
6 hours per week • Hawthorn • Prerequisite: VCE Japanese or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To consolidate students’ knowledge of grammar and script acquired through prior study at the secondary level. To expand this knowledge through introduction of a wider range of basic grammar patterns and reading texts (including approximately 350 new kanji) and more adult conversation topics.

Content
The course includes 4 components: grammar, reading/writing (approximately 350 kanji), aural comprehension and oral expression.

Textbook/Reference

AJ111  Advanced Written Japanese 1B
3 hours per week • Hawthorn • Prerequisite: AJ110 or equivalent • Corequisite: AJ112 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ competence in the written language through introduction of more complex grammar patterns and reading texts. Literacy skills are expanded through introduction of further 350 kanji (Chinese characters).

Content
The course includes 3 components: grammar, reading, and writing.

Textbook/Reference

AJ112  Advanced Spoken Japanese 1B
3 hours per week • Hawthorn • Prerequisite: AJ110 or equivalent • Corequisite: AJ111 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To extend students’ competence in the spoken language through introduction of more complex grammar patterns and aural comprehension texts. Emphasis is placed on development of oral skills for a range of everyday situations.

Content
The course includes 2 main components: aural comprehension and oral expression. Grammar patterns are also included in support of the two components.

Textbook/Reference

AJ202  Communication in Japanese
3 hours per week • Hawthorn • Prerequisite: AJ104 or AJ109 • Assessment: tests/assignments/participation
A subject in the Bachelor of Arts

Objectives and Content
This subject introduces topics relevant to language and effective communication. It aims at acquainting students with the differences between English and Japanese communication patterns.

Studens are encouraged to establish contact with Japanese people and to use data collected from interviews with them in the writing of essays and research assignments. The contact scheme is an important component of this subject as it provides the student with the opportunity to converse in Japanese and to become familiar with Japanese attitudes and customs.

Textbook
Neustupny, J.V. Communicating with the Japanese, Tokyo, The Japan Times, 1983

Recommended Reading
Morimoto, O. and N. How to be Polite in Japanese. Tokyo, Japan Times, 1987

AJ203  Japanese 2A
6 hours per week • Hawthorn • Prerequisite: AJ104 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and Content
This subject extends the range of language patterns, grammar and writing. It also provides further training in oral and aural skills. Students are introduced to various topics on Japanese culture and society through reading in Japanese. A variety of audio-visual material is used throughout the course.

It is highly recommended that students enrolled in this subject also enroll for AJ202 which is offered in semester 2.

Textbooks
Japanese Section, A. Nihongo, Reading and Writing, Vols 6 and 7, Melbourne, Swinburne Press, 1996
Japanese Section, Dialogues and Aural Comprehension 2A, Melbourne, Swinburne Press, 1996

Recommended Reading
Mizutani, O. and Nihongo Atoz. Vols 1, 2, 3, Tokyo, Japan Times, 1977

AJ204  Japanese 2B
6 hours per week • Hawthorn • Prerequisite: AJ203 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and Content
This subject is a continuation of AJ203. It provides further training in the various aspects of the language through extensive reading and exposure to a variety of audio-visual materials.

Textbooks
Japanese Section, Nihongo, Reading and Writing, Vols 8, 9 & 10, Melbourne, Swinburne Press, 1996
Japanese Section, Dialogues and Aural Comprehension 2C, Melbourne, Swinburne Press, 1999
Skoutarides, A. and Machida, T. Nihongo, Grammar Notes vol. 4, Melbourne, Swinburne Press, 1999

Recommended Reading
Mizutani, O. and Nihongo Atoz. Vols 1 and 2, Tokyo, Japan Times, 1977
AJ205 **Advanced Japanese 2A**

6 hours per week • Hawthorn • Prerequisite: AJ108 or an approved equivalent • Assessment: continuous

A subject in the Bachelor of Arts for students enrolled prior to 1998.

**Objectives and content**

This subject extends the range of language patterns, grammar and writing covered in the first stage of the advanced stream and provides further training in aural and oral skills.

**Textbooks**

Japanese Section, A. Nihongo, Reading and Writing, Vols. 9, 10, 11 & 12, Melbourne, Swinburne Press, 1996

Japanese Section, Dialogues and Aural Comprehension 2B, Melbourne, Swinburne Press, 1996


**Recommended reading**

Mizutani, O. and N., Nihongo, Notes, Vols. 1–3, Tokyo, Japan Times, 1977


AJ206 **Advanced Japanese 2B**

6 hours per week • Hawthorn • Prerequisite: AJ205 or an approved equivalent • Assessment: continuous

A subject in the Bachelor of Arts for students enrolled prior to 1998.

**Objectives and content**

This subject introduces students to unabridged non-fiction reading material. It provides further training in aural and oral skills. It accelerates students’ acquisition of Japanese characters and provides training in writing of different styles of text.

**Textbooks**

Fukushima, N., Japan and Australia, Melbourne, Swinburne Press, 1994

Fukushima, N., Signs and Ads, Melbourne, Swinburne Press, 1995

Mikihisa, T., Skoutarides, A. and Fukushima, N., A Trip to Japan, Melbourne, Swinburne Press, 1993

Machida, T. and Skoutarides, A., Nihongo, Reading and Writing, Vols. 11 & 12, Melbourne, Swinburne Press, 1999


Kikuchi, T. et al., Eds., Advanced Japanese Listening Comprehension, Melbourne, Swinburne Press, 1993


AJ211 **Advanced Written Japanese 2A**

3 hours per week • Hawthorn • Prerequisite: AJ211 or equivalent • Corequisite: AJ212 • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To continue extending students’ competence in the written language through introduction of advanced grammar patterns and unabridged reading texts.

**Content**

The course includes 5 main components: grammar, reading, writing, aural comprehension and oral expression. Literacy skills are expanded through introduction of further 350 kanji (Chinese characters). Emphasis is placed on development of oral skills for a range of everyday situations.

**Textbook/Reference**


Skoutarides, A., Machida, T., NIHONGO - Reading and Writing, Vols. 6 & 7, Swinburne Press, Melbourne, 1987

Japanese section, NIHONGO -Dialogues and Aural Comprehension 2, Swinburne Press, Melbourne, 1996

AJ215 **Intermediate Japanese 2A**

8 hours per week • Hawthorn • Prerequisite: AJ108 and AJ109 or equivalent • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To continue extending students’ competence in the written and spoken language through introduction of more complex grammar patterns, reading texts and aural comprehension texts.

**Content**

The course includes 2 main components: aural comprehension (video or radio programs) and oral expression focused on correct usage of situationally appropriate speech registers.

**Textbook/Reference**

Fukushima, N., Japan and Australia, Melbourne, Swinburne Press 1997

Fukushima, N., Signs and Ads, Melbourne, Swinburne Press 1993

Kikuchi, T. et al. (Eds) Advanced Japanese Listening Comprehension, Melbourne, Swinburne Press, 1993


AJ217 **Written Japanese 2B**

3 hours per week • Hawthorn • Prerequisite: AJ215 or equivalent • Corequisite: AJ218 • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To continue extending students’ competence in the written language through introduction of advanced grammar patterns and unabridged reading texts.

**Content**

The course includes 3 components: grammar, reading and writing. Literacy skills are expanded through introduction of further 350 kanji (Chinese characters).

**Textbook/Reference**


Skoutarides, A., and Machida, T., NIHONGO - Reading and Writing, Vols. 8 & 9, Swinburne Press, Melbourne, 1987

Japanese section, NIHONGO -Dialogues and Aural Comprehension 2, Swinburne Press, Melbourne, 1996

AJ218 **Spoken Japanese 2B**

3 hours per week • Hawthorn • Prerequisite: AJ217 or equivalent • Corequisite: AJ217 • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To extend students’ competence in the spoken language through introduction of unabridged aural comprehension texts. Emphasis is placed on development of oral skills for an extended range of communicative situations and correct usage of honorifics.

**Content**

The course includes 2 main components: aural comprehension and oral expression. Grammar patterns are also included in support of the two components.

**Textbook/Reference**

Japanese section, NIHONGO -Dialogues and Aural Comprehension 2, Swinburne Press, Melbourne, 1995


Swinburne University of Technology | 1998 Handbook
AJ302 Work Experience in Japan
Prerequisite: minimum three years of double degree Business/Arts (Japanese) studies including satisfactory completion of stage 3 subjects of the Japanese major
• Assessment: completion of the work experience component and report from the work experience provider; assessed on pass/fail basis
This elective subject is only available to students undertaking the double degree Business/Arts (Japanese) course.
Objectives and content
The objective of this elective subject is to provide students with a six months experience of living in Japan and working in a Japanese company as a regular employee.
Recommended reading
Neustupny, J.V. Communicating with the Japanese. Tokyo, The Japan Times, 1987
AJ303 Japanese 3C
6 hours per week • Hawthorn • Prerequisite: AJ204 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998
Objectives and content
This subject continues to develop skills in written and spoken Japanese with particular attention to communication styles appropriate to different situations.
Textbooks
Fukushima, N. Japan and Australia. Melbourne, Swinburne Press, 1992
Machida, T. & Skoutarides, A. A Trip to Japan. Melbourne, Swinburne Press, 1993
Note: If insufficient student numbers enrolled in this course - an alternative course of study will be provided.
Objectives and content
This subject continues to develop skills in written and spoken Japanese with particular attention to communication styles appropriate to different situations.

AJ304 Japanese 3D
6 hours per week • Hawthorn • Prerequisite: AJ303 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998
Objectives and content
This subject continues exploration of students' knowledge of spoken and written Japanese. Emphasis is placed on analysis of factors which determine selection of speech registers appropriate to a variety of communicative situations.

Textbooks
Fukushima, N. Japan and Australia. Melbourne, Swinburne Press, 1992

AJ305 Advanced Japanese 3E
6 hours per week • Hawthorn • Prerequisite: AJ206 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998
Objectives and content
This subject continues to develop skills in written and spoken Japanese with particular attention to communication styles appropriate to different situations.

Textbooks
Fukushima, N. Japan and Australia. Melbourne, Swinburne Press, 1992

AJ306 Advanced Japanese 3D
6 hours per week • Hawthorn • Prerequisite: AJ305 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998
Objectives and content
This subject continues to develop skills in written and spoken Japanese with particular attention to communication styles appropriate to different situations.

Textbooks

AJ307 Reading Japanese Newspapers
4 hours per week • Hawthorn • Prerequisite: Credit or above in AJ204, AJ205 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998
Objectives and content
This subject deals with a number of issues pertaining to contemporary Japan which students study through reading of relevant newspaper articles in Japanese and discussion. Japanese language is used exclusively in class.

Textbooks

AJ308 Japanese for Tourism and Hospitality
4 hours per week • Hawthorn • Prerequisite: AJ204, AJ205 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998
Objectives and content
This subject is focused on development of spoken language suitable for interaction with Japanese in tourism and hospitality settings.
with Japanese customers/clients in a variety of service situations. Emphasis is placed on training in appropriate honorifics. A mandatory 'work experience' component is included in the course. Students are placed in hotels, souvenir shops and similar venues and their performance in the work situation is assessed by the 'work experience' provider.

Textbooks

AJ310 Japanese for Business and Industry
4 hours per week • Hawthorn • Prerequisite: credit or above in AJ204, AJ206 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
This subject concentrates on development of suitable written and spoken language for interaction in business spheres. Emphasis is placed on writing of business letters and other documents and reading of business-related texts. Thorough training in honorifics is also emphasised. Japanese businessmen participate as guest speakers and consultants to the course.

The double degree Business/Arts students are strongly recommended to enrol in this subject.

Textbooks

AJ318 Written Japanese 3A
4 hours per week • Hawthorn • Prerequisite: AJ217 and AJ218 or equivalent • Corequisite: AJ319 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ competence in the written language through reading of unabridged non-fiction texts. The writing component provides training in different writing styles and includes formal introduction of further 350 kanji (Chinese characters) as well as exposure to an extensive range of kanji compounds.

Content
The course includes 2 components: reading (unabridged texts) and writing (approximately 1350 kanji) including different writing styles.

Textbook/Reference
Skoutarides, A. et al. (Eds) Advanced Japanese Reader, Melbourne, Swinburne Press 1991
Skoutarides, A. et al. (Eds) NIHONGO - Reading and Writing, Vols 11 - 12, Melbourne, Swinburne Press 1991

AJ319 Spoken Japanese 3A
4 hours per week • Hawthorn • Prerequisite: AJ217 and AJ218 or equivalent • Corequisite: AJ318 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ competence in the spoken language through exposure to unabridged aural comprehension texts. Emphasis is placed on further development of oral skills for an extended range of communicative situations and on correct usage of different speech registers.

Content
The course includes 2 components: aural comprehension (video or audio program) and oral expression with emphasis on situationally appropriate use of different speech registers.

Textbook/Reference
Fukushima, N. Japan and Australia. Melbourne, Swinburne Press 1992
Fukushima, N. Signs and Ads. Melbourne, Swinburne Press 1993

AJ320 Reading Japanese Newspapers
4 hours per week • Hawthorn • Prerequisite: AJ318/AJ325 and AJ319/AJ326 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To introduce students to journalistic written styles with particular emphasis on kanji compounds used in newspaper reporting and to extend the range of oral work by discussion of a variety of current affairs topics.

Content
The course includes 2 components: reading of unabridged newspaper articles and discussion of topics covered in the reading class.

Textbook/Reference

AJ321 Japanese for Tourism and Hospitality
4 hours per week • Hawthorn • Prerequisite: AJ318/AJ325 and AJ319/AJ326 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To train students in honorific language appropriate to interaction with Japanese personnel in a variety of service situations.

Content
The course is focussed on the development of oral skills with special emphasis on honorific language suitable for a variety of service situations. Work experience in a tourism/hospitality sector is an integral component of the course.

Textbook/Reference

AJ322 Japanese for Business and Industry
4 hours per week • Hawthorn • Prerequisite: AJ318/AJ325 and AJ319/AJ326 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To train students in written and spoken language as well as behavioural etiquette appropriate to a variety of business interactions.

Content
The course includes 4 components: reading and writing of business correspondence (additional 100 kanji), aural comprehension and oral expression focussed on job interviews, negotiations and similar business practices, Japanese word processing, and business etiquette.

Textbook/Reference

AJ323 Written Japanese 3B
4 hours per week • Hawthorn • Prerequisite: AJ318 and AJ319 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ knowledge of the language through introduction of unabridged reading texts and extension of literacy skills through introduction of further 350 kanji (Chinese characters). The writing component focuses on different writing styles, note taking and summarising.

Content
The course includes 2 components: reading (unabridged texts) and writing (approximately 1700 kanji) including note taking and summarising.

Textbook/Reference
Skoutarides, A. et al. (Ed) Advanced Japanese Reader, Melbourne, Swinburne Press 1997
Skoutarides, A. et al. (Eds) NIHONGO - Reading and Writing, Vols 11 - 12, Melbourne, Swinburne Press 1991
The course includes 2 components: aural comprehension (unabridged texts) and oral work with emphasis on correct use of the full range of speech registers.

Objectives
To continue extending students’ competence in the spoken language through introduction of a variety of unabridged aural comprehension text (video or radio programs) and training in oral expression through introduction of a broader range of conversation topics with special emphasis on appropriate use of the full range of speech registers.

Content
The course includes 2 components: aural comprehension (unabridged texts) and oral work with emphasis on correct use of the full range of speech registers.

Textbook/Reference
Fukushima, N. Japan and Australia. Melbourne, Swinburne Press, 1992
Fukushima, N. Signs and Ads. Melbourne, Swinburne Press, 1993

AJ325 Advanced Written Japanese 3A
4 hours per week • Hawthorn • Prerequisite: AJ318 and AJ319 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ knowledge of the language through introduction of unabridged reading texts and extension of literacy skills through introduction of further 350 Kanji (Chinese characters). The writing component focuses on different writing styles, note taking and summarising.

Content
The course includes 2 components: reading (unabridged texts) and writing (approximately 1700 Kanji) including note taking and summarising.

Textbook/Reference

AJ326 Advanced Spoken Japanese 3A
4 hours per week • Hawthorn • Prerequisite: AJ318 and AJ319 or equivalent • Corequisite: AJ325 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ knowledge of the language through introduction of unabridged reading texts and extension of literacy skills through introduction of further 350 Kanji (Chinese characters). The writing component focuses on different writing styles, note taking and summarising.

Content
The course includes 2 components: aural comprehension (unabridged texts) and oral work with emphasis on correct use of the full range of speech registers.

Textbook/Reference
Fukushima, N. Japan and Australia. Melbourne, Swinburne Press, 1992
Fukushima, N. Signs and Ads. Melbourne, Swinburne Press, 1993

AJ327 Advanced Written Japanese 3B
4 hours per week • Hawthorn • Prerequisite: AJ325 and AJ326 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ competence in the written language through a wide variety of unabridged reading texts, extension of literacy skills through introduction of further 350 Kanji (Chinese characters) and training in academic writing styles.

Content
The course is organised around 3 topics. Each topic requires reading of a prescribed number of unabridged texts (references), writing of questionnaire surveys for a field study project and written reporting of field study results.

Textbook/Reference
To be advised.

AJ328 Advanced Spoken Japanese 3B
4 hours per week • Hawthorn • Prerequisite: AJ325 and AJ326 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ competence in the spoken language through introduction of a variety of unabridged aural comprehension text (video or radio programs) and training in oral expression through introduction of a broader range of conversation topics with special emphasis on appropriate use of the full range of speech registers.

Content
The course is organised around 3 topics. Each topic requires reading of a prescribed number of unabridged texts (references), writing of questionnaire surveys for a field study project and written reporting of field study results.

Textbook/Reference
To be advised.
**Content**
This subject provides an introduction to the changing aspects of Japanese culture. Topics include history, religion, education, arts, language and traditions.

**Textbooks**
Japanese Section, Japanese Culture A, Melbourne, Swinburne Press, 1996


Additional reading materials and reading guides are distributed to students enrolled in the course.

**AJ403 Japanese Culture B**
4 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

This subject is not offered in 1997.

A subject in the Graduate Diploma in Japanese

**Objectives**
Extension of reading and oral skills in culture related topics.

**Content**
This subject allows students to extend their reading of topics introduced in Japanese Culture A and to develop their conversational skills.

**Textbooks**

Japanese Section, Japanese Culture & Melbourne, Swinburne Press, 1996


Additional reading materials and reading guides are distributed to students enrolled in the course.

**AJ404 Japanese Business and Industry A**
4 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

A subject in the Graduate Diploma in Japanese

**Objectives**
Students will gain knowledge and understanding of developments and problems associated with Japanese business and industry.

**Content**
This subject provides an introduction to the developments and problems associated with Japanese business and industry. Topics include employment and working conditions, advanced technology, structure of industry, trade friction, Japan and world trade, energy and dietary industry.

**Textbooks**

Additional reading materials and reading guides are distributed to students enrolled in the course.

**AJ405 Japanese Business and Industry B**
4 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

A subject in the Graduate Diploma in Japanese

**Objectives**
Extension of reading and oral skills in business and industry related topics.

**Content**
Additional reading which extends the topics introduced in Japanese Business and Industry A is covered. The emphasis is placed on the comprehension and active use of spoken variety of Japanese.

**Textbooks**


Additional reading materials and reading guides are distributed to students enrolled in the course.

**AJ406 Japanese Politics A**
4 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

A subject in the Graduate Diploma in Japanese

**Objectives**
Students will be introduced to contemporary political issues in Japan.

**Content**
This subject provides an introduction to various aspects of the Japanese political system. Topics include political parties and elections, local governments, political scandals, international relations, defence policies and environmental protection.

**Textbooks**


Additional reading materials and reading guides are distributed to students enrolled in the course.

**AJ407 Japanese Politics B**
4 hours per week • Hawthorn • Assessment: continuous

A subject in the Graduate Diploma in Japanese

**Objectives and content**
This subject covers reading and conversation which extends to topics introduced in Japanese Politics A.

**Textbooks**


Additional reading materials and reading guides are distributed to students enrolled in the course.

**AJ420 Graduate Diploma in Japanese for Professionals 1A**
6 hours per week • Hawthorn • Prerequisite: AJ420 Graduate Diploma in Japanese

**Objectives and content**
Students will be introduced to the basic features of Japanese grammar. All students take this subject in first semester of first year. In addition to an introduction to the basic features of Japanese grammar, reading, speaking and writing covered in the language component, a series of seminars on Japanese culture are included in the coursework. The language component is assessed by regular tests and assignments and all students must present a seminar paper or write a research essay for assessment of the culture component.

**Textbooks**
Machida, T. Introduction to Japanese Writing, Melbourne, Swinburne Press, 1982

Machida, T. and Skoutarides, A. Nihongo, Reading and Writing, Vol 1-3, Melbourne, Swinburne Press, 1996

Japanese Section, Dialogues and Aural Comprehension 1, Melbourne, Swinburne Press, 1996

Japanese Section, Japanese Workbook, Melbourne, Swinburne Press, 1994

Machida, T. and Skoutarides, A. Pronunciation Exercises, Melbourne, Swinburne Press

**Recommended reading**
Mizutani, O. and A. Nihongo Notes, Vols. 1-2, Tokyo, Japan Times, 1977

**AJ421 Graduate Diploma in Japanese for Professionals 1B**
6 hours per week • Hawthorn • Prerequisite: AJ420 Graduate Diploma in Japanese for Professionals 1A • Assessment: continuous

**Objectives and content**
This subject is a continuation of AJ420. It continues training in grammar, writing, reading, conversion and listening comprehension. Variety of audio visual materials are used to supplement the written texts. Cassette tapes for each lesson can be purchased. In addition to the language component a series of seminars on Japanese society are included in the coursework. The language component is assessed by regular tests and assignments and all students must present a seminar paper or write a research essay for assessment of the society component.

**Textbooks**
Japanese Section, Dialogues and Aural Comprehension 1, Melbourne, Swinburne Press, 1996

Japanese Section, Questions for Slide Commentaries, Melbourne, Swinburne Press, 1986

Machida, T. and Skoutarides, A. Nihongo, Reading and Writing Vol 4-5, Melbourne, Swinburne Press, 1988


**Recommended reading**
Mizutani, O. and A. Nihongo Notes Vol 1-2, Tokyo, Japan Times, 1977
**AJ422 Graduate Diploma in Japanese for Professionals 2A**

6 hours per week  •  Hawthorn  •  Prerequisite: Graduate Diploma in Japanese for Professionals 1B  •  Assessment: continuous

**Content**

This subject is a continuation of AJ421. It continues training in grammar, writing, reading, conversion and listening comprehension. Variety of audio visual materials are used to supplement the written texts. Cassette tapes for each lesson can be purchased. In addition to the language component, a series of seminars on business and industry are included in the coursework. The language component is assessed by regular tests and assignments, and all students must present a seminar paper or write a research essay for assessment of the business and industry components.

**Textbooks**

Japanese Section, Dialogues and Aural Comprehension 2A, Melbourne, Swinburne Press, 1996

Japanese Section, Nihongo Reading and Writing Vol 6-2, Melbourne, Swinburne Press, 1996


**Recommended reading**

Mizutani, O. and N. Nihongo Notes Vol 1, 2, 3, Tokyo, Japan Times, 1977

Japan Foundation, Basic Japanese - English Dictionary, Tokyo, Bojinsha, 1996

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**AJ423 Graduate Diploma in Japanese for Professionals 2B**

6 hours per week  •  Hawthorn  •  Prerequisite: Graduate Diploma in Japanese for Professionals 2A  •  Assessment: continuous

**Content**

This subject is a continuation of AJ421. It continues training in grammar, writing, reading, conversion and listening comprehension. Variety of audio visual materials are used to supplement the written texts. Cassette tapes for each lesson can be purchased. In addition to the language component, a series of seminars on business and industry are included in the coursework. The language component is assessed by regular tests and assignments, and all students must present a seminar paper or write a research essay for assessment of the business and industry components.

**Textbooks**

Japanese Section, Dialogues and Aural Comprehension 2B, Melbourne, Swinburne Press, 1996

Japanese Section, Nihongo Reading and Writing Vol 8, 9 and 10, Melbourne, Swinburne Press, 1996


**Recommended reading**

Mizutani, O. and N. Nihongo Notes Vol 1, 2, 3, Tokyo, Japan Times, 1977

Japan Foundation, Basic Japanese - English Dictionary, Tokyo, Bojinsha, 1996

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**AK102 Traditional Korea**

3 hours per week  •  Hawthorn  •  Prerequisite: nil  •  Assessment: continuous

A subject in the Bachelor of Arts

**Objectives and content**

This subject provides an introduction to pre-modern Korea of particular relevance to the understanding of modern Korean society. The subject deals with the structure of politics and society of Korea during the Choson period (1392-1910), with particular attention paid to developments in Choson Confucian thought during that period.

**Textbooks**


**Recommended reading**


Kim, Key-Hak. The Last Phase of the East Asian World Odac, Berkeley, University of California 1980


The above sources will be supplemented by a variety of specialist journal articles.

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**AK105 Introductory Korean 1A**

6 hours per week  •  Hawthorn  •  Prerequisite: nil  •  Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To introduce students to the Korean language and to give them a secure command of its basic structures. Emphasis is placed on correct pronunciation, acquisition of vocabulary and the fundamentals of grammar.

**Content**

The course entails instruction in language patterns, grammar, reading, writing, aural comprehension and oral expression.

**Textbook/Reference**

BuZo, A. Shin, G. H., Learning Korean, New Directions 1, Melbourne, Swinburne Press, 1995

Seo, W. Work Book for Introductory Korean 1, Melbourne, Swinburne Press, 1997

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**AK106 Written Korean 1B**

3 hours per week  •  Hawthorn  •  Prerequisite: AK105 or equivalent  •  Corequisite: AK107  •  Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To continue extending students’ basic knowledge of the written language through introduction of more complex grammar patterns and reading texts. Emphasis is placed on development of oral skills for a limited range of interpersonal and group interactions.

**Content**

The course includes 2 main components: basic grammar, reading and writing.

**Textbook/Reference**


Seo, W. Work Book for Written Korean 1, Melbourne, Swinburne Press, 1997

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**AK107 Spoken Korean 1A**

4 hours per week  •  Hawthorn  •  Prerequisite: AK105 or equivalent  •  Corequisite: AK106  •  Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To extend students’ basic knowledge of the spoken language through introduction of more complex grammar patterns and aural comprehension texts. Emphasis is placed on development of oral skills for a limited range of interpersonal and group interactions.

**Content**

The course includes 2 main components: aural comprehension and oral expression. Grammar patterns are also included in support of the two components.

**Textbook/Reference**


Seo, W. Dialogue Work Book 1, Melbourne, Swinburne Press, 1997

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**AK205 Korean 2A**

6 hours per week  •  Hawthorn  •  Prerequisite: AK104, or equivalent  •  Assessment: continuous

A subject in the Bachelor of Arts for students enrolled prior to 1998

**Objectives and content**

Extension of the students' command of modern Korean. This entails further instruction in language patterns, grammar, reading, writing, aural comprehension with increasing emphasis on media Korean and on sociolinguistics. A wide range of audio-visual materials are used, including language slides, cassette tapes, CD, and video-cassettes. Audio cassettes of the course material are available to students for purchase. It is highly recommended that students enrolled in this subject also enrol in AK207 and AK208.

**Textbooks**

BuZo, A.F. Learning Korean Harris Book 1, Melbourne, Swinburne Press, 1990

AK206  Korean 2B
6 hours per week • Hawthorn • Prerequisite: AK205 • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
This subject is a continuation of AK205. This subject extends the range of language patterns, grammar and writing. It also provides further training in oral and aural skills. Students are introduced to various topics on Korean culture and society through reading in Korean. A variety of audio-visual materials is used throughout the course.

It is highly recommended that students enrolled in this subject also enrol in AK207 and AK208.

Textbooks
Bu, A.F. Learning Korean Hanja Book 1, Melbourne, Swinburne Press, 1998
Seo, W. and Kim, S. Immmodulato Korean, Melbourne, Swinburne Press 1996

AK207  Korean Society
3 hours per week • Hawthorn • Prerequisite: nil, except in the case of students taking an Asian Studies major, who must have any stage one political studies subject or equivalent. For those enrolled in the double degree course the prerequisite is AK102 • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
Over the past 100 years or so, Korea has passed through periods of social upheaval and foreign encroachment to its present status as a divided country. Often referred to as "another Japan", Korea nevertheless retains an ancient and highly individual civilisation that is under-studied and poorly understood in the West. This subject deals with aspects of Korean Society since 1876, including topics such as intellectual history, the Japanese Colonial experience, religion in modern Korean society, rural-urban migration, and women's issues.

Recommended reading

The above sources will be supplemented by a variety of specialist journal articles.

AK208  Korean Politics and Economy
3 hours per week • Hawthorn • Prerequisite: nil, except in the case of students taking an Asian Studies major, who must have any stage one political studies subject or equivalent. For those enrolled in the double degree course the prerequisite is AK102 • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
The objective is to analyse the political, social and economic sources of Korea's remarkable transformation in the postwar era. The subject investigates the role of the Korean state, big business and labour in the process of industrialisation. It also assesses the role of external conditions, such as Korea's position in the world economy and its relations with other powers, may have had on the shaping of Korea's development course. Areas examined include DPRK-ROK relations, ROK-US relations, Korea's role in the Pacific Rim and APEC with special emphasis on Australia-Korea relations.

Textbooks

Recommended reading
Cotton, James (ed.) Korea under Roh Tae-woo: Democratization, Northern Policy and Inter-Korean Relations. St. Leonards, NSW, Allen & Unwin, 1993

The above sources will be supplemented by a variety of specialist journal articles.

AK209  Intermediate Korean 2A
6 hours per week • Hawthorn • Prerequisite: AK106 and AK107 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ competence in the written language through introduction of more complex grammar patterns and reading texts. Literacy skills are expanded through introduction of approximately 100 Hanja (Chinese characters). To extend students' competence in the spoken language through introduction of more complex grammar patterns and oral comprehension texts.

Content
The course includes 5 components: grammar, reading, writing, aural comprehension and oral work.

Textbook/Reference
Seo, W., Work Book for Written Korean 2A, Melbourne, Swinburne Press, 1997
Seo, W., Dialogue Work Book 2, Melbourne, Swinburne Press, 1997

AK211  Written Korean 2B
3 hours per week • Hawthorn • Prerequisite: AK209 or equivalent • Corequisite: AK212 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students’ competence in the written language through introduction of advanced grammar patterns and unabridged reading texts. Literacy skills are expanded through introduction of further 100 hanja (Chinese characters).

Content
The course includes 3 components: grammar, reading and writing.

Textbook/Reference
Seo, W., Intermediate Korean, Melbourne, Swinburne Press, 1997
Seo, W., Work Book for Written Korean 2B, Melbourne, Swinburne Press, 1997

AK212  Spoken Korean 2B
3 hours per week • Hawthorn • Prerequisite: AK209 or equivalent • Corequisite: AK211 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To extend students’ competence in the spoken language through introduction of unabridged aural comprehension texts. Emphasis is placed on development of oral skills for an extended range of communicative situations and correct usage of honorifics.

Content
The course includes 2 main components: aural comprehension and oral expression. Grammar patterns are also included in support of the two components.

Textbook/Reference
Seo, W., Intermediate Korean, Melbourne, Swinburne Press, 1997
Seo, W., Dialogue Work Book 3, Melbourne, Swinburne Press, 1997

AK303  Korean 3C
6 hours per week • Hawthorn • Prerequisite: AK206, or equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
This subject continues to extend students’ command of modern Korean in a variety of spoken and written contexts. The language is taught at both the written level, utilising a variety of contemporary sources, such as the electronic and print media and at the more colloquial level, where individual conversation practice on a wide range of topics is offered.

Textbooks
Seo, W., Advanced Korean. Melbourne 1, Swinburne Press, 1995

AK304  Korean 3D
6 hours per week • Hawthorn • Prerequisite: AK303 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
This subject is a continuation of AK303. It continues expansion of students’ knowledge of spoken and written Korean.

Textbooks
AK305  Reading Korean Newspapers
4 hours per week  Hawthorn  Prerequisite: AK206 or approved equivalent  Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
This subject deals with a number of contemporary issues in Korea studied through the language. Materials are drawn from a variety of contemporary media sources, and presented in such a way as to encourage further development of oral skills.

Recommended reading
Nil

AK306  Written Korean 3A
4 hours per week  Hawthorn  Prerequisite: AK211 and AK12 or equivalent  Corequisite: AK307  Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students' competences in the written language through reading of unabridged non-fiction texts. The writing component provides training in different writing styles, and includes formal introduction of further 100 hanja (Chinese characters) as well as exposure to more complex grammar patterns and composition skills.

Content
The course includes 3 components: grammar, reading (including hanja in texts) and writing.

Textbook/Reference
Seo, W. Advanced Korean 1, Melbourne, Swinburne Press 1997

AK307  Spoken Korean 3A
3 hours per week  Hawthorn  Prerequisite: AK211 and AK212 or equivalent  Corequisite: AK306  Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To extend students' competences in the spoken language through exposure to unabridged aural comprehension texts. Emphasis is placed on further development of oral skills for an extended range of communicative situations and on correct usage of different speech registers.

Content
The course consists of 2 components: aural comprehension and oral expression with emphasis on situationally appropriate use of different speech registers.

Textbook/Reference

AK308  Reading Korean Newspapers
4 hours per week  Hawthorn  Prerequisite: AK306 and AK307 or equivalent  Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To introduce students to journalistic written styles through authentic materials containing hanja used in newspaper reporting and to extend the range of oral work by discussion of a variety of current affairs topics.

Content
The course includes 2 components: reading of unabridged newspaper articles and discussion of topics covered in the reading class.

Textbook/Reference

AK309  Written Korean 3B
4 hours per week  Hawthorn  Prerequisite: AK306 and AK307 or equivalent  Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students' knowledge of the language through extensive reading of unabridged texts, extension of literacy skills through introduction of further 100 hanja (Chinese characters), and training in academic style of writing.

Content
The course includes 2 components: reading (unabridged texts) and writing including note taking and summarising.

Textbook/Reference
Seo, W. Advanced Korean 2, Melbourne, Swinburne Press 1997

AK310  Spoken Korean 3B
4 hours per week  Hawthorn  Prerequisite: AK306 and AK307 or equivalent  Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students' knowledge of the language through a broader range of conversation topics with special emphasis on appropriate use of the full range of speech registers.

Content
The course includes 2 components: aural comprehension and oral expression with emphasis on correct use of the full range of speech registers.

Textbook/Reference

AK311  Korean for Business and Industry
4 hours per week  Hawthorn  Prerequisite: AK306 and AK307 or equivalent  Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To train students in spoken and written language applicable to a variety of business situations.

Content
The course includes 4 components: reading and writing of business correspondence, aural comprehension and oral expression focused on job interviews, negotiations and similar business practices, Korean word processing, and business etiquette.

Textbooks/Reference
To be advised

AK400  Korean Society A
4 hours per week  Hawthorn  Prerequisite: BA in Korean  Assessment: continuous
A subject in the Graduate Diploma in Korean

Objectives and content
This subject provides an introduction to issues of significance in Korean society. The program is suited mainly on newspaper items but some media broadcasts are included.

Recommended reading
Reading materials and reading guides will be distributed to students prior to commencement of the course

AK401  Korean Society B
4 hours per week  Hawthorn  Prerequisite: AK400 or equivalent  Assessment: continuous
A subject in the Graduate Diploma in Korean

Objectives and content
Students extend their reading of topics introduced in AK400 and also develop their conversational skills in this subject.

Recommended reading
Reading materials and reading guides will be distributed to students prior to commencement of the course

AK402  Korean Culture A
4 hours per week  Hawthorn  Prerequisite: BA in Korean  Assessment: continuous
A subject in the Graduate Diploma in Korean
This subject allows students to extend their reading of topics introduced in AK402 and to develop their conversational skills.

**Recommended reading**
Reading materials and reading guides will be distributed to students prior to commencement of the course.

**AK403 Korean Culture B**

4 hours per week • Hawthorn • Prerequisite: AK402 or equivalent • Assessment: continuous

A subject in the Graduate Diploma in Korean

**Objectives and content**
This subject covers topics related to business, for example, employment and working conditions; advanced technology; structure of industry; Korea and world trade; energy and tertiary industry.

Most of the material on which the program is based is selected from newspapers but some media broadcasts are also included. Emphasis is placed on the acquisition of vocabulary, and practice in translation and precis writing.

**Recommended reading**
Reading materials and reading guides will be distributed to students prior to commencement of the course.

**AK404 Korean Business and Industry A**

4 hours per week • Hawthorn • Prerequisite: BA in Korean • Assessment: continuous

A subject in the Graduate Diploma in Korean

**Objectives and content**
This subject covers topics related to business, for example, employment and working conditions; advanced technology; structure of industry; Korea and world trade; energy and tertiary industry.

Additional reading which extends the topics introduced in AK404 is covered. Emphasis is placed on comprehension and development of conversational skills in this subject.

**Recommended reading**
Reading materials and reading guides will be distributed to students prior to commencement of the course.

**AK405 Korean Business and Industry B**

4 hours per week • Hawthorn • Prerequisite: AK404 or equivalent • Assessment: continuous

A subject in the Graduate Diploma in Korean

**Objectives and content**
This subject covers topics related to business, for example, employment and working conditions; advanced technology; structure of industry; Korea and world trade; energy and tertiary industry.

Most of the material on which the program is based is selected from newspapers but some media broadcasts are also included. Emphasis is placed on the acquisition of vocabulary, and practice in translation and precis writing.

**Recommended reading**
Reading materials and reading guides will be distributed to students prior to commencement of the course.

**AK406 Korean Politics A**

4 hours per week • Hawthorn • Prerequisite: BA in Korean • Assessment: continuous

A subject in the Graduate Diploma in Korean

**Objectives and content**
In this subject students are introduced to various aspects of the Korean political system through the reading of newspaper articles supplemented by some media broadcasts. Topics include political parties and elections, defence, anti-nuclear movements, administration, and environmental protection.

**Recommended reading**
Reading materials and reading guides will be distributed to students prior to commencement of the course.

**AK407 Korean Politics B**

4 hours per week • Hawthorn • Prerequisite: AK406 or equivalent • Assessment: continuous • Note: To obtain an overall pass mark, a pass in each section of the course is required.

A subject in the Graduate Diploma in Korean

**Objectives and content**
This subject covers reading and conversation which extends students’ ability in topics introduced in AK406.

**Recommended reading**
Reading materials and reading guides will be distributed to students prior to commencement of the course.

**AK420 Graduate Diploma in Korean for Professionals 1A**

6 hours per week • Hawthorn • Prerequisite: applicants must have a degree, or equivalent, from a recognised university, college or institute • Assessment: continuous

A subject in the Graduate Diploma in Korean for Professionals

**Objectives and content**
All students take this subject in the first semester of first year. In addition to an introduction to the basic features of Korean grammar, reading, speaking and writing covered in the language component, a series of seminars on Korean culture and history are included in the coursework. The language component is assessed by regular tests and assignments and all students must present a seminar paper or write a research essay for assessment of the culture and history component.

**Recommended reading**
Buzo, A.F. and Shin, G.H. Learning Korean New Directions 1 and 2, Melbourne, Swinburne Press, 1995
A list of references for the culture and history component is available from the course coordinator.

**AK421 Graduate Diploma in Korean for Professionals 1B**

6 hours per week • Hawthorn • Prerequisite: AK420 • Assessment: continuous

A subject in the Graduate Diploma in Korean for Professionals

**Objectives and content**
The subject is taken in the second semester of the first year. All students will continue their study of basic Korean grammar, reading, speaking and writing. The language component is assessed by regular tests and assignments. The non-language component consists of seminars on contemporary Korean society.

**Recommended reading**
Buzo, A.F. and Shin, G.H. Learning Korean New Directions 1 and 2, Melbourne, Swinburne Press, 1995
A list of references for the contemporary Korean society component is available from the course coordinator.

**AK422 Graduate Diploma in Korean for Professionals 2A**

6 hours per week • Hawthorn • Prerequisite: AK421 • Assessment: continuous

A subject in the Graduate Diploma in Korean for Professionals

**Objectives and content**
This subject is taken in the first semester of the second year. The language component includes advanced grammar classes and a reading and conversation module tailored to suit students’ professional language needs. The non-language component consists of seminars on Korean politics.

**Recommended reading**
Son, W., Intermediate Korean, Melbourne, Swinburne Press, 1996
A list of references for the Korean politics component is available from the course coordinator.

**AK423 Graduate Diploma in Korean for Professionals 2B**

6 hours per week • Hawthorn • Prerequisite: AK422 • Assessment: continuous

A subject in the Graduate Diploma in Korean for Professionals

**Objectives and content**
This subject is the continuation of AK422 Graduate Diploma in Korean for Professionals 2A with similar content and Assessment: for both the language and background components. The background component deals with the economy of contemporary Korea.
AL102 Nature and the Machine Age: Pre and Post Industrial Culture in Nineteenth Century Literature
3 hours per week · Hawthorn · Prerequisite: nil · Assessment: assignments and examination
A subject in the Bachelor of Arts and the Bachelor of Social Science
Objectives and content
This subject surveys Romantic and post-Romantic writers of the nineteenth and early twentieth century, emphasizing the artist's awareness of, and increasing disengagement from, social concerns. The course includes English and European fiction and drama, and English poetry.
Recommended reading
To be advised.

AL103 Writing Fiction
3 hours per week · Hawthorn · Prerequisite: nil · Assessment: continuous
A subject in the Bachelor of Arts and Bachelor of Social Science
Objectives and content
This subject will introduce students to the range of skills required of the professional writer of fiction. A series of workshop exercises will develop skills in creating character, dialogue and dramatic tension. Points of view, voice, form, style, plot, tone, and description, and the place of building a story will be explored. The importance of revision, listening to criticism and developing a self-critical stance will be stressed, together with techniques for developing these personal skills.
An introduction to techniques of critical and creative thinking will be provided; for example, plugging into both rational and irrational processes; the role of conjectural and description, and their place in building a story will be explored. Emphasis is placed on the participant as writer and critic.
Recommended reading

AL202 Contemporary Australian Writing
3 hours per week · Hawthorn · Prerequisite: ALM104 or approved equivalent, and AP112 for students majoring in Australian Studies · Assessment: continuous
A subject in the Bachelor of Arts and Bachelor of Social Science
Objectives and content
The subject introduces students to the various kinds of writing being practised by contemporary authors. A diversity of forms will be examined — poetry, fiction, drama, non-fiction (autobiography and biography), and Aboriginal writing, as well as the contribution made to Australian literature by authors for whom English is not their first language. Students will keep a journal as a record of/and preparation for the discussion-based class. An oral presentation will be made of a piece of Australian writing that is not set text.
Recommended reading

AL204 Reading, Writing and Criticism
3 hours per week · Hawthorn · Prerequisite: ALM104 or approved equivalent · Assessment: essay, folio and participation in seminars and workshops
A subject in the Bachelor of Arts and Bachelor of Social Science
Objectives and content
This subject is an exploration of the relationship between various theories and practices of writing, combining modern literary and critical theories, practical workshop writing, and the examination of a range of literary models. It actively involves students in a dynamic investigation of what writing is, how it is produced and how it operates within a changing culture.
Recommended reading

AL205 American Literature
3 hours per week · Hawthorn · Prerequisite: ALM104 or approved equivalent · Assessment: continuous
A subject in the Bachelor of Arts and Bachelor of Social Science
Objectives and content
This subject offers a thorough survey of the important literary landmarks from the nineteenth and twentieth centuries. Emphasis will be placed on the connections between literature and developments within culture and society. Also, the historical emergence of a 'modern' literary tradition will be considered.
Recommended reading
Thorp, W., American Writing in the 20th Century, Ann Arbor, Michigan University Microfilms International, 1986

AL304 Cross-Cultural Perspectives
3 hours per week · Hawthorn · Prerequisite: two stage two literature subjects or approved equivalents · Assessment: essay, class paper, examination, class contribution
A subject in the Bachelor of Arts and Bachelor of Social Science
Objectives and content
The subject seeks to explore, by a close analysis of significant texts of cross-cultural encounters, the ways in which different cultures have sought to explain and interpret each other by thinking about and interacting with each other. It focuses on non-English writers from mainly India, Africa and the Caribbean and their creative manipulation of the English language to comment on their own traditions and history, or to interpret the interaction between Eastern/African and Western cultures and values.

AL306 Renaissance Literary Culture*
3 hours per week · Hawthorn · Prerequisite: two stage two literature subjects or approved equivalents · Assessment: continuous
A subject in the Bachelor of Arts and Bachelor of Social Science
Objectives and content
The principal aim of this subject is to critically investigate the ways in which we read and interpret the literature of the renaissance. Not losing sight of our position as late twentieth century readers, this subject explores the place that literature occupied within Renaissance culture as a whole. Drawing on contemporary theoretical models, it seeks to relate the historical phenomenon of the renaissance to the modern/postmodern debate.
Recommended reading
*Not available to students who have previously passed AL203 Renaissance Literature.

AL400 Reading and Writing Seminar
2 hours per fortnight over two semesters · Hawthorn · Prerequisite: Bachelor of Business · Assessment: folio and participation in seminars and workshops
Subject in the Graduate Diploma in Writing
Objectives and content
The aim of this subject is to present students with a wide variety of options in writing and its production, together with a time and a place to explore in greater depth elements of the elective subjects which are of special interest to them. Seminars may take a variety of forms, from 'Writers' Reading' sessions in which original work is presented, to the formal and informal seminar, the 'writers' workshop, the element of dramatic performance. As part of their course students will be encouraged to attend and report on public functions such as the Melbourne Writers' Festival and participate in community arts events, e.g. open reading at various Melbourne venues. It is envisaged that students will produce a collection of their writing as part of their activities.
Recommended reading

AL401 Writing Project
2 hours per fortnight over two semesters • Hawthorn • Prerequisite: (or corequisite for full-time students) AL400 Reading and Writing Seminar • Assessment: an extended piece of writing and workshop participation
A subject in the Graduate Diploma in Writing

Objectives and content
This subject provides students with the opportunity to work on an extended piece of writing in an atmosphere of support, encouragement and mutual critical advice. It allows for expansion and elaboration of themes encountered in previous writing subjects, with an anticipated outcome being “finding one’s own voice”. A series of workshops will provide the basis for the evolution of the longer work out of preliminary drafts.

Recommended reading

AL403 Narrative Writing
3 hours per week • Hawthorn • Prerequisite: (or corequisite for full-time students) AL400 Reading and Writing Seminar • Assessment: a folio of writing, workshop participation and exercises
A subject in the Graduate Diploma in Writing

Objectives and content
This subject will introduce students to the range of skills required of the professional writer of fiction. A series of workshop exercises will develop skills in creating character, dialogue and dramatic tension. Point of view, voice, form, style, plot, tone, and description and their place in building a story will be explored. The importance of revision, listening to criticism and developing a self-critical stance will be stressed, together with techniques for developing these personal skills. Developing skills in critical and creative thinking and the application of these skills in various practices of writing fiction will be included: e.g. plugging into both rational and irrational processes; the role of conjectural thinking, intuition and luck; the use of analogies, metaphors; and associative thinking; perceiving and creating relationships. Emphasis is placed on the participants as writer and critic.

Recommended reading

AL407 Open Subject
Prerequisite: completion of two semester subjects • Assessment: a writing project to be negotiated with the student’s supervisor
A subject in the Graduate Diploma in Writing

Objectives and content
This subject is designed to accommodate student initiated special projects. There will be a written contract between student and supervising lecturer, issued as a written agreement to enrolment, which will state the project, the form of assignment and the date of completion of the project. As an example, this subject offers the opportunity for students to work in genres such as romance, science fiction, fantasy and the thriller, where learning opportunities and experiences exist outside formal academic institutions, with the Nova Mob, Sisters in Crime, fandom and fanzines, etc.

Recommended reading

ALM310 Electronic Writing
3 hours per week • Hawthorn • Prerequisite: two stage two literature subjects, one of which must be AL204 or two stage two media subjects, one of which must be AM202 • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
The purpose of this subject is to introduce students to the convergence of print with electronics, and to the status of writing in the contemporary world of electronic communication technologies. Far from being outmoded, writing continues to be at the forefront of electronic cultural technologies. This subject will include consideration of the impact of what computer technologies offer, and then demand from the reader/writer. It offers students the opportunity to consider the next advanced state, so far in the transformation of the word. At the same time, it will focus on the links between traditional forms and conceptions of text, as well as the literacies with which we approach different writing technologies (such as the book, desktop publishing, hypertext and interactive multimedia).

Recommended reading

ALM204 Texts and Contexts
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
How do we represent ourselves in contemporary society? How do we make sense of these representations? In an age increasingly dominated by electronic art and communications, how do we understand the complex inter-relationships between traditional representational forms (such as novels and plays), mass-media forms (film, television and radio) and emergent new media (hyper/hypertext and interactive multimedia)?

Recommended reading

ALM312 Literature/Media Project (Industry Placement)
Hawthorn • 15 days or equivalent • Prerequisites: Six literature/media subjects, including AL204 or AL209 and ALM310 • Assessment: continuous • Equivalent value: one semester subject
A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
In this subject, students undertake a literature project, a work placement in industry or a combination of both. Students undertaking a literature project are supervised in
both the design and implementation of a product of their choice (for example, an electronic journal; a multi-media presentation; a research report) targeted and delivered to a client. Students undertaking work attachment will be placed at one of a variety of institutions and will be required to report on that institution as part of their assessment. Alternatively, students can negotiate a combination of work attachment and project with their supervisor.

The other option for this unit is exclusive to Literature students, and involves an independent research project, conducted over a semester, under the supervision of a member of the Literature staff. Once again, numbers will be limited, and students must have a proven, ongoing work in progress that will form the basis of their Literature project. Eligibility for this program will depend upon the student having a project on which they have been previously working (a, a book of poems, a novel, a critical essay), and which has been approved by the subject convenor. The subject is designed to develop a work to completion, and prepare it for publication, or at least submit it for publication. This work can be of a critical nature, and students will be expected to work closely with a supervisor throughout the semester.

For another stage one Media subject please refer to ALM104 (listed in alphabetic order on previous pages).

**AM105 The Media in Australia**

*3 hours per week* • Hawthorn • Prerequisite: nil • Assessment: continuous

**Objectives and content**

This subject is an introduction to some of the major historical and contemporary issues about broadcasting as a medium of mass communication, primarily in an Australian context. It examines the political context of broadcasting institutions, public and private, and their relationship with other social institutions. Key political, social and ethical issues associated with the media are canvassed, such as the ownership and control of radio, television stations, newspapers and Pay-TV, the regulatory climate, accountability in programming, relationships to audiences, and journalistic practices and ethics. Vexed issues, such as media freedom and reform, public participation in ownership and programming, regulatory changes in broadcasting, and professional journalistic standards are discussed from a range of perspectives.

**Recommended reading**


The following subjects AM111 to AM118 are subjects only available to students from the Certificate in Commercial Radio

**AM111 Radio in Australia**

*3 hours per week* • Hawthorn • Prerequisite: nil • Assessment: will include analysis of the formats of stations and the survey results for different Australian markets. From this initial study detailed programming exercises will be developed, which will be integrated into the Radio Presentation 1 subject.

**Objectives and content**

This subject provides an historical and current overview of radio in Australia, including commercial, government and community stations, and the ownership and control regulations currently in place. The employment structure and roles of staff are examined in detail, as are the technical operations and programming philosophies. Methods of audience surveying and analysis are studied and related to the radio station’s programming and promotional activities.

**Recommended reading**

- Higgins, C., Moss, P., Sounds Real, St. Lucia, QLD, University of Queensland Press, 1982
- Potts, J., Radio in Australia, Kensington, NSW, New South Wales University Press, 1989

**AM112 Radio Management**

*3 hours per week* • Hawthorn • Prerequisite: nil • Assessment: will include analysis of the marketing and promotion of stations, the design of a marketing plan for a station and an assessment of students’ understanding of radio sales techniques.

A subject in the Certificate in Commercial Radio

**Objectives and content**

This subject will explore the nature and detail of current broadcast legislation and regulations and the legal issues faced by owners and broadcasters relating to defamation and contempt of court. A major focus will be the marketing of a radio station to its clients and audience, and selling radio airtime. The aims of promotions will be analysed and the methods of staff selection and management, including awards and union interests, will be examined. The impact of new technologies, including satellite services, cable, narrowcast and in-store radio will be examined, along with the applications and improvements in computer systems and Digital Audio technology.

**Recommended reading**

- ABC All Media Law Handbook, ABC Enterprises, 1990
- Determination of Planning Priorities, Canberra, Australian Broadcasting Authority, 1993

**AM113 Radio Presentation 1**

*2 hours per week* • Hawthorn • Prerequisite: nil • Assessment: will revolve around programs recorded to the strict guidelines of assignments, and will consider technical and operational proficiency, vocal presentation and program formatting.

A subject in the Certificate in Commercial Radio

**Objectives and content**

This subject aims to develop practical understanding of the radio presentation process, teaching the skills necessary to use broadcasting equipment and effectively communicate with an audience. Individual tutoring on studio equipment is followed by voice training and development of an individual style for each student. Structured assignments are designed to lead students to proficiency in operating techniques and communication. Writing assignments develop in students the ability to prepare efficiently and deliver information effectively, and students will learn to plan the sequential flow of a radio program.

**Recommended reading**

- Welch, D. and Hicks, M., Swinburne Radio Production Notes, Hawthorn, Swinburne Press, 1991

**AM114 Radio Presentation 2**

*2 hours per week* • Hawthorn • Prerequisite: AM113 Radio Presentation 1 • Assessment: will revolve around programs recorded to the guidelines of assignments, and will consider operational and programming proficiency, preparation and vocal presentation and the ability to relate to an audience.

A subject in the Certificate in Commercial Radio

**Objectives and content**

This subject further develops understanding of radio presentation techniques, using more advanced broadcasting equipment and more difficult programming techniques. Once again, structured assignments are designed to lead students to proficiency in program preparation, operating techniques and self-evaluation. Skills in interviewing are developed through a structured plan, beginning with simple, short pre-recorded interviews leading to live in-depth talkback interviews. Students will use their skills to program and operate an in-house broadcasting service.

**Recommended reading**

- Dille, A., On Interviewing, Sydney, ABC Enterprises, 1992

**AM115 Radio Journalism 1**

*2 hours per week* • Hawthorn • Prerequisite: nil • Assessment: will include recorded bulletins, current affairs reports and written preparation and analysis, and will consider accuracy, writing and vocal style and public interest.

A subject in the Certificate in Commercial Radio

**Objectives and content**

This subject aims to examine in detail the role and responsibilities of a radio news journalist. It will develop in students an understanding of the sources of news and skills in researching information. Students will gain experience in writing concise news stories, with an understanding of the conventions of writing for the ear. News bulletins will be prepared and broadcast at defined times, as part of an in-house broadcasting service.

**Recommended reading**

- Horgan, T., Radio News Workbook, North Ryde, NSW, Resource Unit, Australian Film Institute TAFE School, 1985
This subject will introduce issues and debates in contemporary culture and cultural advertising, drugs, pornography, gambling, music and sport will be analysed. Special analysis will investigate the diversity of images, ideologies, meanings and representations of popular culture. The subject will also consider the commercial and institutional imperatives shaping practices which comprise popular culture. Issues such as shopping, fashion, advertising, drugs, pornography, gambling, music and sport will be analysed. Special emphasis will be placed on the role and significance of the media and its representations of popular culture.

The central aim of the subject is to encourage students to engage in a critical analysis of the culture around them. Students will be able to draw on their own experiences of culture and critically examine their own constructions of meaning, and the pleasures of involvement.

Recommended reading
Flake, J. Understanding Popular Culture, Boston, Unwin Hyman, 1993

AM208 New Media: The Telecommunications Revolution
3 hours per week • Hawthorn • Prerequisite: AM104 and AM105, and AP112 for students majoring in Australian Studies • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
This subject examines the convergence of broadcasting and telecommunications in the context of political, economic and social change associated with new media. It is widely asserted that we are now living through an information revolution and that media are undergoing profound change. This subject will examine the issues of who is driving these changes and who might benefit. New communications technologies, such as cable and pay television, interactive television applications, and Internet are discussed in terms of their challenges to established systems. Special attention is given to changes in the telecommunications industry, with the shift towards privatization, managed competition and a new service culture. Notions such as technological determinism, globalization, media plurality, information superhighways, information access and equity, are related to an alleged new information revolution. The effects of new communications technologies on content, diversity and social needs in Australia are canvassed. As well, the cultural implications of new choices of media, made possible by technological change, are examined for special groups.

Recommended reading
Barr, T. Challenges and Change, Melbourne, Oxford University Press, 1987
Barr, T. The Electronic Estates, Ringwood, Penguin, 1996
Wheelwright, E. and Buckley, K., Jediti, Communications and the Media in Australia, Sydney, Allen & Unwin, 1987

AM209 Media Voices, Media Style: The Process of Journalism
3 hours per week • Hawthorn • Prerequisite: AM104 or AM105 and any stage two media studies subject or equivalent, competency in Word for Windows 6 • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
Newspapers, radio and television all report the news. However, while they may report the same events, each medium has a different 'news voice' resulting from its particular set of institutional practices and constraints which shape how events are reported. This subject takes both a theoretical and practical approach to news writing by looking at the different reporting strategies and practices of newspapers, radio, television and online journalism.

Recommended reading

AM300 Cinema Studies
4 hours per week • Hawthorn • Prerequisite: AM104 or AM105 and any stage two media studies subject or equivalent • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
The viewing material for this subject is a selection of films arranged generically (e.g. the musical, or the horror film, or the western, or the science-fiction film), thematically (the romantic drama, or the journey film, or the domestic drama), or stylistically (the films noir, or the problems of realism, or "to cut or not to cut"). These films will provide study samples for a pursuit of ideas introduced during the previous two years of the course into a systematic analysis of film.
The emphasis is upon the practice of film criticism. Attention is focused upon the usefulness of structuralist and semiotic studies, and their function in relation to the humanist discourse which dominates more traditional critical work. In this context, particular questions to do with the developing study of film will be on the agenda for ongoing consideration for example, the ways in which ideology is inscribed into the works examined (as well as into the methods of examination), for various systems of representation, for the usefulness of the work of the 'frame-by-frame heretics', for the kinds of relationships constructed between a film and its viewer, for the place of the author in this process in relation to the formal and thematic organisation of the works which bear his/her name, for the usefulness of genre studies, for the function of the 'star system', and for the relationship between the film, the industry and the culture in which they exist.

Recommended reading
Grant, B.K. (ed). Film Genre Reader. Austin, University of Texas Press, 1986

Cineaction. Cinema Papers. The Journal of Popular Film and Television, Screen, Wide Angle, Film Comment

AM302 Radio Production and Criticism
4 hours per week • Hawthorn • Prerequisite: AM105 or ALM104 and any other stage two media studies subject or equivalent • Assessment continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
The course aims to introduce students to the theory and practice of radio in Australia. Students are introduced to the theoretical constructs and debates which have directed the development of government policy, radio content and programming. We also examine the historical factors which have helped to shape the radio industry in Australia. We consider the impact that radio has had on the lives of both communities and individuals during the past seventy years.

We examine those aspects of radio which have set it apart from other media - its ephemeral quality, its reliance on orality and its intimate relationship to its audience. For example, Potts in Radio in Australia argues that any human society establishes itself by imposing form on the world of natural noise. He points out that the aural space occupied by radio has continually shrunk throughout the twentieth century to the point where the complete privatization of sound via the Walkman has rendered sound consistent with the individualization of post-industrial society. Other theorists, such as Marshall McLuhan, saw radio as having the ability to "tribalise" its listeners making it a potential agent for great political change. We examine these and other theories as they relate to the radio medium itself.

Finally AM302 is a production course and aims to equip students with the skills necessary for successful participation in radio production - sound recording, editing, panel operation, voice production and interviewing all covered. While the acquisition of production skills is an essential part of the course, the broader context of how those skills can be applied is always kept in mind.

Recommended reading
Hicks, M. Radio on Radio. Swinemunde, 1985 (Audio tapes)

AM306 Professional Attachment Program
Fifteen days • Hawthorn • Equivalent value - one semester subject • Prerequisite: 5 media studies subjects • Assessment: continuous (AM306 is a pass/fail only subject)
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
This subject is available during semester two to a limited number of students. Those selected will be attached, after consultation, to a variety of media organisations. There they will be required to work under the direction of the supervising staff member. The program will be overseen by a member of the Swinburne media studies staff, and students will be required to keep a diary account of their attachment.

AM310 Electronic Writing
3 hours per week • Hawthorn • Prerequisite: two stage two media subjects including AM208 or approved equivalent. Students are expected to be computer literate. • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
The purpose of this subject is to introduce students to the convergence of print with electronics, and to the status of writing in the contemporary world of electronic communication technologies. Far from being outdated, writing continues to be at the forefront of electronic cultural technologies. This subject will include consideration of the impact of what computer techniques offer, and then demand from the reader/ writer. It offers students the opportunity to consider the most advanced stage, so far, in the transformation of the word. At the same time, it will focus on the links between traditional forms and conceptions of text, as well as the literacies with which we approach different writing technologies (such as the book, desk-top publishing software, hyper-text and hypermedia, which combine written words, images and sound). Students will have access to the Internet and will develop writing skills designed for the electronic environment, using HTML.

Recommended reading

AM311 Information Society: A Global Perspective
3 hours per week • Hawthorn • Prerequisite: AM104 or AM105 and two stage two media studies subjects or equivalent • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
This subject is an examination of media and communications in the context of a post-industrial or information society. Key questions about the contemporary technological revolution are addressed, such as who decides about new technologies, and how, whose interests are served, how national policies are fashioned, and whose information needs will be met by these technologies of abundance. Crucial here is a variety of political, social and ethical issues, including vexed territory such as ownership and control of information systems, privatization and deregulation of telecommunications, and the public/private interface. Important to the study of the Information Society is the study of new communications media and Australia. Another stage three Media subject, AM312 is listed in alpha-numeric order on previous pages.

AM402 Radio Production and Criticism
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: production exercises (80%), participation (20%)

Objectives and content
The subject aims to introduce students to the theory and practice of radio in Australia. We examine those aspects of radio which have set it apart from other media - its ephemeral quality, its reliance on orality and its intimate relationship to its audience. AM402 is a production course and aims to equip students with the skills necessary for successful participation in radio production - sound recording, editing, panel operation, voice production and interviewing all covered. While the acquisition of production skills is an essential part of the course, the broader context of how those skills can be applied is always kept in mind.
AM404 Writing for the Media
3 hours per week • Hawthorn • Prequisites: Nil • Assessment: production of a script, exercises and seminar participation.
A subject in the Graduate Diploma in Writing and the Graduate Certificate/Diploma in Applied Media.

Objectives and content
This subject involves the practice of writing for specific purposes within different sectors of the media: news reports, feature stories, press releases, advertorials, community press and in-house releases, and documentaries. It will take a case study approach which analyses the strategies and conventions utilised by different media to common subject matter. Students will also be expected to produce original material for different media, and to reflect theoretically on the implications of different media production on issues of reception and comprehension.

Recommended reading

AM406 Media Work Experience/Placement
2 hours per fortnight over 26 weeks • Hawthorn • Prerequisites: Nil • Assessment: Workplace Report (80%) Class Participation (20%)

Objectives and content
This subject is designed to allow students not currently employed by a media organisation to undertake an extended workplace experience. Students who are currently employed by a media organisation will also be expected to write an extended report on their workplace or may elect to undertake placement at a different media organisation. As well as providing students with valuable contacts within the industry, this subject aims to encourage students to critically examine workplace practices in the media industry at a time of significant technological and cultural change.

Recommended reading
Directed as required.
World Wide Web resources.

AM408 Scriptwriting
4 hours per week • Hawthorn • Prerequisite: Completion of two semester subjects • Assessment: weekly submitted scenes and final project
A subject in the Graduate Diploma in Writing.

Objectives
Students will develop a proposal into script form.
Students will develop skills in the processes of writing up guidelines and making grant applications.

Content
In this subject students will develop a proposal into script form. A series of workshop exercises will follow the nature of the dramatic script and its application in different fields such as radio, film, television and theatre. The course places emphasis on the importance of the development phase in shaping the idea and of working with criticism from both peers and practitioners. In exploring the particularities of each medium, students will deal with the "business of writing", working with processes such as writing to guidelines and making a grant application.

Recommended reading
Field, S. Screenplay. New York, Dell, 1987
Sign, L. Making a Good Script Great. New York, Dodd, Mead and Co., 1967

AM410 Electronic Writing
2 hours per week • Hawthorn • Prerequisites: Nil • Assessment: research essay (30%), project (55%), participation (15%)

Objectives and content
The purpose of this subject is to introduce students to the convergence of print with electronics, and to the status of writing in the contemporary world of electronic communication technologies. Far from being outmoded, writing continues to be at the forefront of electronic cultural technologies. This subject will include consideration of the impact of what computer techniques offer in terms of reading and writing. It offers students the opportunity to consider the most advanced state, so far, in the transformation of the word. At the same time, it will focus on the links between traditional forms and conceptions of text, as well as the literacies with which we approach different writing technologies (such as the book, desk-top publishing software, hypertext and hypermedia, which combine written words, images and sound). Students will access the Internet and will develop writing skills designed for the electronic environment, using desk-top publishing packages and authoring software.

Recommended reading

AM411 Globalisation: Media and Telecommunications
3 hours per week • Hawthorn • Prerequisites: Nil • Assessment: seminar paper (40%), final report (60%)

Objectives and content
This subject examines the international market, policy and cultural trends in many fields of communications, with special attention to broadcasting, cinema, and telecommunications industries. It will examine many complex forces for change, particularly the increasing international trends towards privatisation, megamergers, liberalisation and deregulation. Special attention will be given to debates about international networks, cultural imperialism and globalisation, especially for television and cinema. Contemporary policy debates about the future of broadcasting and the complex issues involved in the introduction of new communications technologies and about the associated institutional pressures, especially in public broadcasters, will be highlighted.

Recommended reading

AM412 Media Project
2 hours per fortnight over 26 weeks • Hawthorn • Prerequisites: Nil • Assessment: project (80%), production journal (20%)

Objectives and content
Students undertaking a media project are supervised in both the design and implementation of a product of their choice (for example, a radio documentary or an electronic journal) targeted and delivered to a client. This subject is designed to extend the skills acquired by students in radio and electronic writing and to provide an opportunity for students to gain experience in the workplace and to work independently as freelance practitioners. Attention will be paid to the presentation and marketing of the project.

Recommended reading
Directed as required.
World Wide Web resources.
AM413 Multimedia Authoring 1
3 hours per week • Hawthorn • Prerequisites: Nil • Assessment: production exercises (80%), participation (20%)

Objectives and content

The aim of this subject is to provide students with competencies in a range of production skills to enable them to be able to use these skills in the production of a stand-alone multimedia project. Students will be introduced to digital audio production and analogue and digital video recording and editing. They will also be instructed in the use of scanning and image manipulation and animation.

As part of this subject, students will also be asked to consider a number of issues relating to multimedia production such as intellectual property and copyright, government policy in regards to multimedia and funding of multimedia production. Attention will also be paid to issues relating to the presentation and marketing of a multi-media product.

Recommended reading
Harriss, W., The Multimedia Authoring Workshop with Director 5, Sybex, 1996

AM414 Multimedia Authoring 2
3 hours per week • Hawthorn • Prerequisites: Nil • Assessment: multimedia project (80%), participation (20%)

Objectives and content

In this subject, students are expected to integrate the skills they have acquired into a multimedia project. They may begin a project which can then be used as part of their work for AM412 Media Project. They will be introduced to a multimedia authoring package, such as Macromedia Director or Asymetrix Toolbook, and asked to develop a piece which demonstrates their understanding of and competencies in the use of the technologies addressed in Multimedia Authoring 1. They will also learn how to use multimedia authoring packages to create multimedia presentations.

Recommended reading
Harriss, W., The Multimedia Authoring Workshop with Director 5, Sybex, 1996

AM500 Globalisation: Media and Telecommunications
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: presentation or research proposal (50%), final presentation (50%)

A subject in the Master of Communications.

Objectives and content

This subject examines the extraordinary growth and changes in the fields of communication, with special attention to the convergence of media and telecommunications. The complex forces for change, particularly the increasing international trend towards privatisation, media-amalgamation, liberalisation and deregulation. The notion of an electronic culture is discussed, with relationships to established political economy and media and cultural theory.

A most developed society is seeking national comparative advantage in communications policy, often expressed in terms of a strategy for an emergent network society or a superhighway policy. Approached taken in the USA, Canada, Europe, Asia and Australia will be analysed. Special reference will be given to major social and communications trends in Australia, and to the methodologies of future studies. Some modelling of strategic planning and thinking will be offered, especially in the construction of possible scenarios for the future of Australian communications.

Recommended reading
Harriss, W., The Multimedia Authoring Workshop with Director 5, Sybex, 1996

AM501 Communication Environments
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: presentation of research proposal 50%, final report 50%

A subject in the Master of Communications.

Objectives and content

This subject examines the convergence of broadcasting and telecommunications in the context of political, economic and social change, especially in terms of the future of Australian society. Key questions are addressed about the communications revolution, such as who decides about the introduction of new technologies, and how, what choices may be available, whose interests are served, and whose needs may be met by these technologies of abundance. The new policy paradigm in Australian broadcasting and telecommunications – competition and choice – will be examined. Methods of technological assessment will be examined, including issues related to the information needs of different Australians. Vexed questions about the cultural impact of programming, access and diversity, especially for indigenous people will be canvassed. Special attention will be given to major social and communications trends in Australia, and to the methodologies of future studies. Some modelling of strategic planning and thinking will be offered, especially in the construction of possible scenarios for the future of Australian communications.

Recommended reading

AM502 Asian Communications
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: seminar paper 40%, final paper 60%

A subject in the Master of Communications.

Objectives and content

This subject will offer a panorama of print, broadcasting and telecommunications issues, policies and practices in Asia and SE Asia. It will examine the relevance of western communications perspectives on Asia, and the complexity of issues such as media freedom, satellite TV and development journalism, in an Asian context. The changing scene in Asian broadcasting will be examined, with special reference to debates about new communications technology – especially cable, pay and Star television – as well as about multi-media systems and the prospect of a Pan-Asian broadcasting network. In telecommunications, the significance of network modernisation will be examined, especially in the context of the drive for privatisation and deregulation, and of the staggering levels of contemporary investment in new systems. Vexed issues will include the use of alternative media for social development, and of the cultural impact and access of western media throughout Asia. National development models, especially those of Singapore, Malaysia and Thailand, will be analysed as comparative studies for desirable communications systems and development for Asia and SE Asia.

Recommended reading
Syed Salim Agha, Sustainability of Information Systems in Developing Countries, An Appraisal and Suggested Courses of Action, Ghana, IDRC, 1993

AM503 Interrogating Texts: Cultural Dreaming
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: seminar paper 40%, final paper 60%

A subject in the Master of Communications.

Objectives and content

This subject will explore issues attendant upon those in AM500 Globalisation, using as a launching pad the study of a variety of texts selected from film, television, literature, and print and sound media. Questions to be explored will be chosen from amongst the function of theories of language and society in making ‘sense’ of texts; the representation of journalism and the media on screen (in film and television)...
The radio stream consists of a series of seminars dealing with key management issues in and through film and literature (with special emphasis on science fiction) and technology in and through film and literature. Students taking the film and television stream will develop a script proposal, production which draws on the student's production, research and writing skills, and for the Information Age.

AM504 Professional Production

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: production of a radio program or short film or television script

A subject in the Master of Communications

Objectives and content

This subject is aimed at students including those working in the industry who have average radio and print media skills. It has three areas of focus: radio, writing for the print media, and writing for film and television. The radio stream consists of a series of seminars dealing with key management issues including station operations, audience research and analysis, marketing, human resources, the impact of new technology, and broadcast policy issues. Students taking the radio stream may produce broadcast quality programs during the semester. This could be, for example, a major documentary or drama, or a multi-track production which draws on the student's production, research and writing skills, and creative ability. The print stream will focus on advanced investigative reporting and feature writing skills. Students taking the film and television stream will develop a script proposal, and a script for a short film or television program. Students taking either the print or the film and television writing streams will also attend seminars which address different forms of writing.

Recommended reading


AM505 Workplace Practice

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: presentation of workplace proposal 40%, final report 60%

A subject in the Master of Communications

Objectives and content

This subject aims to give students in the final stages of the Masters the opportunity to undertake a detailed analysis of the institutional and professional processes of a media organisation. Students can nominate which organisation they wish to be placed in, and they will be required to consult with management when working out the details of the study. It would be expected that students will produce a detailed case study which addresses issues such as the media model under which the organisation operates, management structures, staffing and human resources, training, technology, target audiences and programming. Students can also negotiate with the media organisation to undertake a consultancy: for example, to research the feasibility of a particular project such as the conversion of radio equipment from analogue to digital, the implementation of a program to increase Aboriginal and Torres Strait Islander employment, or to examine the impact of new broadcast regulations on the organisation. Possible participating organisations: ABV-2, 3LO, 3RN, 3CR, 3RRR-FM, 3PDS-FM, 3AW, SBS-TV.

AM506 Thesis (Part-time)
AM507 Thesis (Full-time)

Hawthorn • Prerequisite: AM501, AM502, AM504 and AM505 • Assessment: to be advised

A subject in the Master of Communications

Objectives and content

Students are required to write a minor thesis, of approximately 20,000 words, as a mandatory course requirement. The conceptual and methodological underpinning for the thesis will centre on the two core subjects. AM500 - Globalisation - Media and Telecommunications and AM503 Communicating: Cultural Dreaming, through this thesis topics may also emerge from AM501, AM502, AM504 and AM505.

International students will have the opportunity to pursue topics related to their country of origin or explore comparative research subjects. There may be the possibility of electronic access to national and international databases for research. Supervision of these may be conducted with electronic means to support the supervisory-student interaction.

AM512 Writing for the Media

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: production of a script, exercises and seminar participation.

A subject in the Master of Communications.

Objectives and content

This subject involves the practice of writing for specific purposes within different sectors of the media: news reports, feature stories, press releases, advertorials, community press and in-house releases, and documentaries. It will take a case study approach which analyses the strategies and conventions utilised by different media to common subject matter. Students will also be expected to produce original material for different media, and to reflect theoretically on the implications of different media production on issues of reception and comprehension.

Recommended reading


AM513 Textuality and Discourse

3 hours per week • Hawthorn • Prerequisite: AM500 Globalization • Assessment: essay and seminar presentation.

A subject in the Master of Communications.

Objectives and content

This subject is a critical exploration of communications in the transition from print to electronic cultures. Focusing on the word as the basic unit of communication, it traces the gradual technologizing of the word as it moved beyond the immediacy of speech and social community, to the mediation of writing and its initiation of remote telecommunications. Central to the formation of an electronic culture is the issue of convergence, in which new modes of communication, such as hypermedia, combine formerly discrete forms to create powerful communication environments. Such environments require new literacies, which in turn transform the way in which we construct the world into meaning. Textuality and Discourse also seeks to evaluate the impact of new social formations (such as cyberspace) that are being constructed on the basis of these literacies, assessing the degree to which virtual communities are changing the nature of social interaction, and modifying traditional notions of identity, space, location and meaning.

Recommended reading


AP100 Australian Politics

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: tutorial assignments and 2,000 work essay.

A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content

This subject is an introduction to Australian politics. Its first objective is to provide students with an understanding of the institutional framework of government in Australia, and the historical context in which it developed, looking at the constitution, parliament, cabinet and the public service, the electoral system, interest groups and political parties. It also examines a number of issues central to contemporary Australian politics in relation to this framework. Its second objective is to assist students in developing skills in gathering information, analysing it, and effective personal communication.

Recommended reading

AP117 International Politics

3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: test, assignment and essay

Objectives and content
The subject provides students with an overview of the development of world politics, it introduces analytical approaches to the subject and explores a broad range of contemporary issues. It deals with the politics of non-nation states, and the traditional diplomacy and security issues based upon them. However, it also introduces analytical approaches to the subject and explores a broad range of contemporary issues. It deals with the politics of non-nation states, and the traditional diplomacy and security issues based upon them. However, it also emphasises the emerging structures of global political economy and international organisations, and their impact on nation-states. The subject highlights many issues relevant to the conduct of Australian foreign affairs and trade policies.

Recommended reading

AP204 Modern Japan

3 hours per week • Hawthorn • Prerequisite: any stage one political studies subject or an approved equivalent • Assessment: essays and/or exam

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
Discussion centres around the problems of Japanese rationalism reflected in the nature of Japan's modernisation, the consequences of her emergence as a world power, her defeat, and re-emergence as an economic power. An examination of the social configuration of Japanese society will shed light on what are claimed to be the characteristic features which distinguish contemporary Japan from other industrialised societies, especially in politics, education, business operations and employer-employee relations.

Recommended reading

AP206 Politics of China A

3 hours per week • Hawthorn • Prerequisite: one stage one political studies subject or approved equivalent • Assessment: continuous

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
In 1949 the Chinese Communist Party came to power after the defeat of the Nationalists. This subject investigates the development of 'New China' through an examination of the political system, different models for economic growth, social restructuring, mass campaigns and the place given to dissent. Through an examination of these issues, an understanding of the factors that have made China the nation it is today, its political culture, shifting ideological frameworks and changing relations with the West will be reached. By the end of the subject, some insights into the future options that lie before China will be possible.

Recommended reading

AP207 Modern Australia

3 hours per week • Hawthorn • Prerequisite: any stage one political studies subject or approved equivalent • Assessment: essays and tutorial participation

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
This subject explores the patterns of change that have shaped contemporary Australia. It starts by looking at the attempts to build a fairer society at the turn of the century, and at the modern social institutions which emerged from that process. It next considers the impact of the Great War of prosperity in the 1920s and depression in the 1930s on the manner in which wealth and power were shared. It then examines how the experience of those thirty years shaped the grand plans to establish a more just and secure nation after the Second World War. Through a survey of the long post-war boom, it analyses the effects of Australia's relations with its major allies and domestic and foreign policies. The subject concludes with a study of the ways in which recent governments have tried to adapt national interests to a rapidly changing world.

Recommended reading

AP300 Public Policy in Australia

3 hours per week • Hawthorn • Prerequisite: AP100 or equivalent, two stage two political studies subjects • Assessment: continuous

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
This subject focuses on the decision-making structures and processes of the Australian Federal Government. While the focus is on the Federal Government, other institutions and actors in the policy process will also, where necessary, be examined. This could include state government, business and labour organisations, and other interest and pressure groups. The approach to the study of the decision-making process is through a critical examination of the performance and programs of the Hawke and Keating Labor Governments. There are lectures and workshops dealing with selected areas of labor government policy. Students are able to specialise in an area of government policy and are asked to submit a policy case study at the end of the semester.

Recommended reading

AP308 Seminar in Political Studies

3 hours per week • Hawthorn • Prerequisite: one stage one Politics subject or approved equivalent • Assessment: tutorial assignments and 3,000 word essay

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
This subject enables students to undertake an intensive study of important issues in contemporary politics. In 1998, this will be focused on the analysis of the 1996 Federal election in the light of theories of voting behaviour and recent trends in Australian society and politics. Particular attention is given to the issues of the globalisation of the Australian economy, society and culture has led to the breakdown of the traditional class-based pattern of political life, and to the implications of this for the major political parties. Its objective is to develop skills in researching and analyzing contemporary political issues in their background.

Recommended reading

AP311 Politics of China B

3 hours per week • Hawthorn • Prerequisite: one stage one Politics subject or approved equivalent • Assessment: continuous

Students who have not passed AP206 are highly recommended. Students who have not passed this subject are advised to consult with the course convenor before enrolling.

A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
By means of detailed case studies in Chinese foreign policy, this subject aims to develop and explore ways of interpreting and understanding the People's Republic of China's relationships with other countries since 1949. The focus is on countries within the Asian region, including Australia and the United States. On the basis of some appreciation of the issues and problems in domestic politics, topics will include Maoist foreign policy, international relations, an examination of the value of cultural and technological exchanges with developed countries and China's current 'open door' policy.

Recommended reading
Klinkworth, C. China's Modernisation: The Strategic Implications for the Asia-Pacific Region, Canberra, AGPS, 1989

AP312 Problems of Contemporary Southeast Asia
3 hours per week • Hawthorn • Prerequisite: one stage one Politics subject or approved equivalent • Assessment: tutorial assignments and 2000 word essay. A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
This subject examines the questions of authority, power and democracy in the context of rapid social and political change in Asia, taking Burma, Vietnam, Thailand, Cambodia and Laos as case-studies. Its objectives are to provide students with an understanding of a region of growing importance to Australia, from which many of our most recent migrants have come, and to develop students skills in researching and analysing contemporary issues in the region and their background.

Recommended reading

AP314 Work in Australia
3 hours per week • Hawthorn • Prerequisite: any two stage two political studies subjects, or equivalent. AP207 is recommended, but not compulsory • Assessment: essay, seminar paper and participation. A subject in the Bachelor of Arts and the Bachelor of Social Science

Objectives and content
This subject provides a historical and thematic approach to the study of work in Australia. It considers the approaches to economic integration in Asia will be

Recommended reading

AP322 Asian Trade Policies
3 hours per week • Hawthorn • Prerequisite: any Stage 1 politics subject • Assessment: assignments, participation and final examination. A subject in the Bachelor of Arts, Bachelor of Social Science and Bachelor of Business.

Objectives
This subject examines trade and investment policies of various Asian countries with a view to equip the student with a sound understanding of the policy framework of Asia's impressive trade performance. Key aspects of the trade and investment policies which promote or restrict trade will be reviewed. The subject will be divided into several sections, each of which will consider the policies of a different group of countries within Asia. Finally, the approaches to economic integration in Asia will be considered.

The student will gain a sound understanding of the following:

- the key theoretical and policy issues, including those which govern many current trade disputes;
- regional and multilateral trade agreements;
- individual trade and investment policies of major Asian countries;
- the likely future agenda for economic integration in the Asia-Pacific region.

Content
- An overview of the world trading system after the Uruguay round.
- A survey of Asia's trade performance in recent times.
- Trade policies of mainland China, Taiwan and Hong Kong.
- ASEAN trade policies.
- Japanese and South Korean trade policies.
- South Asia in world trade.

Recommended reading

AS100 Sociology 1A (Introductory Sociology)
3 hours per week • Hawthorn • Prerequisite: nil, but note that AS100 and AS101 are normally taken in the one year • Assessment: one essay and examination. A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
Sociology is the study of human social life, groups and societies. Sociology 1A examines basic principles of human social life, including cultural diversity, socialisation, types of society, social interaction and everyday life, gender and sexuality, ethnicity and race, and stratification and class structure. More generally, the course is constructed around the themes of the world in change, the globalising of social life, and the relationship between the social and the personal. The course also introduces the methods and theories used by sociologists in conducting social research.

Recommended reading

AS101 Sociology 1B (Comparative Sociology)
3 hours per week • Hawthorn • Prerequisite: AS100, other than by special application to course convenor • Assessment: one essay and examination. A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
Sociology 1B builds on the concepts and theories introduced in Sociology 1A and applies them to a specific field of sociological inquiry, the sociology of the family. Further, the course introduces the approach and methods of comparative sociology, comparing Australian family patterns with those in other societies (concentrating on Western Europe, North America, East Asia, the Middle East and Oceania). The course addresses both the social context within which families operate (for example, the economy, the state and extended kin), and the core relationships in contemporary families, including alternative family types. It also examines broad processes of family change, including globalisation.

Recommended reading

AS204 Models of Sociological Analysis
3 hours per week • Hawthorn • Prerequisite: AS100 and AS101, and AP116 for students majoring in Australian Studies • Assessment: assignments and a test. A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
No application of sociological techniques can be productive without an understanding of the theoretical issues which inform social explanation. This subject is designed to help students consolidate and extend their knowledge of social theory and to explore the ways in which social theory is useful in addressing practical issues in social policy and research.

This subject examines the most influential social theories, their sources in nineteenth century thought and their influence on present-day social thinking. The works of Marx, Weber and Durkheim and contemporary writings which build on their ideas are discussed. Feminist and post-modern theories are also examined. Theories are analysed for their core assumptions, ideological foundations and approaches to knowledge. Class discussions are designed to enable students to link these theoretical debates to current social issues and to practical strategies of social research.

Recommended reading
AS205 Sociology of Deviance and Social Control
3 hours per week • Hawthorn • Prerequisite: AS100 and AS101 • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
The study of deviant behaviour and social control raises questions about the nature of social order and the use of knowledge and power by some groups in society to reinforce their positions of dominance and control.

This subject deals with persons and actions defined as socially unacceptable and the attempts to control, reform or eliminate them. The first part of the subject examines the contributions a variety of sociological perspectives have made to the understanding of deviant behaviour and the social responses it evokes. Three main forms of control the criminal justice system, the medical, psychiatric, or therapeutic system and the welfare system will be analysed in the second section of the course. Finally, the ways in which a sociological approach can inform policy and practice in a number of specific social problem areas such as child abuse, corporate crime, domestic violence and AIDS will be identified.

Recommended reading

AS206 Sex and Gender in Society
3 hours per week • Hawthorn • Prerequisite: AS100 and either AS101 or AP116 for students majoring in Australian studies • Assessment: one essay and an examination
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
Sex and Gender in Society examines the ways in which the biological differences between men and women are socially structured to produce gender differences within and between societies. It analyses arguments about male-female differences, gender identity and sexual identity.

The course examines key social institutions and practices, including work, family, sexuality, and violence. There is a focus on recent developments and controversies, including sexual harassment, sex change operations, pornography, body image and the man's movement. The course concentrates upon gender relations in Australian society, but makes regular comparisons with gender relations in other societies.

Recommended reading

AS300 Urban Sociology
3 hours per week • Hawthorn • Prerequisite: two stage two sociology subjects • Assessment: texts, class exercises, and an essay
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
Patterns of urban work and leisure are being transformed, as are the spatial and temporal relationships within and between cities. Old industries such as those centred around mass production are being replaced by new ones centred around tourism, information technology, financial services and the production of the modern spectacle (like grand prix car races, casinos, and the like). Cities are being differentiated globally. They are also being fragmented internally by deep and enduring inequalities in access to resources such as housing.

Urban sociology examines these trends. It locates them in a broader theoretical debate about the role of cities. Emphasis is given to the policy implications of these changes and the difficulties governments face solving urban problems in cities that are increasingly 'going global'.

Recommended reading

AS302 Sociology of Organisations
3 hours per week • Hawthorn • Prerequisite: for students majoring in Sociology, two stage two sociology subjects • Assessment: one essay and an examination
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
The twentieth century is the age of the large organisation. In particular, it is distinguished by the emergence of giant multi-divisional corporations, often impersonally owned and bureaucratically managed, and global in their operations.

Sociology of Organisations examines first the major explanations of large organisational structures. It then considers aspects of organisations, including organisational culture, gender patterns, corporate networks and power. Finally, the course addresses organisational restructuring, the emergence of new corporate forms and the resurgence of small businesses in the late twentieth century.

The course uses case studies such as BHP, General Motors and McDonal to illustrate theoretical arguments, and compares Australian organisational patterns with those of other societies.

Recommended reading

AS303 Current Issues in Sociology
3 hours per week • Hawthorn • Prerequisite: for students majoring in sociology, two stage two sociology subjects • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
The subject matter of AS303 changes on a year to year basis depending on what issues are considered relevant and interesting to students. Typical issues include environment, health and gender. Irrespective of the issue, key concepts and theories drawn from sociology will be used to inform students’ understanding.

At present the focus is on the environment and population. The course examines the effects of different forms of social organisation in the natural environment, concentrating on the degree to which environmental stress is caused by population growth and the degree to which it is caused by inappropriate use of resources. It compares specific problems in Australia with the global situation.

The subject is organised on a seminar basis and emphasises student participation.

Recommended reading

AS306 Methodology of Social Research
3 hours per week • Hawthorn • Prerequisite: for students majoring in sociology, two stage two sociology subjects • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
This subject is designed to provide an understanding of the range of methodologies that link sociological theory with social research practices, and to provide the opportunity for practical experience in research by using different methods and designs. The subject has a strong applied focus and we examine the relationship between theory, research design and policy. Students are introduced to a range of methods of data gathering, data analysis and presentation of results, using both quantitative and qualitative strategies. Each student will carry out a substantial piece of independent research under staff supervision.

Recommended reading

AS307 Sociology and Social Policy
3 hours per week • Hawthorn • Prerequisite: for students majoring in Sociology, two stage two sociology subjects • Assessment: continuous
A subject in the Bachelor of Arts and the Bachelor of Social Science.

Objectives and content
The subject reviews major theoretical and ideological approaches to social policy and introduces students to key policy issues, such as problem identification, policy-
implementation, evaluation and monitoring. Particular attention is given to the analysis of health policy in a number of key areas such as women's health, mental illness ageing, medical technology, chronically and disability. The subject also seeks to compare Australian health policy to health policy developments in a number of other societies.

**Recommended reading**

**AS308 Migration and Ethnicity**

(Not offered in 1998)

3 hours per week • Hawthorn • Prerequisite: for students majoring in sociology, two stage two sociology subjects (or two sociology subjects and AP207 for students majoring in Australian Studies) • Assessment: continuous

A subject in the Bachelor of Arts and the Bachelor of Social Sciences.

**Objectives and content**

International migration pressures in Western societies are widespread and growing, as are tensions over settlement and integration. This subject takes a comparative approach and examines social and political factors shaping these processes with examples drawn from Australia, North America, France and Germany. It analyses theories that attempt to explain the international movement of people and theories focused on the development of ethnicity.

**Recommended reading**

**AS540 Public Health Policy**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: seminar paper (40%), assignment (60%)

**Objectives and content**

This subject aims to develop a critical awareness of policy issues in the health care system. The subject reviews major theoretical and ideological approaches to public health policy and examines the impact of social, political and economic factors on the development and implementation of health policy. Students are introduced to key processes in policy making including problem identification, policy implementation, program evaluation and monitoring. The subject also seeks to compare Australian health policy to health policy developments in a number of other societies. Topics include:

- Types of Health Care Systems
- Public Policy Analysis and Health Care
- Policy Implementation
- Mental Health
- Ageing and Health
- Technology and Health
- Disease Prevention and Health Promotion
- Occupational Health and Safety

**Recommended reading**

**AT116 Linguistics 1**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives and content**

In this subject, basic linguistic concepts are introduced which are necessary to the understanding of the mechanics of language. The topics studied include sound systems of human speech, the combination of sounds into words, the rules for combining words into sentences, the study of meaning, the role of discourse, and language usage within a social system. Although most of the examples are taken from the English language, their applicability to Japanese, Korean, Italian and other languages is also explained. Students undertaking foreign language majors are highly recommended to include this subject in their course. It is also available to students not studying languages.

**Recommended reading**

**AT117 Philosophy of Mind**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

A subject in the Bachelor of Arts (Psychology/Psychophysiology)

**Objectives and content**

This subject is offered as an elective for psychophysiology co-major students. This subject introduces students to a range of philosophical issues associated with the study of mind, brain and cognition. It draws upon problems and issues arising from recent developments in computer technology, especially in artificial intelligence research, expert systems and neural nets, to show the contemporary relevance of many traditional approaches to the philosophy of mind, and to explore some of the new questions which have emerged from these advanced technologies.

**Recommended reading**
Conwell, the lecturer in charge. *Aboriginal Issues, Australia, North America*.

**AT118 Aboriginal Issues**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives and content**

This subject is designed to allow examination of a wide range of contemporary Aboriginal issues. It is expected that students will become aware of the social and historical antecedents and recognise relationships that exist between them. The central theme of the subject is the relationship between land and culture, from dispossession and demoralisation to the contemporary land rights movement as an attempt to re-establish a satisfactory cultural identity. Issues covered will include land rights, the search for identity, community development, health, employment, art and music.

**Recommended reading**
To be advised

**AT119 Academic Communication Skills**

4 hours per week • Hawthorn • Prerequisite: nil • Assessment: continuous, and will be based on coursework, a journal and essay

A subject in the Bachelor of Arts

This subject is strongly recommended for all first year international students

**Objectives and content**

This subject is designed specifically for international students. It seeks to explicitly teach techniques in academic skills which aid in the transition to Australian tertiary academic life. The course incorporates classes in advanced reading, research techniques, essay writing, discussion skills analysis and criticism. These skills are taught within a framework of English as a second language, their applicability to Japanese, Korean, Italian and other languages is also explained. Students undertaking foreign language majors are highly recommended to include this subject in their course. It is also available to students not studying languages.

**Recommended reading**

**AT218 Archaeology**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: essay, fieldwork diary and report

A subject in the Bachelor of Arts

**Objectives and content**

This subject introduces students to field techniques as a method of enquiry in archaeology. Students will develop an understanding of the adaptability of human
populations, theories of human evolution and development, and acquire insights into Australian race relations.

The subject involves a five day field work program held during a non-teaching week. Students learn and practise a number of site survey techniques on a variety of sites. Direct contact with local Aboriginal communities is provided through cultural heritage officers. Lectures and tutorials are held for five weeks after the Field Trip and cover such topics as developments in Australian archaeology, contributions from the sciences, environmental issues, ethics and the Aboriginal view of archaeology.

**Recommended reading**


Flood, J. *The Riches of Ancient Australia.* St. Lucia, University of Queensland Press, 1990

**AV105 Introductory Vietnamese 1A**

62 hours per week • Hawthorn • Prerequisite: Nil

A subject in the Bachelor of Arts

**Objectives**

To provide students with basic knowledge of the language, including basic literacy skills.

**Content**

The course includes 4 components: basic grammar, reading/writing of abridged texts, aural comprehension and oral expression with particular focus on correct pronunciation (tones).

**Textbook/Reference**


Ton That D.O. *Learning Vietnamese for Speakers of English Book 1.* Department of Asian Studies and Languages, Monash University, 1993

**AV106 Written Vietnamese 1B**

3 hours per week • Hawthorn • Prerequisite: AV105 or equivalent • Corequisite: AV107 • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To extend students' basic knowledge of the language through introduction of more complex grammar patterns and reading texts and extension of literacy skills.

**Content**

The course includes 3 components: grammar, reading and writing.

**Textbook/Reference**


Ton That D.O. *Learning Vietnamese for Speakers of English Book 2.* Department of Asian Studies and Languages, Monash University, 1993

**AV107 Spoken Vietnamese 1B**

3 hours per week • Hawthorn • Prerequisite: AV105 or equivalent • Corequisite: AV106 • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To extend students' basic knowledge of the spoken language through introduction of more complex aural comprehension texts and conversation topics.

**Content**

The course includes 2 components: aural comprehension and oral work.

**Textbook/Reference**


Ton That D.O. *Learning Vietnamese for Speakers of English Book 2.* Department of Asian Studies and Languages, Monash University, 1993

**AV203 Vietnamese 2A**

6 hours per week • Hawthorn • Prerequisite: AV104 or approved equivalent • Assessment: continuous

A subject in the Bachelor of Arts for students enrolled prior to 1998

**Objectives and content**

Consolidation of knowledge gained in the first year of the Vietnamese major and enhancement of students’ communicative competence. The context of language usage covers aspects of daily life in Australia.

Students will read and analyse texts to introduce new structures and vocabulary. For the listening and speaking sections, emphasis is placed on the active production of the language to promote active recall of vocabulary items and their usage in the appropriate context in accordance with accepted conversational conventions.

**Recommended reading**

Bui, P. *Learning Modern Spoken Vietnamese.* Hanoi, 1992


Thompson, L. *Vietnamese Grammar.* Hawaii, University of Hawaii Press, 1990

Ton That D.O. *Learning Vietnamese for Speakers of English Book 2.* Department of Asian Studies and Languages, Monash University, 1994

In addition videotaped materials and texts selected by the lecturer will be provided.

**AV204 Vietnamese 2B**

6 hours per week • Hawthorn • Prerequisite: AV203 or approved equivalent • Assessment: continuous

A subject in the Bachelor of Arts for students enrolled prior to 1998

**Objectives and content**

Continuation of development of skills in written and spoken Vietnamese. The focus is on communicative active oral and written skills for a wide range of contexts. Tropics covered include contemporary issues directly relevant to the Vietnamese community of Australia, such as health, education, the law and immigration.

**Recommended reading**

Bui, P. *Learning Modern Spoken Vietnamese.* Hanoi, 1992


Thompson, L. *Vietnamese Grammar.* Hawaii, University of Hawaii Press, 1998

Ton That D.O. *Intermediate Vietnamese Book 4.* Monash University, 1993

In addition videotaped materials and texts selected by the lecturer will be provided.

**AV205 Intermediate Vietnamese 2A**

6 hours per week • Hawthorn • Prerequisite: AV108 and AV107 or equivalent • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To continue extending students’ knowledge of the language through introduction of more complex grammar patterns and reading texts, extension of literacy skills through introduction of a broader range of vocabulary and conversation topics.

**Content**

The course includes 4 components: basic grammar, reading/writing, aural comprehension and oral expression.

**Textbook/Reference**

Bui, P. *Learning Modern Spoken Vietnamese.* Hanoi, 1992

Ton That D.O. *Learning Vietnamese for Speakers of English Book 3.* Department of Asian Studies and Languages, Monash University, 1993

**AV207 Written Vietnamese 2B**

3 hours per week • Hawthorn • Prerequisite: AV205 or equivalent • Corequisite: AV208 • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To continue extending students’ knowledge of the language through introduction of more complex grammar patterns, reading of unabridged texts and training in different writing styles.

**Content**

The course includes 3 components: basic grammar, reading and writing.

**Textbook/Reference**

Ton That D.O. *Learning Vietnamese for Speakers of English Book 4.* Department of Asian Studies and Languages, Monash University, 1993

**AV208 Spoken Vietnamese 2B**

3 hours per week • Hawthorn • Prerequisite: AV205 or equivalent • Corequisite: AV207 • Assessment: continuous

A subject in the Bachelor of Arts

**Objectives**

To continue extending students’ knowledge of the language through introduction of more sophisticated vocabulary and a broader range of conversation topics with a focus on different speech registers.
Content
The course includes 2 components: aural comprehension and oral expression.

Textbook/Reference
Bui, P., Learning Modern Spoken Vietnamese, Hanoi, 1993

AV303 Vietnamese 3A
6 hours per week • Hawthorn • Prerequisite: AV204 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
The objective of this subject is to continue to develop skills in written and spoken Vietnamese. The focus is on communicative active oral and written communication in a wide range of contexts. Topics covered include areas directly relevant to the country of Vietnam such as history, geography, trade and tourism.

Students read and analyse texts to introduce new structures and vocabulary. In the listening and speaking sections training is provided in correct usage of vocabulary and grammatical forms in accordance with accepted conversational conventions.

Recommended reading
Thompson, L., Vietnamese Grammar, Hawaii, University of Hawaii Press, 1988
Vuong, G.T., Vietnamese in a Nutshell, New Jersey, Montclair, 1975

AV304 Vietnamese 3B
6 hours per week • Hawthorn • Prerequisite: AV303 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
This subject continues to develop skills in written and spoken Vietnamese. The focus is on communicative active oral and written skills for a wide range of contexts. An outline of the development of modern Vietnamese literary tradition will be given. Topics covered will include areas of the arts, literature and history. Time will be devoted to the discussion of the social background to the emergence of the romanised system of writing, its role as a vehicle for social change, the influence of the Western tradition of thought and the role of the Tu Luc Van Doan group of writers.

Recommended reading
Thompson, L., Vietnamese Grammar, Hawaii, University of Hawaii Press, 1988
Vuong, G.T., Vietnamese in a Nutshell, New Jersey, Montclair, 1975

AV306 Reading Vietnamese Newspapers
4 hours per week • Hawthorn • Prerequisite: AV204 or approved equivalent • Assessment: continuous
A subject in the Bachelor of Arts for students enrolled prior to 1998

Objectives and content
The objective of this subject is to provide further training in reading skills to enable students to deal with contemporary and original Vietnamese texts on their own. Selected texts, contemporary in nature and diverse in topic, will form the basis for the required reading for this subject.

Recommended reading
A comprehensive reading list will be provided by the lecturer

AV307 Written Vietnamese 3A
4 hours per week • Hawthorn • Prerequisite: AV207 and AV208 or equivalent • Corequisite: AV306 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students' knowledge of the language through focussing on a variety of unabridged reading texts and expansion of literacy skills through introduction of a variety of writing styles.

Content
The course includes 2 components: reading (unabridged texts) and writing in a variety of styles, including note taking and summarising.

Textbook/Reference

AV308 Spoken Vietnamese 3A
4 hours per week • Hawthorn • Prerequisite: AV207 and AV208 or equivalent • Corequisite: AV307 • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students' competence in the language through focussing on a broader range of conversation topics with special emphasis on situational appropriateness of the full range of speech registers.

Content
The course includes 2 components: aural comprehension (unabridged texts) and oral expression with emphasis on correct use of the full range of speech registers.

Textbook/Reference
Thompson, L., Vietnamese Grammar, Hawaii, University of Hawaii Press, 1988

AV309 Reading Vietnamese Newspapers
4 hours per week • Hawthorn • Prerequisite: AV307 and AV308 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives and content
To introduce students to journalistic written style and to extend the range of written work by including compositions on a variety of current affairs topics.

Content
The course includes 2 components: reading of unabridged newspaper articles and discussion of topics covered in the reading class.

Textbook/Reference
A selection of newspaper articles from the Vietnamese press.

AV310 Written Vietnamese 3B
4 hours per week • Hawthorn • Prerequisite: AV307 and AV308 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students' competence in the written language through focussing on reading of unabridged fiction and non-fiction texts and writing of compositions and research assignments in a variety of writing styles.

Content
The course consists of two main components: reading of a wide variety of fiction and non-fiction texts, and writing of essays and assignments in the academic style.

Textbook/Reference

AV311 Spoken Vietnamese 3B
4 hours per week • Hawthorn • Prerequisite: AV307 and AV308 or equivalent • Assessment: continuous
A subject in the Bachelor of Arts

Objectives
To continue extending students' competence in the spoken language through focussing on unabridged aural comprehension texts, interaction with visitors to the class, usage of sophisticated vocabulary and appropriate behavioural etiquette.

Content
The course includes 2 components: aural comprehension (unabridged texts) and oral expression with emphasis on correct behavioural and verbal etiquette.

Textbook/Reference
AY100  Psychology 100
3 hours per week • Hawthorn • Prerequisite: nil • Assessment: practical exercises, a practical report and an examination
A subject in the Bachelor of Arts, Bachelor of Applied Science and Bachelor of Social Science.

Objectives and content
AY100 and AY101 are designed to introduce students to the content and method of psychology. Topics introduced in AY100 include psychology as a science, ethics in research, biological foundations of behaviour, sensation, perception and consciousness, emotion and learning.

Recommended reading

Students wishing to familiarise themselves with concepts in psychology could read any recent introductory psychology text available from most regional libraries.

Details will be provided in the first lecture in AY100.

AY101  Psychology 101
3 hours per week • Hawthorn • Prerequisite: AY100, SM1G3 • Assessment: essay, a practical report and an examination
A subject in the Bachelor of Arts, Bachelor of Applied Science and Bachelor of Social Science.

Objectives and content
This subject concentrates on various aspects of cognition such as memory, thinking, language, intelligence and problem solving. Other topics covered include personality, sexuality, stress and coping and psychopathology. Students are also introduced to social and developmental psychology.

Recommended reading

Students wishing to familiarise themselves with concepts in psychology could read any recent introductory psychology text available from most regional libraries.

Details will be provided in the first lecture.

AY202  Cognition and Human Performance*
3 hours per week • Hawthorn • Prerequisite: AY100, AY101, SM278 • Assessment: a practical report and an examination
A subject in the Bachelor of Arts, Bachelor of Applied Science and Bachelor of Social Science.

Objectives and content
This subject examines major theories of cognitive functioning and the mechanisms and processes involved in memory, attention and human performance. It will provide a basis for the understanding of skills acquisition and examine the effects of motivation, emotion, overload and arousal levels on performance. After a general introduction to theory, contemporary issues are considered, including decision-making, perceptual-motor performance and clinical and organisational applications.

Recommended reading
Berk, L. Child Development. 4th edn. Allyn & Bacon, Boston, 1987

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Berk, L. Child Development. 4th edn. Allyn & Bacon, Boston, 1987

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Berk, L. Child Development. 4th edn. Allyn & Bacon, Boston, 1987

AY204  Social Psychology*
3 hours per week • Hawthorn • Prerequisite: AY100, AY101, SM278 • Assessment: a practical report and an examination
A subject in the Bachelor of Arts, Bachelor of Social Science and the Bachelor of Applied Science.

Objectives and content
This subject involves the scientific study of behaviour in social context. The aim is to introduce students to the key theories and research methods used by social psychologists to explain and predict people's thoughts, feelings and actions in social situations. Some areas to which social psychological knowledge is often applied, such as culture, health and law, are also covered.

The teaching program involves two lectures, a tutorial/practical session and an average of one hour of project work per week.

Recommended reading

* Not available to students who have previously passed AY201 Psychology.

AY312  The Psychology of Personality
3 hours per week • Hawthorn • Prerequisites AY200, AY202, AY204, SM278 • Corequisite SM378 • Assessment: An examination (50%) and a research project and report (50%).
A subject in the Bachelor of Applied Science, the Bachelor of Arts, and the Bachelor of Social Science.

Objectives and content
This subject focuses on the behaviour and experience of the individual as a whole person. Theory and research from other fields of psychology such as development, social interaction, learning, motivation, cognition, and emotion are considered specifically from the viewpoint of integrating such contributions to increase our understanding of ourselves and others as persons.

Four major perspectives on personality are examined: psychodynamic, dispositional, cognitive/behavioural, and phenoomenological. Issues such as methods of personality assessment and research strategies are considered. Selected contemporary issues are also examined, including conflict and defence, the self, self-regulation, purpose and meaning, and personality disorders.

Recommended reading

AY319  Psychological Measurement*
2 hours per week • Hawthorn • Prerequisite: AY202, AY203, AY204 • Assessment: class test and practical report
A subject in the Bachelor of Applied Science, the Bachelor of Arts, and the Bachelor of Social Science.

Equivalent value of one half-semester subject

Objectives and content
In this subject, students will be involved with the practical aspects of psychometrics design, construction, validation and evaluation of assessment techniques. The aim of this subject is to help students to develop a greater appreciation of the psychological and measurement foundations of tests and other assessment procedures.

Approximately the first hour of most of the two hour sessions will be devoted to information input and the latter hour to laboratory exercises.

Recommended reading

* Not available to students who have previously passed AY311 Methods and Measures.

AY320  Psychological Foundations of Counselling*
2 hours per week • Hawthorn • Prerequisite AY312 • Assessment: a theoretical examination and a research essay.
A subject in the Bachelor of Arts, Bachelor of Social Science and the Bachelor of Applied Science.
Equivalent value of one half-semester subject.

**AY400 Applied Social Psychology**

3 hours per week • Hawthorn • Prerequisites: nil • Assessment: Class presentation 15%, essay 35%, test 50%
A subject in the Graduate Diploma in Applied Psychology

**Objectives and content**
The nature of counselling and its relationship to guidance, psychotherapy and other helping activities is considered. Theoretical models and perspectives are introduced including those of Rogers, Egan, cognitive theorists, behavioural theorists and those from a psychodynamic point of view.
Compressions are drawn from these perspectives and the emphasis concerning the effectiveness of counselling interventions is considered.

**Recommended reading**
* Not available to students who have previously passed AY414 Counselling and Interviewing.

**AY401 Research Design and Analysis**

3 hours per week • Hawthorn • Prerequisites: nil • Assessment: practical report 50%, two class exercises 50%
A subject in the Graduate Diploma in Applied Psychology

**Objectives and content**
This subject provides an overview of contemporary applications of social psychology in the fields of educational psychology, cross-cultural psychology, forensic psychology and counselling psychology. This is illustrated by an overview of the current research and theories relevant to practical applications of social psychology.
The methodological questions relevant to research and measurement in social psychology are critically analysed. Lecture materials are supplemented by interactive analyses of classic or contemporary readings in social psychology, presented in seminars following the lecture.

**Recommended reading**

**AY403 Advanced Quantitative Methods**

3 hours per week • Hawthorn • Prerequisites: nil • Assessment: classroom test 60%, workbook 40%
A subject in the Graduate Diploma in Applied Psychology

**Objectives and content**
This subject provides a conceptual framework for understanding multivariate analysis and interpretation of psychological data, and an opportunity to become familiar with the use of a range of multivariate techniques. These include repeated measures analysis, analysis of variance and covariance, multiple regression analysis, multiple and logistic regression techniques, cluster and factor analysis, discriminant function analysis, path analysis, and structural equation modelling. Both lecture presentations and laboratory work involve practical analyses of the real data sets using SPSS. Students are expected to achieve a high level of competence in multivariate analysis, which allows them to analyse the complex data sets in their final research projects.

**Recommended reading**

**AY411 Counselling in the Human Services**

3 hours per week • Hawthorn • Prerequisites: nil • Assessment: theory essay 50%, video-taped interview and assignment 50%
A subject in the Graduate Diploma in Applied Psychology

**Objectives and content**
- Contemporary theory, research and practice in counselling psychology.
- Models of training in counselling and interviewing.
- Models of supervision in counselling psychology.
- Counselling service delivery systems.
- Evaluating and monitoring counselling service programs.
- Contemporary theory and practice in small group psychology; group facilitation skills.

**Recommended reading**
Egan, G. The Skilled Helper, 5th edn, Pacific Grove, California, Brooks/Cole, 1994

**AY413 Research Project and Report**

Hawthorn • Prerequisite: AY401 • Assessment: Submission of a report (4000-5000 words), assessed by two examiners.
A subject in the Graduate Diploma in Applied Psychology

**Objectives and content**
Each student is required to formulate individually an empirical research question, design an appropriate study, collect and analyse data, interpret these data in relation to the original research question, and submit a report on the investigation in the form of a journal manuscript.
The research project may take any one of a number of forms controlled observations, case studies, field surveys, laboratory experiments, secondary analysis of data sets, archival research. A single student must plan and carry out every phase of the project from initial planning to final analysis, interpretation and reporting of the data. While flexibility in methodology is clearly required, given the diversity of potential topics for investigation, the methodology and data analysis procedures used must be (a) generally recognised within the field of psychological research as sound and appropriate for the particular question, and (b) correctly implemented in a systematic manner.
A member of the School of Social and Behavioural Science will be assigned to supervise the research. Supervisor and student will be expected to meet regularly for consultation according to a mutually agreed timetable.
The conduct of the research overall must conform in all respects to the principles of research ethics stated in the School of Social and Behavioural Science's Statement of Research Ethics.

**Recommended reading**
American Psychological Association. 1984
Australian Psychological Society, Code of Professional Conduct, Melbourne, Australian Psychological Society, 1989
Swinburne Psychology Department. Statement of Research Ethics: Melbourne, Swinburne Press, 1986

**AY420 Assessing Persons and Environments**

2 hours per week • Hawthorn • Prerequisites: nil • Assessment: case study and assessment report 80% Psychometrics examination 20%
A subject in the Graduate Diploma in Applied Psychology

**Objectives and content**
This subject equips students with the knowledge and skills required to carry out limited psychological assessments of individuals in human services and human resources settings under appropriate professional supervision.
Topics covered in the subject include:
- history of psychological assessment, ethical issues in the use of psychological tests;
- asessment as a decision making process; base rates, outcome expectancies, prediction, risk assessment;
- the foundations of assessment, reliability, validity, utility (normative comparison);
- eliciting information by means of interviews;

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- assessing abilities and aptitudes;
- assessing interests;
- conceptualising and assessing personality;
- reporting assessments;
- selected special issues, including career assessment.

**Recommended reading**


**AY422 Ethical and Professional Issues**

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: required attendance and participation in a minimum of 75% of the class meetings. May include seminar presentation and paper, essay, or class test

A subject in the Graduate Diploma in Applied Psychology

**Objectives and content**

Topics will be selected from the following list:

- psychology as a profession;
- the Australian Psychological Society and requirements for registration in the State of Victoria;
- confidentiality, report writing and supervision;
- philosophical and professional issues morality and ethicals professional problems;
- problem solving;
- psychology and the media;
- psychology and the law, mental health legislation, forensic psychology, and the psychologist as expert witness.

**Recommended reading**


**AY430 Organisational Psychology**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: oral presentation 10%, written assessment 50%, examination 40%

A subject in the Graduate Diploma in Applied Psychology

**Objective**

To familiarise students with the major theories and research in organisational psychology.

**Content**

This subject is concerned with the role of the psychologist within organisations. It reviews contemporary theory, research and practice in regard to the psycho-social aspects of interrelationships and roles within organisations. It will examine: leadership, motivation, organisational climate and culture, stress and well-being, organisational change and development.

It aims to familiarise participants with the dynamics of individual interactions and behaviours in work settings. It reviews contemporary theory, research and practice in regard to the psycho-social aspects of inter-relationships and roles within organisations. It will examine perceptions, values and attitudes of individuals; culture, power and influence; communication networks.

**Recommended reading**


**AY510 Human Services Research and Evaluation**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: seminar presentation 35%, research proposal 80%

A subject in the Master of Arts in Counselling Psychology

**Objectives and content**

This course will build upon knowledge and skills acquired during undergraduate study in areas such as research design and statistical analysis. The aim will be to equip graduates to design, conduct and report applications of psychological research methodologies in human services settings.

Topics include:

- research design in field settings;
- measurement in human services research;
- qualitative research methodologies;
- meta-analysis;
- program evaluation methods and designs;
- collecting and analysing evaluation data;
- reporting research.

**Recommended reading**


**AY512 Counselling Theory and Skills**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: practical examination involving the demonstration of an adequate skill level in conducting and appraising a counselling interview Theory (50%) practical examination (50%)

A subject in the Master of Arts in Counselling Psychology

**Objectives and content**

This subject is intended first to consolidate students’ counselling-related knowledge and skills acquired during undergraduate study. The second aim is to develop a high level of skill in those help-intended communication behaviours seen as fundamental to effective interpersonal helping. The third aim is to develop a basic level of competence in selected intervention techniques used frequently by counselling psychologists.

Topics include:

- the development of counselling and counselling psychology;
- developments in counselling education;
- models of the counselling process;
- the general counselling relationship, goals of helping;
- developing competence in counselling skills through microcounselling skill-based training;
- assessment, problem-conceptualisation, selected interventions.

**Recommended reading**


**AY513 Research Colloquium**

3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: presentation of a research proposal 50%, submission of literature review 50%

A subject in the Master of Arts in Counselling Psychology

**Objectives and content**

This subject is designed to extend students’ appreciation of developments in research related to counselling psychology. Students in the program give brief presentations concerning their proposed individual research projects, and submit an extensive literature review related to their research project.

**Recommended reading**


**AY515 Psychological Assessment**

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: practical examination involving the use, interpretation, and reporting of selected assessment procedures (100%)

A subject in the Master of Arts in Counselling Psychology
Objectives and content
This subject builds upon knowledge of psychometrics gained from undergraduate assessment procedures.

Topics include:
- a review of the foundations of psychological assessment including reliability, validity;
- procedures for establishing and improving the reliability and validity of assessment procedures;
- the assessment interview and Psychodiagnostic Systems (e.g. DSM-IV);
- cognitive and behavioural assessment; Adapted Behaviour scales;
- assessing abilities including the use of WISC-R and WAIS-R;
- self-report and projective measures of personality functioning MMPI-2, Rorschach, TAT;
- conceptualising client and social system dynamics;
- reporting psychological assessments.

Recommended reading
Bellack, A.S. and Hersen, M. (eds), Behavioral Assessment, 3rd edn, New York, Pergamon, 1989

AY516 Counselling Applications
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: theory and application assignment
A subject in the Master of Arts in Counselling Psychology

Objectives and content
This subject follows on from Counselling Theory and Skills. It aims to introduce students, in a workshop context, to important topics in counselling psychology practice in preparation for students’ supervised practice and subsequent independent practice.

Topics include:
- application of counselling techniques to selected client-problems e.g. depression, anxiety, anger, interpersonal-skills deficit, decision-making, crisis counselling, substance abuse, post-traumatic stress, rehabilitation, marital and family conflict, child abuse.
- cross cultural issues in counselling;
- special issues in client Assessment level of risk of suicidal or violent behaviour, physical illness, DSM-V;
- record-keeping and referral;
- supervision models of supervision, supervision skills;
- consultation;
- community based interventions.

Recommended reading
Fiegley, C.R. Trauma and Its Aftermath The Study and Treatment of Post-traumatic Stress Disorder, New York, Brunner/Mazel, 1986
Safren, J.D. and Segal, Z.V. Interpersonal Process In Cognitive Therapy, New York, Basic Books, 1993

AY518 Foundations of Health Psychology
3 weeks per week • Hawthorn • Prerequisite: • Assessment: seminar paper (40%), assignment (60%)

Objectives and content
The aim of this subject is to provide students with an overview of research and practice in health psychology. The contributions of psychology to the promotion and maintenance of health, the prevention and treatment of illness, the identification of etiological and diagnostic correlates of health, illness and related dysfunction; the analysis and improvement of the health care system; and the role of a health psychologist will be addressed.

Topics include:
- Conceptual Models of Health and Illness
- Biological Foundations of Health and Illness
- Psychological Foundations of Health and Illness
- Social Theories of Health
- The Role of Stress
- Promoting Health, Preventing Illness
- Biopsychosocial Approaches to Prevention and Treatment of Health Problems.

Recommended reading

AY519 Culture, Gender and Health
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: seminar paper (40%), assignment (60%)

Objectives and content
The aim of this subject is to highlight health issues which are specific to certain gender and culture groups. Social and psychological factors, as well as physical factors, play an important role in men’s and women’s reproductive and sexual health. Likewise, a mix of biopsychosocial factors influence the health of specific cultural groups within Australian society. This course will examine the special needs of these groups and highlight areas where psychologists can provide expertise to help tackle specific health problems. Topics include:
- Gender Issues in Health
- Men’s and Women’s Sexual Health
- Women’s and Men’s Reproductive Health
- Gay and Lesbian Health
- Cross-Cultural Issues in Health
- Ethnicity and Health Care
- Immigrant Health
- Aboriginal Health

Recommended reading

AY520, AY521, AY522, AY523 Supervised Health Placements A1 & A2; B1 & B2

Placement arrangements are designed to provide supervised professional training in the practice of health psychology. As the practice of health psychology is diverse, placements may be undertaken in a variety of clinical and/or research agencies involved in health maintenance and promotion, disease prevention and treatment, health and lifestyle counselling, or public health policy. Placements are arranged in accordance with each student’s skill, experience level, and professional interests. Students will be expected to consult with a range of clients including individuals, families, groups, and organizations. At least one placement may be undertaken at the Centre for Psychological Services where students will be allocated individual counselling clients and conduct health-related group programs.
AY607 Supervised Practicum Internship A2

60 work days • Hawthorn • Prerequisite: AY612 Counselling Theory and Skills • Assessment: students will be evaluated by the supervisor(s) most directly associated with their work together with the coordinator. Performance will be reviewed mid-way through the internship and an evaluation made at the end.

Subjects in the Master of Arts in Counselling Psychology

Objectives and content

These practicums are intended primarily to help students to make the transition from the counselling laboratory to the counselling practice setting. Initially, new students will be allocated clients at the Swinburne Centre for Psychological Services. In addition, students will participate in the administration of the Centre and in dealing with telephone enquiries to the Centre.

Students will be allocated clients in accordance with their existing levels of counselling skills, their professional skills, their professional interests. A normal case load will be four clients per week. Students will be expected to see a mixture of child, adolescent and adult clients and to gather experience in working with groups and families as well as individuals. A supervisor will be appointed and will meet weekly with the student for supervision. The supervisor will be an Associate of the Centre.

Students will meet once a month in a small group supervision session to discuss their clients. Each student will be required to present a report on a case for discussion by the group. In addition, each student will write a comprehensive case summary after termination with each client.

The 60 work days include 120 hours of client contact.

AY608 Supervised Practicum Internship B1

50 work days • Hawthorn • Duration two semesters • Prerequisite: AY612 Counselling Theory and Skills • Assessment: seminar presentation 40%, videotaped interview 60%

A subject in the Master of Arts in Counselling Psychology

Objectives and content

These practicums are intended to broaden and consolidate students' previous learning in the program and to provide students with the opportunity to act as a responsible professional within a counselling setting. The 50 work days include 120 hours of client contact.

Students will be allocated to an internship in one or two settings over the year. Allocation to an internship setting will be guided both by the student's professional interests and the objective of extending his or her existing skills. Students will take on counselling clients and participate as fully as possible in the professional activities of the internship setting. The School of Social and Behavioural Science has links with numerous practice settings in which experienced psychologists work, including organisations such as the Vietnam Veterans Counselling Service, the Banking Staff Counselling Staff Service, University and TAFE counselling units; Moreland Hall Drug and Alcohol Service; Doncare Community Counselling Services; and Relationships Australia.

Students will be required to have presented written and/or verbal case reports about their clients to other professionals. Where appropriate, students are encouraged to participate in an Assessment or review of some aspect of service delivery or administration of the internship setting.

AY610 Professional, Ethical & Legal Issues

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: case study 30% practical and theoretical examination 70%

A subject in the Master of Arts in Counselling Psychology

Objectives and content

This course is designed to ensure that students understand the ethical and legal responsibilities of psychologists working in the human services. Through study of the ethical standards of the profession, and legal issues related to the practice of psychology, students will learn about the process of ethical and professional decision making.

Topics covered will include the regulation of psychological practice through professional associations and registration boards, the influence of values on ethical practice, limitations on confidentiality, who is the client, report writing, dual role relationships, psychology and the law.

Recommended reading

Corey, S. Corey, M.S. and Callanan, P. Issues and Ethics in the Helping Professions. 4th edn, Pacific Grove, California, Brooks/Cole, 1993

Lakin, M., Coping with Ethical Dilemmas in Psychotherapy, New York, Pergamon 1991


AY611 Psychology of the Family

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: seminar presentation 40%, videotaped interview 60%

A subject in the Master of Arts in Counselling Psychology

Objectives and content

This subject is designed to:

• examine contemporary theory concerning the role and function of the Australian family and its interaction with the wider society;
• introduce students to theory and practice of systems approaches to family therapy;

Topics include:

• introduction to the study of the family. Definitions of family, variations in Australian family structures;
• family formation, functions;
• the family life-cycle;
• family therapy and the major schools: structural, strategic, systemic;
• contributions of significant family therapists;
• generational and cross-cultural issues in family therapy. Measurement of family interactions;
• experiential exercises will be conducted to demonstrate intervention strategies with couples and families.

Recommended reading


Nichols, M.P. and Schwartz, R.C. Family Therapy. 3rd edn. Boston, Allyn and Bacon, 1995

AY613 Psychology of Work

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: applied project 100%

A subject in the Master of Arts in Counselling Psychology

Objectives and content

This course is designed to develop an understanding of counselling practice related to health, well-being and behaviour with particular reference to the person/organisation interface and workplace settings.

Specific topics will include:

• psychology of work;
• organisational theory;
• career choice, development and change;
• vocational guidance and career counselling;
• personnel selection, induction, training, socialisation and appraisal;
• organisational change;
• communication;
• industrial relations, negotiations, change and conflict resolution;

Recommended reading


Schultz, D.P. and Schultz, S.E. Psychology and Work Today. 8th edn, New York, Morillan 1994

AY614 Aspects of Professional Practice

3 hours per week • Hawthorn • Prerequisite or corerequisite AY612 Supervised Practicum – Internship A • Assessment: seminar presentation and essay 50% each

A subject in the Master of Arts in Counselling Psychology
Objectives and content

The aim of the subject is to consolidate the knowledge and skills gained by students during their supervised practice in order to assist the transfer of this knowledge and skill to psychological practice after graduation.

A series of topics will be covered in seminar format. They will cover areas such as:

- assessment and containment of risk;
- managing therapeutic impasses and dealing with client resistance;
- termination and re-connection prevention;
- working in multidisciplinary teams – appreciating other professions;
- supervising and being supervised;
- consultation skills;
- ongoing professional development;
- communication and public relations;
- psychology and contemporary social issues;
- intercultural and minority group issues.

Recommended reading

Selins, C.J. and Frentz, B.R. Counselling Psychology, Fort Worth, Texas, Harcourt Brace 

AY616 Research Project A

AY617 Research Project B

Hawthorn. Prerequisite: AY613 Research Colloquium. Assessment: continuous; final review & report 100%

Subjects in the Master of Arts in Counselling Psychology

Objectives and content

- These subjects are designed to (a) enhance students’ awareness of the importance of a scientific research base for counselling psychology, (b) consolidate students’ practical understanding of research methodology related to counselling psychology, and (c) contribute to the research program of the School.

- Students will be assigned a supervisor in the second year of their enrolment. Each student must submit a written, detailed research proposal before they can begin their empirical research project.

- At the end of the second year of enrolment students must submit a 4,000 word review of the relevant background literature. This must be in a form similar to that of a review article appearing in one of the major journals which publishes review articles related to topics in counselling psychology (e.g., Journal of Counselling Psychology, Counselor Education and Supervision, British Journal of Guidance and Counselling).

- At the end of the fourth year of enrolment each student must submit a report on his or her research in the form of a 4,000 word article in a form suitable for submission to a nominated journal which publishes empirical research related to counselling psychology. This report must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

- This research report will also be accompanied by the 4,000 word literature review. The two submissions comprise the work to be assessed for these subjects.

Recommended reading


BB809 Strategic Project — Master of Business Administration

Please contact course provider for details.

BC110 Accounting 1

3 hours per week. Assessment: examination/mid semester assessment/assignment.

A subject in the Bachelor of Business

Objectives and content

A basic introduction to accounting concepts, financial accounting, management accounting and finance.

Accounting theory and practice are examined in an historical cost accounting system. This subject includes the following topics: an introduction to accounting and financial statements; revenue and expenses; cost classification; cost, flow, profit analysis; planning and evaluating merchandising activities; internal performance evaluation; working capital management; capital structure and leverage; cash flow statements.

Recommended reading


Bell, A., Introductory Accounting and Finance, Melbourne, Thomas Nelson, 1999

BC220 Accounting 2

3 hours per week. Assessment: examination/computerized practice set.

A subject in the Bachelor of Business

Objectives and content

This subject traces the development of the accounting process as an information flow to provide the basis from which management control and decision making stems. The computerized processing of information is examined and an accounting package for microcomputers is used to facilitate this.

The accounting equation is re-examined in order to prepare the balance sheet and profit and loss statement. The control of cash, debtors, stock and fixed assets are included, as are balance day adjustments and bank reconciliation statements. The internal control implications of aspects of accounting systems are also assessed.

Recommended reading


Student Manual, Swinburne, 1997

Insight Accounting: Software and accompanying notes, Longman, Melbourne, Australia, 1995

Hoggett, J. and Edwards, L., Accounting in Australia, 3rd edn, Brisbane, John Wiley and Sons, 1995

CDH Macquarie Dictionary of Accounting (Student version), CDH, Sydney, 1991

BC221 Corporate Accounting

3 hours per week. Assessment: examination/assignment.

A subject in the Bachelor of Business

Objectives

The overall objective of the subject is to develop in students an ability to think through corporate accounting issues and specifically:

- to develop in students an awareness of the financial accounting function within a company;
- to develop students’ problem-solving abilities in the application of the principles of corporate accounting to the solution of practical problems;
- to develop student awareness of contemporary issues in the practice of financial accounting; by reference to actual situations where appropriate;
- to develop students’ independent research skills by the assignment of research areas within the course;
- to develop student awareness of the interrelationship between corporate accounting and corporate law.

Content

The subject covers the following areas:

- share capital and other forms of finance;
- business combinations, including amalgamations, mergers and takeovers;
- group accounting. Particular emphasis is placed on this topic. It includes the preparation of consolidated accounts, equity accounting and joint ventures;
- availability of profits for distribution;
- presentation of financial reports including Fifth Schedule and Accounting Standards requirements;
- reconstruction and company liquidation.

Recommended reading

Australian Corporations and Securities Legislation, 1998

Accounting Standards, ASCPA/ICAA, Swinburne, 1998

ASCA/ICAA N221 Corporate Accounting Student Manual, Swinburne, 1997

Leo, K.J. and Houghton, J.R., Company Accounting in Australia, 3rd edn, Brisbane, Wiley, 1993

Chif, R.C. and Sims, M.A., Corporate Accounting, 4th edn, New York, Prentice Hall, 1993


Swinburne University of Technology | 1996 Handbook
**BC222 Management Accounting 1**

3 hours per week • Hawthorn • Prerequisite: BC10 Accounting 1 • Assessment: test 35%, final exam 65%

A subject in the Bachelor of Business

**Objectives**

To introduce students to the role of accounting in the planning and decision-making functions of the management process.

**Content**

Topics covered include basic cost concepts, cost-volume-profit analysis, cost allocation issues, budgeting, profitability analysis, and the analysis of costs for decision making.

Throughout the subject students will be encouraged to:
- utilise micro-computer based techniques for solving problems;
- focus on the relevance of accounting information in management information needs; and,
- critically evaluate traditional management accounting theory and practice against the contemporary literature on activity-based costing and the new technologies.

**Recommended reading**

Hansen, D.R. and Mower, M.M., Cost Management, Cincinnati, Ohio, South Western, 1996


Shillinglaw, L., Managerial Cost Accounting, 6th edn, Homewood, Illinois, Irwin, 1982

**BC223 Management Accounting 2**

3 hours per week • Hawthorn • Prerequisite: BC10 Accounting 1 and BC222 Management Accounting 1 • Assessment: examination/assignment

A subject in the Bachelor of Business

**Objectives**

To understand the characteristics and purposes of the main types of cost systems and how they provide information for costing products and services, for measuring the performance of managers and business segments and for making strategic decisions.

**Content**

Topics covered include job order costing, process costing, costing in the service industries, standard costing, product costing and performance measurement in the modern manufacturing environment, performance evaluation of business units, profit variance analysis.

**Recommended reading**

Hansen, D.R. and Mower, M., Cost Management, Cincinnati, South-Western, Ohio, 1995


**BC244 Financial Management 1**

3 hours per week • Hawthorn • Prerequisite: completion of all core subjects • Assessment: examination/mini-semester assessment

A subject in the Bachelor of Business

**Objectives**

The objectives of this subject are:
- to provide students with an understanding of the concepts of corporate finance;
- to develop in students the skills of analysis and evaluation needed to apply the concepts of corporate finance to financial management.

**Content**

The course is structured from the point of view of orientating the student to the fundamentals of managing the financing and investment aspects of a business and covers the following specific topics:
- concepts of valuation;
- evaluation and selection of investment projects;
- cost of capital;
- sources of finance and financial intermediaries;
- dividend policy;
- financing methods and impact on capital structure.

**Recommended reading**


**BC225 Auditing**

3 hours per week • Hawthorn • Prerequisite: BC221 Corporate Accounting • Assessment: examination/assignment

A subject in the Bachelor of Business

**Objectives**

The broad objective of this subject is to familiarise students with the underlying concepts, objectives and reporting function of the auditor. The subject deals with both theoretical and practical aspects of auditing. The aim is to integrate the concepts of auditing with practical approaches taken by the auditor to ensure students gain a complete picture of the audit process.

**Content**

Theoretical topics studied include auditing methodology and the formulation of auditing standards; audit independence; the rights, duties and legal liability of auditors; ethical considerations; the audit report and the concept of risk, materiality and audit evidences, encompassing a review of internal control structures and the attendant control risk. Consideration is given to the impact of auditing in a CIS environment and different sampling methodologies. Students are also introduced to the area of public sector auditing.

**Recommended reading**


Auditing Student Manual, Swinburne University of Technology, 1995

Chartered Accountant and Australian Society of CPAs, Auditing Handbook 1997, Vol 2

**BC227 Financial Risk Management**

3 hours per week • Hawthorn • Prerequisite: BC224 Financial Management 1 • Assessment: examination/assignment

A subject in the Bachelor of Business which may be counted towards either a finance major/minor or an accounting major/minor but not both

**Objectives and content**

The subject examines the nature of risk in the context of financial decisions and the techniques used by management to identify and manage the risks.

Specific topics include project risk analysis, options, futures and forwards, credit risk in financial institutions, swaps. Managing interest rate risk, foreign exchange risk, portfolio risk, financial restructuring, Risk transfer - the BOO, BOT approach to infrastructure.

**Recommended reading**


**BC229 International Investment and Taxation**

2 hours per week • Hawthorn • Prerequisite: BC110 Accounting 1 and BL111 Law in Global Business • Assessment: to be advised

A subject in the Bachelor of Business

**Objectives**

This subject is aimed at the needs of any businessperson or professional adviser operating in an international business environment. The subject does not assume any previous knowledge of taxation law.

**Content**

This subject examines various investment and taxation issues relevant to a business operating in an international context. It covers various aspects of international taxation such as international investment regulations used to promote or control foreign investment. It analyses the international taxation aspects of Australian taxation law and also compares other tax systems especially in selected Asian countries.

Swinburne University of Technology | 1998 Handbook
The objectives of this subject are:


The overall course objective is to develop in students an understanding of the Income Assessment: Act.

Recommended reading

Matthews, M. and Perera, M.

3 hours per week · Hawthorn · Prerequisite: All second year subjects required for professional accounting recognition · Assessment: examination/essay/tutorial performance/test

A subject in the Bachelor of Business

Objectives and content

The objectives of this subject are:

- to examine the development of accounting theory and the methodology used by accounting theorists;
- to describe and critically analyse a framework of accounting concepts including assets, liabilities and income;
- to use the methodology and the framework developed in the subject to study specific issues in financial accounting including the development of accounting standards, agenda theory, current cost accounting, ethics and accounting for income tax, intangible assets, mining and foreign currency translation.

Although the subject is concerned with theory, considerable use is made of practical problems in parts of the course to illustrate the application of theory.

Recommended reading

Beltavski, A.P., Jones, S. Accounting Theory, Harcourt Bruce, Sydney, 1996


BC330 Accounting Theory

3 hours per week · Hawthorn · Prerequisite: BC221 Corporate Accounting · Assessment: examination/assignment

A subject in the Bachelor of Business

Objectives

The objective of the subject is to provide students with an understanding of the basic concepts of income, capital, and the consequences.

Content

This subject presumes familiarity with the subject matter of BC225 Auditing. It introduces students to the complexities of taxation in relation to various taxable entities; with the aid of income tax rulings and the aforementioned tax cases, develop in students an understanding of the basic concepts of income, capital, and the rules governing deductions;

It is recommended that these students also complete BC330 Advanced Taxation.

Recommended reading

Australian Income Tax Assessment, CCH Australia Ltd, North Ryde, N.S.W.

Australian Master Tax Guide, CCH Australia Ltd, North Ryde, N.S.W.

Barkey, S., Australian Tax Casebook, CCH Australia Ltd, North Ryde, N.S.W., 1995

Australian Federal Tax Reporter, CCH Australia Ltd, North Ryde, N.S.W.

Lohmann, G. and Coleman, C. Taxation Law in Australia. 4th edn, Butterworths, Sydney, 1996

Topical Tax Cases for Australians. CCH Australia Ltd, North Ryde, N.S.W

Australian Tax Handbook, Butterworths, Sydney

BC331 Taxation

3 hours per week · Hawthorn · Prerequisite: BC221 Corporate Accounting · Assessment: examination/assignments

A subject in the Bachelor of Business

Objectives

The overall course objective is to develop in students an understanding of the Income Tax Assessment: Act, together with those acts which are complementary to the Assessment: Act.

Specifically, the course will:

- familiarise students with recent court and Administrative Appeals Tribunal decisions in the area of income tax;
- develop research skills in students in relation to current and landmark taxation cases;
- introduce students to the complexities of taxation in relation to various taxable entities;
- with the aid of income tax rulings and the aforementioned tax cases, develop in students an understanding of the basic concepts of income, capital, and the rules governing deductions;
- It is recommended that these students also complete BC330 Advanced Taxation.

Content

Topics covered include the nature of assessable income, specific income types, source residency and derivation, eligible termination payments, capital gains tax, fringe benefits tax, allowable deductions and the provisions relating to companies, partnerships, and individuals.

Recommended reading

Australian Income Tax Assessment, CCH Australia Ltd, North Ryde, N.S.W.

Australian Master Tax Guide, CCH Australia Ltd, North Ryde, N.S.W.

Barkey, S., Australian Tax Casebook, CCH Australia Ltd, North Ryde, N.S.W., 1995

Australian Federal Tax Reporter, CCH Australia Ltd, North Ryde, N.S.W.

Lohmann, G. and Coleman, C. Taxation Law in Australia. 4th edn, Butterworths, Sydney, 1996

Topical Tax Cases for Australians. CCH Australia Ltd, North Ryde, N.S.W

Australian Tax Handbook, Butterworths, Sydney

BC332 Strategic Cost Management

3 hours per week · Hawthorn · Prerequisite: BC223 Management Accounting 2 and BC224 Financial Management 1 · Assessment: group case studies and individual research essay

A subject in the Bachelor of Business

Objectives

This is a final year subject designed to develop and integrate the planning, control and decision-making techniques and skills introduced in management accounting and financial management within a strategic framework.

Content

Topics are developed within the framework of an analysis of competitive strategy and the role of strategic management accounting. Through the use of the business case method, traditional approaches to project planning, product costing, product and customer profitability analysis and performance evaluation are questioned and alternative contemporary approaches evaluated.

Contemporary developments in manufacturing technology, the provision of services in the context of an increased focus on quality, customer service and world's best practices in a global market place provide the context for a critical evaluation of management accounting responses to these challenges.

Recommended reading


Shark, J.K. and Grovendron, V. Strategic Cost Management, Free Press 1993

Ward, K. Strategic Management Accounting, Oxford, Butterworth, Heinemann, 1992

Current journals, especially, Journal of Cost Management and Management Accounting, Harvard Business Review

BC333 Advanced Auditing

3 hours per week · Hawthorn · Prerequisite: BC225 Auditing · Assessment: examination/assignment

A subject in the Bachelor of Business

Objectives and content

This subject presumes familiarity with the subject matter of BC225 Auditing. It should be most useful for those students planning to enter the profession.

The objective of the subject is to provide students with an understanding of the principles of auditing, computerised accounting information systems and applying statistical and analytical techniques in the audit context.

The topics to be studied include:

- the audit of accounting principles with specific reference to computerised accounting information systems;
- audit techniques in a CIS environment;
- statistical sampling techniques;
- analytical review techniques;
- audit related causes for company failures.

The subject makes extensive use of audit oriented software packages.

Recommended reading

To be advised.

BC334 Financial Accounting

3 hours per week · Hawthorn · Prerequisite: BC221 Corporate Accounting and BC330 Accounting Theory · Assessment: examination/assignment

A subject in the Bachelor of Business

Objectives

This subject is most relevant to students planning to enter (or already in) the employment fields of chartered accounting or financial accounting in industry.

The aims of Financial Accounting are:

- to study in depth some of the more advanced issues and problems from areas introduced in Corporate Accounting;
- to make students aware of a selection of contemporary financial accounting issues and to study these issues from both theoretical and practical viewpoints;
- to apply the conceptual framework studied in Accounting Theory in evaluation of the abovementioned contemporary financial accounting issues.

Swinburne University of Technology | 1998 Handbook
Content
The conceptual framework; environmental and social accounting; aspects of group accounting; accounting for government enterprises; cash-flow accounting; financial forecasts; employee entitlements; accounting and ethics; international accounting standard; and regulation; and contemporary financial accounting issues.

The syllabus is flexible to allow new financial accounting issues which emerge to replace topics of less relevance.

Recommended reading
Lee, K.J., Lambert, C.J. and Sweeting, J.W., Advanced Company Accounting, Brisbane, Willey, 1982
Various current Exposure Drafts and Standards issued by the Australian Accounting Research Foundation and the Australian Accounting Standards Board

BC336 Advanced Taxation
3 hours per week • Hawthorn • Prerequisite: BC331 Taxation • Assessment: examination/assignment
A subject in the Bachelor of Business

Objectives and content
This is a final year subject designed for students who require additional experience of taxation issues. The objective of the subject is to acquaint students with the areas of taxation of practical utility by concentrating on the taxation implications of various taxable entities, and/or taxpayers, in particular, companies, unincorporated entities, trusts, superannuation funds and primary producers. In addition the subject will address in detail the taxation of capital gains and fringe benefits tax as well as giving students an introduction to the area of indirect taxation. Students will be expected to develop a research oriented problem solving approach to the subject which includes the following specific topics:

- unincorporated entities;
- primary producers;
- trusts, beneficiaries;
- superannuation funds;
- companies and dividend imputation;
- capital gains tax;
- fringe benefits tax;
- administrative provisions;
- current developments in taxation;
- tax planning;
- part IVA and tax avoidance;
- international taxation;
- sales tax.

Recommended reading
Australian Federal Tax Reporter: CCH Australia Ltd., North Ryde
Australian Tax Cases: CCH Australia Ltd., North Ryde

BC338 Personal Investment
3 hours per week • Hawthorn • Prerequisite: none but strongly recommended that students should have completed or be concurrently enrolled in BC224 Financial Management • Assessment: examination/assignment
A subject in the Bachelor of Business

This subject may be counted towards either a finance major/minor or an accounting major/minor.

Objectives and content
The purpose of this subject is to help participants learn how to manage their money and develop skills to be better able to advise others in managing their investments. To achieve this purpose it is necessary to learn about the investment alternatives available today and more importantly, to develop a way of thinking about investments that will remain in the years ahead when new investment opportunities arise as a result of the inevitable changes to our financial system.

More specifically, the course objectives are:

- to acquaint participants with the various avenues for the investment of funds, including shares, fixed-interest securities and property;
- to review the impact of taxation on investment planning;
- to consider the fundamental principles of modern portfolio theory;
- to consider the process of portfolio selection and ongoing investment strategies;
- to review the characteristics of financial futures and options and how they may be used to modify the risk-return profile of investment portfolios.

Recommended reading

BC400 Accounting Honours
Students should seek advice from the appropriate Accounting staff when formulating their discipline-specific course of study and their research project proposal.

To encourage a multi-disciplinary approach, students may, subject to approval, undertake selected honours level coursework subjects from other schools, divisions, or institutions provided that they show the relevance of these coursework subjects to their proposed area of research. Such arrangements are subject to the student having any necessary prerequisite studies and may be subject to any quotas imposed on these subjects by the offering School.

Students must submit their proposal to the Accounting Honours Convener for approval prior to the commencement of their honours program. Approval for a student's discipline-specific course of study and research project proposal shall be subject to the availability of any necessary resources and the availability of appropriate staff supervision.

Advanced Accounting
This subject is designed to broaden the student's understanding and awareness of contemporary issues in accounting and to provide the student with an opportunity to undertake in-depth study of the relevant theoretical concepts and techniques in a variety of accounting areas. Attention will be given to the application of accounting developments in different sectors of the local and international economy and to the impact of rapid technological and organisational change on accounting. Issues of current concern in the areas of finance, management accounting, tax, auditing, reporting, behavioural accounting and the profession may be included. Students will be required, with guidance, to research selected topics and make presentations to the class and to attend and participate fully in a number of seminars conducted by staff.

Accounting Honours Research Project
Students will be required to undertake a substantial research project, with individual and group supervision, on a research topic that is currently being reported and extended in the accounting literature. Topics may be drawn from the areas of management accounting, finance, tax, financial accounting, auditing, accounting theory, corporate reporting and computer accounting. Students will be required to make class presentations at progressive stages in their research and will be required to submit a written dissertation of approximately 15,000 words in length.

Students intending to complete their degree with honours must apply for entry into the honours year by the end of their three year degree.

Note that entry into the honours year is competitive and the number of places is subject to a quota.

BC410 Introduction to Taxation
2.25 hours per week • Hawthorn • Prerequisite: see Graduate Certificate in Taxation and Finance • Instruction: lectures and class discussion of issues and problems • Assessment: Assignments
A subject in the Graduate Certificate in Taxation and Finance

Objectives
The overall objective is to develop in students an understanding of the Income Tax Assessment Act, together with those acts which are complementary to the Assessment Act.

Specifically, the subject will:

- familiarise students with recent Court and Administrative Appeals Tribunal decisions in the area of income taxation;
• develop research skills in students in relation to current and landmark taxation cases; and
• with the aid of income tax rulings and the aforementioned tax cases, develop in students an understanding of the basic concepts of income, capital and relief governing deductions.

Content
A selection of topics including the scheme of the income tax assessment act, assessable income, specific income types, fringe benefits tax, capital gains tax, source derivation and residency, allowable and specific deductions.

Recommended reading
Australian Master Tax Guide, North Ryde, N.S.W. CCH Australia Ltd.
Australian Income Tax Assessment Act 1936 (as amended), CCH Australia Ltd.
Australian Federal Tax Reporter, North Ryde, N.S.W. CCH Australia Ltd.
Barkocy, S. Australian Tax Casebook, North Ryde, N.S.W. CCH Australia Ltd, 1995

BC411 Taxation Entities Issues and Planning
2.25 hours per week • Hawthorn • Prerequisite: see Graduate Certificate in Taxation and Finance • Instruction: lectures and class discussion of issues and problems • Assessment: assignments

Objectives
The objective of the subject is to acquaint students with the areas of taxation of practical utility by concentrating on the taxation implications of various taxable entities, in particular individuals and partnerships, companies, unincorporated entities, trusts, superannuation funds and primary producers. In addition the subject will look at the issues involved in tax planning and current developments in taxation.

Subject description
A selection of topics including the taxation of individuals, partnerships, companies, trusts, primary producers and co-operatives, superannuation, administrative provisions, international taxation, tax planning and recent developments.

Recommended reading
Australian Master Tax Guide, CCH Australia Ltd., North Ryde, N.S.W.
Australian Income Tax Assessment Act, CCH Australia Ltd., North Ryde, N.S.W.
Australian Federal Tax Reporter, CCH Australia Ltd., North Ryde, N.S.W.
Barkocy, S. Australian Tax Casebook, CCH Australia Ltd., North Ryde, N.S.W., 1997

BC412 Introduction to Finance
2.25 hours per week • Hawthorn • Prerequisite: see Graduate Certificate in Taxation and Finance • Assessment: assignments

Objectives
The objectives of this subject are:
• to develop research skills in students in relation to current and landmark taxation cases; and
• to develop in students the skills of analysis and evaluation needed to apply the concepts of corporate finance to financial management.

Content
Various topics will be covered including understanding company reports, financial statement analysis, working capital management, fund flow analysis, sources of finance, valuation concepts, cost of capital, financial structures and evaluation of investment projects.

Recommended reading
Brailsford, T., Haaney, R., Investments: Concepts and Applications in Australia, 1997
Bruce, R., McKern, B., Pollard, J. and Skully, M., Handbook of Australian Corporate Finance, 6th edn, Butterworths, Sydney, 1997

BC490 Accounting for Managers
12.5 credit points (One semester) • Hawthorn • Prerequisites: Nil • Assessment: Group case studies, final examination
This subject is part of the core of the Master of Business Administration and is required to complete the Graduate Certificate and Graduate Diploma in Business Administration.

Objectives
To develop an understanding of how business performance is measured and evaluated, to develop an understanding of the information system which provides data for corporate financial statements and for internal decision making and control; to develop an ability to understand, interpret and use corporate financial statements as an information source; and to develop an understanding of the accounting information system which exists within an organisation for the purpose of supplying relevant and timely information for management decision making on matters such as costing, pricing, marketing strategy, product management, productivity control etc.

Content
Understanding the Balance Sheet and Profit Loss Statement and Cash Flow Statement
Financial Statement Analysis
Cost behaviour
Cost/Volume/Profit
Costs for decision making
Budgeting
Introduction to working capital management
Introduction to financing the business
Investment decision making

Textbook

Recommended reading
Hey-Cunningham, D., Financial Statements Demystified, Allen & Unwin 1992

BC590 Financial Management
12.5 credit points • Hawthorn • Prerequisites: BC480 Accounting for Managers • Assessment: Major assignment, Individual assignment, Share market assignment, Class presentations
This subject is part of the core of the Master of Business Administration and is required to complete the Graduate Certificate and Graduate Diploma in Business Administration.

Objectives
To develop an understanding of finance theory necessary to evaluate a firm’s investment, financial and dividend decisions; and to consider the application of analytical techniques to a variety of problems in financial management within the Australian institutional environment.
Content
Financial markets and investment opportunities
Sources of finance
Understanding company reports
Financial statement analysis
Predicting corporate failure
Working capital management
Valuation concepts
Cost of capital
Financial structures
Business combinations

Recommended reading

**BC612 Forecasting and the Planning Process**
2 hours per week • Hawthorn • Prerequisite: this is a capstone subject and assumes that students have completed all compulsory subjects • Assessment: Individual tutorial presentation individual assignments from other courses.

Objectives
- To provide the participant with an opportunity to integrate knowledge gained from the other subjects taken within the course by giving participants a proper perspective of the role and importance of the modelling and forecasting function of a corporate entity,
- To introduce the major concepts and issues involved in the development of a corporate plan and to develop the role of modelling together with the decision making process in the formulation of such a plan,
- To allow participants, via a project within a particular industry, to experience the process of corporate planning — from the critical generation of the various forecasts through to the final implementation,
- To develop, from the corporate plan, a series of lower level plans e.g. product development plan, capital budgeting plan, using applicable database sources and relevant forecasting methodologies.

Content
- Corporate planning: the basics;
- Analysis of current position, development of corporate goals/objectives, determination and analysis of corporate strategies, development of corporate plan through selection of appropriate strategies, integration plan for planning subsets;
- Information requirements;
- Management information systems concepts, data base implications, data sources, historic and projections, environmental considerations;
- Application areas;
- Market analysis, financial modeling, budgeting and technological implications.

Recommended reading
No set text. A selection of readings from the reference material.

**BC702 Corporate Financial Management**
12.5 Credit Points, two hours per week • Hawthorn • Prerequisite: completion of MBA core subjects • Assessment: major assignment, class presentations, final examination

This is a subject in the Master of Business Administration

Objectives
To develop and understand the way in which firms plan and manage their financing and investment strategies; and to examine the merits of alternative funding mechanisms.

Content
Strategic planning
Corporate funding sources
Fund flow analysis
Financing techniques
Control of short term assets

Dividend policy
Analysis of takeovers and mergers
Taxation and financial decision making

Recommended reading

**BC703 Investment Management**
12.5 Credit Points, two hours per week • Hawthorn • Prerequisite: completion of MBA core subjects • Assessment: major assignment, class presentations, final examination

This is a subject in the Master of Business Administration

Objectives
To develop an understanding of the pricing of derivative assets such as options, futures and swaps; to explain the operation of markets in these assets; to provide an understanding of the use of derivative assets in portfolio management and corporate financial policy.

Content
Project risk analysis (analyzing and managing risks)
Options as a risk management tool for: interest rates; and foreign exchange
Credit risk analysis
Swaps – commodity, currency, interest rate
Managing interest rate risk
Portfolio management using derivatives
Corporate hedging policies
Financing acquisitions and capital restructuring
Transfer of risk from public to private sector

Recommended reading

**BC704 Personal Investment**
12.5 Credit Points, two hours per week • Hawthorn • Prerequisite: completion of MBA core subjects • Assessment: major assignment, class presentations, final examination

This is a subject in the Master of Business Administration

Objectives
To provide an appreciation of the various avenues for the investment of funds, including shares, fixed interest securities and property; to consider the fundamental principles of modern portfolio theory; and to consider the process of portfolio selection and ongoing investment strategies.

Content
Investments in companies
Financial markets and investment opportunities
Investing in shares
Investing in fixed interest securities
Investing in real estate
Managed investments: portfolio management and performance management
Taxation and the investor
Financial planning

Recommended reading


Swinburne University of Technology | 1998 Handbook
BC705 International Financial Management
12.5 Credit Points, two hours per week • Hawthorn • Prerequisites: BC702 Corporate Financial Management • Assessment: major assignment, class presentations, final examination
This is a subject in the Master of Business Administration

Objectives
To provide an appreciation of the financial management problems facing companies operating in an international environment; and to gain an understanding of financial analysis techniques appropriate in solving international financial problems and how to apply them.

Content
Corporate strategy and foreign investment
Foreign exchange risk exposure
International monetary system
Measuring and managing international trade risk
Financial foreign trade
International portfolio investment
Managing funds in international trade
Taxation aspects of multi-national operations
International partnerships and joint ventures

Recommended reading

BE110 Microeconomics
3 hours per week • Hawthorn • Prerequisites: nil • Assessment: examination assignment
A subject in the Bachelor of Business

Objectives
To introduce key microeconomic concepts and to encourage and assist students to apply economic reasoning to issues facing business, government and consumers.

Content
This subject introduces students to microeconomic concepts and their application within the framework of the Australian economy. The course commences with an examination of the role of the market in allocating resources and generating output. This is followed by an examination of the firm’s production, costs and revenues in a variety of market structures. The significance of microeconomic concepts for both business and government policy is emphasised throughout.

Recommended reading

BE220 Macroeconomics
3 hours per week • Hawthorn • Prerequisites: BE110 Microeconomics • Assessment: multiple choice tests, assignments, examination
A subject in the Bachelor of Business

Objectives
To provide business students with an understanding and appreciation of macroeconomic concepts, issues and policies pertaining to the Australian economy.

Content
This subject introduces students to the key macroeconomic concepts, issues and policies. Emphasis is on current issues and policies. To fully appreciate the current Australian economic and business environment, some theoretical background is necessary and it is provided in the course by the AD/AS model. This model is applied to issues such as unemployment and inflation, trade and balance of payments, debt and fiscal policy, the money supply and money markets, the world economy and Australian economic and business environment.
This subject provides students with principles and techniques of economic evaluation for application in areas such as the measurement of macroeconomic performance; limitations of major aggregate indicators; informal and formal analysis of data; techniques for evaluating government expenditure programs (with particular emphasis on cost-benefit analysis).

**Recommended reading**

**BE332 Economic Research**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics and BE220 Macroeconomics • Assessment: assignments/research project
A subject in the Bachelor of Business

**Objectives and content**
The intention in this subject is to broaden students’ familiarity with the nature and scope of research undertaken in economics, and to increase students’ ability to analyse and carry out economic research of a practical nature. Topics may include methodology in economic research; data sources; collection, analysis and presentation of data; selected topics in applied economic research (economic model building, cost-benefit analysis, industry studies, aspects of industrial relations).

An integral part of this subject is a major research project. Students are expected to conduct an investigation and write a report on their research which will constitute a major proportion of the assessment in this subject.

**Recommended reading**
There is no single prescribed reference for this course, but extensive use is made of current journal articles.

**BE333 Financial Institutions and Monetary Policy**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics and BE220 Macroeconomics • Assessment: examination, assignment, multiple choice test
A subject in the Bachelor of Business

**Objectives**
To provide students with:
- an up-to-date view of Australian financial intermediaries; their nature and operation in a changing business environment;
- an appreciation and understanding of the application of monetary policy; its origins and current controversies.

**Content**
This course includes:
- a study of Australian financial intermediaries;
- the process of deregulation and its impacts on financial intermediaries and Reserve Bank policies;
- the role of the Reserve Bank as a prudential supervisor and as a regulator of economic instability;
- the development of monetary policy, current monetary policy controversies and the application and operation of monetary policy.

**Recommended reading**
- Swinburne University of Technology | 1998 Handbook

- It will cover the following topics:
- an introduction to the welfare economics and public choice paradigms and their implications for public sector revenue and expenditure;
- taxation analysis: criteria for evaluating taxes and the commonwealth and state tax systems; analysis of personal and corporate income tax consumption and capital gains and wealth taxes; subsidies to producers and consumers; taxes on the factors of production and proposals for reform of the Australian tax system;
- techniques for evaluating government expenditure programs (with particular emphasis on cost-benefit analysis).

**BE227 Environmental Economics**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics • Assessment: examination/assignment
A subject in the Bachelor of Business

**Objectives and content**
The main objectives of the subject are to:
- broaden students’ understanding and appreciation of macroeconomic principles, current issues and policy;
- provide students with the necessary skills to evaluate macroeconomic policies and related debate.

Specific topics include: the measurement of macroeconomic performance; limitations of major aggregate indicators; fluctuations in economic activity; major macroeconomic problems and macroeconomic management within an open economy.

The course will describe the deficiencies in earlier macroeconomic theories which led to disaffection. The theories now in vogue, and importantly the policies based upon them, have their own limitations which will be explained.

**Recommended reading**

**BE226 Macroeconomic Policy**
3 hours per week • Hawthorn • Prerequisite: BE220 Macroeconomics • Assessment: test/examination/assignment
A subject in the Bachelor of Business

**Objectives and content**
The main objectives of this subject are:
- to provide students with the necessary skills to evaluate macroeconomic policies and related debate.

Specific topics include: the measurement of macroeconomic performance; limitations of major aggregate indicators; fluctuations in economic activity; major macroeconomic problems and macroeconomic management within an open economy.

The course will describe the deficiencies in earlier macroeconomic theories which led to disaffection. The theories now in vogue, and importantly the policies based upon them, have their own limitations which will be explained.

**Recommended reading**

**BE225 Economic Evaluation**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics • Assessment: examination/assignment
A subject in the Bachelor of Business

**Objectives and content**
This subject involves the analysis of the economic rationale of government expenditure and revenue raising.

It will cover the following topics:
- an introduction to the welfare economics and public choice paradigms and their implications for public sector revenue and expenditure;
- taxation analysis: criteria for evaluating taxes and the commonwealth and state tax systems; analysis of personal and corporate income tax consumption and capital gains and wealth taxes; subsidies to producers and consumers; taxes on the factors of production and proposals for reform of the Australian tax system;
- techniques for evaluating government expenditure programs (with particular emphasis on cost-benefit analysis).

**Recommended reading**

**BE31 Public Finance**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics • Assessment: examination/assignment
A subject in the Bachelor of Business

**Objectives and content**
This subject involves the analysis of the economic rationale of government expenditure and revenue raising.

Swinburne University of Technology | 1998 Handbook
**BE334 International Trade**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics and BE220 Macroeconomics • Assessment: examination/assignment
A subject in the Bachelor of Business

**Objectives**
- To encourage students to recognize the importance of international trade to the Australian economy;
- To equip students to appreciate and evaluate the ways in which government and business can improve Australia's international trade performance.

**Content**
The subject combines an examination of the nature of economic theory relating to international trade, trade restrictions and industry policy, with discussion of key international trade issues of importance to the Australian business community and government.

Topics covered include:
- International trade and the Australian economy
- Composition and direction of trade
- Australia's place in world trade
- The economics of trade and trade restrictions
- Basis of trade and gains from trade
- Explanations of trade patterns
- Trade restrictions - nature, reasons, and effects
- Regional trading blocs
- Australia's international environment
- Globalization of world trade
- Strategic trade policy and Australian competitiveness
- Australia in the East Asian region

**Recommended reading**

**BE335 International Finance**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics and BE220 Macroeconomics • Assessment: examination/assignment, multiple choice test/essay
A subject in the Bachelor of Business (offered Semester One, 1998).

**Objectives and content**
The intention in this subject is to provide students with the theoretical and analytical skills necessary for the understanding and evaluation of international financial issues which are of importance to the Australian business community and government.

Topics covered include:
- The international financial environment;
- Exchange rate theories and systems;
- The operation of foreign exchange markets;
- International borrowing and lending system;
- International banking;
- International regulation;
- Risk management in international financial transactions.

This course is particularly relevant for students who may work in areas where international financial or trade dealings.

**Recommended reading**
Skully, M. (ed.), International Corporate Finance, Butterworths, North Ryde, N.S.W., 1993

**BE336 Economics of Social Issues**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics and BE220 Macroeconomics • Assessment: assignment and examination or essays
A subject in the Bachelor of Business

**Objectives and content**
This subject examines both the uses and limitations of orthodox economic theory in understanding many of the important social, economic and political issues that are current in Australia today. In so doing the subject will improve students' understanding of the roles of both business and government in furthering society's objectives.

Issues considered will be drawn from the distribution of income, wealth and poverty, the incidence of unemployment, and the roles of private enterprise and government in the provision of health-care, education, transport, energy and urban reform.

The subject will consider, inter alia, arguments for and against reliance on the user pays principle.

In general, the subject endeavours to teach students the theory and principles needed to be able to analyse social issues from an economic perspective.

**Recommended reading**
Comprehensive reference lists will be provided.

**BE337 Economic Development**
This subject may be offered in 1998 depending on staff availability and student demand.
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics and BE220 Macroeconomics • Assessment: assignments/written report.
A subject in the Bachelor of Business

**Objectives and content**
This subject examines the forces behind economic growth and development.

Considerable use will be made of country profiles, statistical indicators and key social and economic trends. Case studies will be used to examine the successes and failures of a selection of countries. In adopting specific policy initiatives to deal with development, poverty and market reforms.

**Recommended reading**
The Economist Far Eastern Economic Review

**BE338 Comparative Labour Relations**
This subject will not be offered in 1998.

**BE339 Comparative Economic Systems**
This subject will not be offered in 1998.

**BE340 International Business**
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics and BE220 Macroeconomics • Assessment: test/assignment/examination.
A subject in the Bachelor of Business

**Objectives and content**
Includes the following:
- A broad review of the theory and practice of International Business;
- A framework for the study of international business;
- An analytical and strategic perspective to the study of international business issues, in particular:
- The strategies which are required to produce internationally goods and services;
- The competitive and co-operative strategies which are required to market goods and services in international markets.

**Recommended reading**

**BE400 Economics Honours**
Students should seek advice from the appropriate Economics staff when formulating their discipline-specific course of study and their research project proposal.

To encourage a multi-disciplinary approach, students may, subject to approval, undertake selected honours level coursework subjects from other schools, divisions, or institutions provided that they show the relevance of these coursework subjects to their proposed area of research. Such arrangements are subject to the student having any necessary prerequisite studies and may be subject to any quotas imposed.
Students must submit their proposal to the Economics Honours Convenor for approval prior to the commencement of their honours program. Approval for a student's discipline-specific course of study and research project proposal shall be subject to the availability of any necessary resources and the availability of appropriate staff supervision.

Advanced Economics

Students will engage in a program of advanced study designed to enhance their ability to apply economic reasoning and economic techniques to issues of importance to business, government and society. The reading and seminar program will broaden and add depth to the student's understanding of significant policy issues and will support the student in carrying out their economics research project.

Applied Economics Honours Research Project

Students will be required to undertake a substantial research project in an area of applied economics. No specific topic is prescribed, rather, students will be encouraged to formulate their own problems and hypothesis. Potential areas for research will reflect expertise within the department which could include international trade and finance, industrial relations, financial institutions and monetary policy and public finance, including the economics of the environment and social issues. Students will be required to make class presentations at progressive stages in their research. The research project will be presented in the form of a written dissertation of approximately 15,000 words in length.

Students intending to complete their degree with honours must apply for entry into the honours year by the end of their third year degree.

Note that entry into the honours year is competitive and the number of places is subject to a quota.

BE501 Economics for Managers

2 hours per week • Hawthorn • Assessment: to be advised

A subject in the Graduate Diploma in Market Modelling.

Content

No prior knowledge of economics is assumed. Applicants who have recently majored in economics at a tertiary level are advised to enrol for another postgraduate diploma subject.

The first half of the course is concerned with industry economics, covering in particular market structure, conduct and performances issues.

The second half of the course introduces students to key macroeconomic concepts, current issues and policies. It is applied in nature and frequent reference is made to current economic events as publicised in the press media.

Topics covered by the course are drawn from markets, resource allocation and efficiency; production and costs; pricing and profit; industry economics including public policy aspects; economic indicators and economic cycles; aggregate demand and supply analysis; unemployment; inflation; international economic constraints; finance: markets and government macroeconomic policies.

Recommended reading


A detailed reading guide will be issued at the start of the semester.

BE504 The Nature and Characteristics of Markets

2 hours per week • Hawthorn • Prerequisites: nil Credit will be given for a comparable subject successfully completed at the graduate level • Assessment: assignments, final examination

Objectives

This subject will provide an introduction to aspects of microeconomics which will promote an understanding of the nature and characteristics of markets. Students will become familiar with analytical methods which enable them to evaluate critically the policies and behaviour of households, firms and the government. An understanding of the dominant market factors affecting an organisation is essential to the development of appropriate forecasting techniques.

Content

• introduction to the market system, basic market theory;
• demand analysis;
• production and costs;
• market structures;
• trade and protection.

Reference


BE701 Economics for Management

12.5 Credit Points, one semester • Hawthorn • Prerequisites: nil • Assessment: A subject in the Business Administration postgraduate program

Objectives

To provide an understanding of the contribution which economic analysis can make to management decisions; and the economic environment within which business operates, with emphasis on providing frameworks within which to consider important current economic issues and problems from a management perspective.

Content

Managerial economics and decision process of the firm

Economic policy and the firm

Economic indicators and economic performance

Macroeconomic risk analysis

Macroeconomic markets

Economic policy and the firm

Recommended reading


BH110 Organisations and Management

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: examination/ assignments

A subject in the Bachelor of Business

Objectives and content

The objectives of this subject are

• to enable students to gain an understanding of the issues facing managers in organisations and the context in which they operate;
• to develop students’ abilities to apply organisation theory to organisation situations;
• to help students appreciate the context of work and their own roles as organisation members.

Opportunities are provided to help the student develop research skills through independent inquiry; and to appreciate the value of independent study as well as the value of learning to be an effective group member.

Recommended reading

As advised at the start of the semester.

BH220 Organisational Behaviour 1

3 hours per week • Hawthorn • Prerequisite: BH110 Organisations and Management Assessment: assignments/presentations

A subject in the Bachelor of Business

Objectives and content

The major aim of this subject is to give students a sound knowledge and personal understanding of the impact of human behaviour on work in groups and organisations. There is an increasing emphasis in organisations on creating self-managing work teams, and students will be asked to systematically develop competencies in working in group situations. Student experiences both in and out of the class will be used as a starting point for this development. By reflecting on their experience and applying their personal learning, students will gain insight into the behaviour of people as individuals and group members in organisational settings. They will be challenged to learn about their own behaviour and their impact on others. Some class sessions may be conducted in the Experiential Learning Centre where activities may be recorded for student use. Assessment will be used to complement the student’s growing understanding of the subject through the use of both individual and group assignments.
Recommended reading


Dundon, R., Organisational Behaviour: An Organisational Behaviour Perspective, North Ryde, N.S.W., Addison-Wesley, 1992


BH221 Human Resource Management 1

3 hours per week • Hawthorn • Prerequisite: BH110 Organisations and Management • Assessment: individual reports, discussions, journals, class participation

A subject in the Bachelor of Business

Objectives

The human resources of an organisation are one of its major assets and the focus of this subject is on the understanding and management of those resources through the application of appropriate techniques, functions and management approaches.

The objectives are to:

• enable students to understand the nature and importance of human resources as an organisational asset; and
• provide a knowledge of the theories, techniques and approaches to dealing with people-related problems and issues.

Content

• the nature and importance of human resources in achieving organisational effectiveness;
• HR planning and staffing the organisation;
• basic interviewing and negotiating skills;
• training and developing employees;
• analysing and sustaining rewarding work;
• establishing and maintaining effective employee relations;
• terminating the employment relationship.

This subject may include some class work in the Behaviour Laboratory, where activities may be observed and/or recorded. The Code of Ethics requires students to sign a consent document at the beginning of the semester. Any further queries about this matter should be directed to the subject convener.

Textbook


Recommended reading


BH222 Organisation Design

3 hours per week • Hawthorn • Prerequisite: BH110 Organisations and Management • Assessment: mid-term test, group based research project

A subject in the Bachelor of Business

Objectives

This subject is designed to create an understanding of appropriate organisational design for different types of organisations which operate within contrasting economic, social, political and cultural settings.

Within this context, the objectives are to enable students to identify some of the design choices that can be made and the considerations relevant to these choices; to understand the main problems that arise in designing structures and jobs; and to develop skills in the analysis of practical problems through the use of research and theory of organisation design and involvement in the investigation of at least one organisation.

Content

The subject covers five main areas of study:

• the external dimensions of organisation;
• strategies and goals;
• organisation structure and design;
• the design of jobs and work structures;
• organisation bureaucracy, size and growth;
• organisation technology;
• functional, divisional and matrix structures.

Design influences on dynamic processes
• information and control.

• organisational change.

Integrating the total system.

Organisational research.

Recommended reading

Belman, L. and Deal, T., Reframing Organizations Anxiety, Choice and Leadership, San Francisco, Jossey and Bass, 1991


BH223 Dynamics of Diversity in the Workplace

3 hours per week • Hawthorn • Prerequisite: BH110 Organisations and Management and BH220 Organisation Behaviour 1 • Assessment: individual, paired, group work

A subject in the Bachelor of Business

Objectives

The aim of this subject is to enhance the student's sensitivity to and awareness of issues of managing diversity in the workplace.

A number of key concepts such as culture, the dynamics of diversity and implications for business will be explored.

Recommended reading

As advised at start of semester.

BH228 Manufacturing Management 1

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: a combination of personal assignments, group assignments, class participation and/or exam

A subject in the Bachelor of Business

Objectives and content

This subject reviews integrated manufacturing systems and the manufacturing management function, production, planning and control, maintenance, quality control, etc.

The relationship between manufacturing and other organisational functions in the company and the application of analytical techniques relevant to production and related functions such as market forecasting, scheduling, materials requirement planning will be covered.

The 5 Ps of Japanese manufacturing techniques, VAM, world class manufacturing, JIT production system and theory Z.

BH330 Organisation Behaviour 2

3 hours per week • Hawthorn • Prerequisite: BH220 Organisation Behaviour • Assessment: individual learning contract, essay

A subject in the Bachelor of Business. It builds on the material covered in BH220 Organisation Behaviour 1

Objectives

• To encourage students to take initiative in designing, implementing and evaluating a low-cost learning program in the field of Organisation Behaviour;

• To enable students to explore, practice and test those behaviours that have relevance for their current life situation or future career, via the challenge of creating an effective networked organisation in the class.

Content

The subject departs from traditional formats in that it is student centred, group based and active. Study in the first half of the semester will focus on the class group itself, functioning as an organisation in its own right: its composition, resources, collective skills and patterns of relationships. Students will also form peer learning groups which will meet each week to assist students in developing learning contracts. In the second half, students will be expected to organise and conduct sessions for the rest of the class based on their special interests in the field of Organisation Behaviour and/or on the topic for their learning contract.

Recommended reading


Other materials will be distributed in class.
Subject Details

BH331 Human Resource Management 2
3 hours per week • Hawthorn • Prerequisite: BH231 Human Resource Management and at least one other D.B. subject stage 2 • Assessment: individual learning contracts, training skills sessions and essays

A subject in the Bachelor of Business

Objectives and content
This subject will extend some of the knowledge and skills of HRM 1 with emphasis on training and development aspects, specifically training design, delivery and evaluation skills.

The subject covers:
• strategic planning and human resource management;
• managing change;
• mentoring, empowering, feedback, coaching and helping skills;

This subject may include some class work in the Behaviour Laboratory, where activities may be observed and recorded. The code of ethics requires students to sign a consent document at the beginning of the semester. Any further queries about this matter should be directed to the subject convener.

Recommended reading
Smith, A., Training and Development in Australia, Sydney, Butterworths 1992

BH332 Enterprise Bargaining
3 hours per week • Hawthorn • Prerequisite: at least two Stage 2 Organisation Behaviour subjects, with BE233 Industrial Relations strongly recommended as an additional subject • Assessment: individual and group assignments

A subject in the Bachelor of Business

Objectives and content
This subject is an elective in the Bachelor of Business (HRM/OB) and Stage 3 subjects. Assessment: individual and group assignments and projects

A subject in the Bachelor of Business

Objectives and content
This subject is an elective in the Bachelor of Business (HRM/OB) and Stage 3 subjects. Assessment: individual and group assignments and projects

Reading will be recommended by the supervisor.

Recommended reading

BH333 Managing Quality in Organisations
3 hours per week • Hawthorn • Prerequisite: at least three Stage 2 HRM/OB subjects • Assessment: individual and group assignments and projects

A subject in the Bachelor of Business

Objectives and content
The content of the supervised project will be in line with the subject area for which the student was unable to enrol in a third year subject which is needed to complete the major sequence of study.

Objectives
• enable students to study in depth, a topic associated with their HRM/OB major studies;
• provide students with the opportunity to work with a supervisor in gaining further theoretical and practical insights into the topic chosen through the conduct of a supervised project.

Content
The content of the supervised project will be in line with the subject area for which the student is unable to enrol in a third year subject which is needed to complete the major sequence of study.

Recommended reading

BH334 Asian Business (Thailand/Korea)
3 hours per week • Hawthorn • Prerequisite all first year subjects completed • Assessment: individual/ group assignments

A subject in the Bachelor of Business

Objectives
The objective of this subject is for students to gain a thorough understanding of the culture of a particular country and of the impact of this on business practices in that country. In 1987/88 the country visited will be Thailand and possibly Korea. Travel costs will be borne by students. (Note: HECS fee also incurred)

Content
This subject entails students attending fifteen hours of seminars at Swinburne University and travelling to a selected Asian country for a period of approximately three weeks. During their stay they will attend lectures at a local university on culture, economics, marketing and practices relevant to that country. In addition, students will visit a number of factories and attend seminars with representatives of important local industries and other workplaces.

By the end of this subject, students should have:
• acquired knowledge of local customs, values, attitudes and beliefs of Asian and Western countries in general and the host country in particular;
• gained at first hand, experience of the host country's business practices;
• gained a comparative knowledge of business systems and practices used in the host country and Australia.

Recommended reading
Because of the nature of the subject no recommended reading is set. Comprehensive reference lists will be provided at the first seminar.

BH 335 HRM/OB Reading Unit
3 hours per week • Hawthorn • Prerequisites: BH 110 Organisations and Management, and other relevant Stage 2 and Stage 3 subjects • Assessment: individual project report

A subject in the Bachelor of Business (HRM/OB)
This subject may only be taken by students enrolled in the HRM/OB six unit major or ten unit major for ARRI accreditation, who are in their final semester of study for the Bachelor of Business, and who are unable to enrol in a third year subject which is needed to complete the major sequence of study.

Objectives
• enable students to study in depth, a topic associated with their HRM/OB major studies;
• provide students with the opportunity to work with a supervisor in gaining further theoretical and practical insights into the topic chosen through the conduct of a supervised project.

Content
The content of the supervised project will be in line with the subject area for which the student was unable to enrol in a third year subject.

Recommended reading
Reading will be recommended by the supervisor.

Students should contact the Subject Convener for further information about this subject. Enrolment in this subject can only be approved by the Subject Convener.

BH336 Manufacturing Management 2
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: a combination of personal assignments, group assignments, class participation and/or exam

A subject in the Bachelor of Business

Objectives and content
A course focusing on the requirements of total quality management within an enterprise. The stages of quality progression are developed within a practical context from buyer beware, through corrective, preventive and cost based quality, to the requirements of serving the customer chain. Current quality demands on industry are reviewed and evaluated for impact on management systems.

BH337 Managing Technology and Innovation
3 hours per week • Hawthorn • Prerequisite: BH336 3 hours per week • Hawthorn • Prerequisites: BH336 • Assessment: a combination of personal assignments, group assignments, class participation and/or exam

A subject in the Bachelor of Business

Objectives and content
This subject develops an understanding of technology strategy in relation to ‘product’...
The purpose of the subject is to introduce students to a multi-frame approach to commercial success. It examines selecting, staffing and managing R&D projects to achieve strategic business objectives and the problems of accelerating the pace of technological innovation in product development. Particular consideration is given to invention, development and innovation as they relate to commercialisation processes. Students’ accounting skills will be extended to include cash flow techniques and analysis. The techniques acquired in this subject are applied to the production of a commercial feasibility analysis, heavily emphasising cash flow projections. National and international case studies will be used to demonstrate the elements of market and financial success for developed products and services.

Recommended reading
Porter, M.E. Competitive Advantage, Free Press, 1985

BH400 Human Resource Management/ Organisation Behaviour Honours

Students should seek advice from the appropriate HRM/DB staff when formulating their discipline-specific course of study and their research project proposal.

To encourage a multi-disciplinary approach, students may, subject to approval, undertake selected honours level coursework subjects from other schools, divisions, or institutions provided that they show the relevance of these coursework subjects to their proposed area of research. Such arrangements are subject to the student having any necessary prerequisite studies and may be subject to any quotas imposed on these subjects by the offering School.

Students must submit their proposal to the HRM/DB Honours Convener for approval prior to the commencement of their honours program. Approval for a student’s discipline-specific course of study and research project proposal shall be subject to the availability of any necessary resources and the availability of appropriate staff supervision.

Advanced Studies in HRM/DB
Students will undertake one or more coursework subjects, supervised reading subjects or other course of study, which will assist them in carrying out their HRM/DB research project. It is envisaged that many coursework subjects available from within Swinburne would be suitable to support the research project and/or broaden the student’s studies in relevant areas.

HRM/DB Honours Research Project
Students will be expected to undertake a research project within the area of organisation behaviour. Suitable research projects might include HRM/DB case studies within a limited and specified area, such as management practices, strategic planning processes, group dynamics, human resource development, work value studies, and/or cross-cultural organisation behaviour studies. Research projects might be supervised within a seminar group setting. The research project will be presented in the form of a written dissertation of approximately 15,000 words in length.

Students intending to complete their degree with honours must apply for entry into the honours year by the end of their three year degree.

Note that entry into the honours year is competitive and the number of places is subject to a quota.

BH404 The Social Structure of Organisation Dynamics

12.5 credit points • 26 hours over one semester • Hawthorn • Prerequisite: not applicable • Assessment: Individual: Case study of work group dynamics, Group: Class presentation, using multi-framed analysis of class dynamics

A subject in the Graduate Certificate in Organisation Dynamics.

Objectives
- To develop an understanding of the theories of organising;
- To identify student’s preferred ways of ‘seeing’ and understanding organisation activities and the implications for approaches to managing;
- To practice using different frames for analysing and understanding organisation dynamics particularly in student’s workplace;
- To develop skills in communicating verbally and in writing, analysis and interpretation of organisational activities.

Content
The purpose of the subject is to introduce students to a multi-frame approach to organisational analysis and to develop an understanding of their own preferred approaches to managing. Various aspects of organisation dynamics will be considered including mechanistic, organic, political, cultural and ethical approaches to understanding organisations. The emphasis in this subject on organisation level analysis, complements that of the concurrent subject: Leading, Following and Group Dynamics.

Textbooks

BH405 Leading, Following and Group Dynamics

12.5 Credit Points • 26 hours over one semester • Hawthorn • Prerequisite: not applicable • Assessment: Individual: Case study of work group dynamics, Group: Group presentation, using multi-framed analysis of class dynamics

A subject in the Graduate Certificate in Organisation Dynamics.

Objectives
- Increased awareness and understanding in five interrelated conceptual areas: group development, interpersonal communication, leadership/followership, decision-making and problem-solving,
- Improved process observation and intervention skills in leading, following, delegating, managing conflict (negotiating and mediating), and team building,
- Awareness of the importance of unconscious as well as conscious motivating forces and their influence on work group structures and outcomes,
- The ability to use a range of verbal, graphic, symbolic and metaphorical approaches to the analysis of work groups and the contexts in which they are set.

Content
- The subject is workplace focused, student centered and experiential.
- Provides students with a theoretical foundation for understanding interpersonal, group and intergroup dynamics.
- Experiential aspects create opportunities for students to consider conscious and unconscious dynamics as they seek to take up roles appropriate to task performance.
- Critical discussion of selected theories/models of group dynamics.
- Experiential exploration of students’ capacities in the ‘here and now’, for leading and following.
- Reflective discussion and written analysis of the relationship between concept and experience in managing group dynamics.

Recommended reading
Tavistock Publications, London.

BH406 Dynamics of Culture and Diversity in Work Organisations

12.5 credit points • 26 hours over one semester • Hawthorn • Prerequisite: The Social Structure of Organisation Dynamics • Assessment: Individual: Personal reflective essay on the dynamics of culture and diversity in the class room, Group: Class Presentation of Workplace Analysis

A subject in the Graduate Certificate in Organisation Dynamics.

Objectives
- To introduce participants to some differing narratives of culture and diversity, in order to assist them in the practice of management.
- To develop a conceptual and practical approach to the study of organisational culture.
- To develop an understanding of the diversities that make up a culture and the manner in which the culture influences the diversity mix in work organisations.
- To raise awareness; to develop knowledge and skills; to develop applications to the workplace.

Content
The notion of metaphor, introduced in the first semester subject The Social Structure of Organisation Dynamics will be examined further, and put into the context of language, and specifically, narrative. Students will explore how metaphors, that abound in daily language and in narratives, are enacted in cultures, influencing not only the type of culture that prevails, but also the diversity mix within that culture.
BI-I407 Consulting Processes for
Adversity,
Sons.

At the completion of this subject, students will have:

Objectives
- To enable students to explore and understand varying assumptions and possibilities of the role of consultant whether internal or external to the organisation.
- To develop students' awareness of themselves and their impact upon others so they will be better able to analyse their own processes of managing and leading from personal experience and theory, and applying knowledge to practical work problems of managing people at work;
- To assist students to explore and to understand the dynamics of 'relatedness' between the individual, the group and the institution, and the implications of this connection for work.

Content
- To develop team building, interpersonal skills and leadership skills in course participants to maximise their effectiveness and ensure continuous improvement and quality outcomes in current turbulent environments;
- To develop skills of reflective observation, making sense of, and generalising from, personal experience and theory, and applying knowledge to practical work problems of managing people at work;
- To develop students' awareness of themselves and their impact upon others so they will be better able to analyse their own processes of managing and leading small groups in the new team environment; and to facilitate the development of syndicate groups.

Recommended reading

BI-I414 Management Organisation and People
Refer to BH604.

BI-I490 The Learning Organisation I: Interpersonal, Leadership and Team Skills
12.5 credit points, One semester • Hawthorn • Prerequisite: Nil • Assessment: Individual: Action Learning Project Report, Group: Report of Consultancy Design and Intention

This subject is part of the core of the Master of Business Administration and is required to complete the Graduate Certificate and Graduate Diploma in Business Administration.

Objectives
- To develop team building, interpersonal skills and leadership skills in course participants to maximise their effectiveness and ensure continuous improvement and quality outcomes in current turbulent environments;
- To develop skills of reflective observation, making sense of, and generalising from, personal experience and theory, and applying knowledge to practical work problems of managing people at work;
- To develop students' awareness of themselves and their impact upon others so they will be better able to analyse their own processes of managing and leading small groups in the new team environment; and to facilitate the development of syndicate groups.

Content
- Leadership
  Understanding your leadership orientation, differences between managing and leading, understanding the new team as leader, taking the learning role, balancing empowerment with collaboration.
- Team Skills
  Creating team structure: vision, strategy, objectives, philosophy, teams roles and selection.

Facilitating the team process: communication and feedback skills, process observation skills, consulting skills, understanding how groups get stuck, strategies to handle flight, flight groups, flight/confirmist groups and dependency groups.

Recommended reading

BH505 The Social Psychology of Organising
2 hours per week • Hawthorn • Prerequisite: nil • Assessment: individual and group assignments and presentations

A subject in the Graduate Diploma in Organisational Behaviour

Objectives
- To enable students to explore and understanding varying assumptions and possibilities of the role of consultant whether internal or external to the organisation.
- To develop students' awareness of themselves and their impact upon others so they will be better able to analyse their own processes of managing and leading from personal experience and theory, and applying knowledge to practical work problems of managing people at work;
- To assist students to explore and to understand the dynamics of 'relatedness' between the individual, the group and the institution, and the implications of this connection for work.

Content
- The subject is concerned with different ways (metaphors) for looking at and thinking about how we organise;
- the interpersonal relationship between behaviour and structure both conscious and unconscious;
- the individual and collective investigation of the strengths and weaknesses of differing forms of organisation;
- expanding the ability of participants as thinkers and actors within organisations.

Recommended reading

BI-H506 Group and Interpersonal Psychology
2.5 hours for two semesters • Hawthorn • Prerequisite: nil • Assessment: two written assignments There is no written formal examination. Because of the experiential nature of this subject, a minimum 80% attendance is required

A subject in the Graduate Diploma in Organisational Behaviour

Objectives
- To introduce psychological concepts and techniques relevant to personal, interpersonal and group behaviour;
- To help participants understand their own perceptions, values and attitudes, and to gain insight into how these may influence behaviour;
- To increase options for workplace behaviour through an increased awareness of group dynamics;
- Methods used are largely cooperative and practical rather than didactic and theoretical. Active group participation is therefore necessary.

Content
- Semester one will involve students in the study of group processes and their effects on individual and interpersonal processes and relations. Students will approach the study of these phenomena through reading, discussion and experiential learning within the class.
- Semester two will build on earlier work. In particular the understanding of group and interpersonal dynamics is applied to understand processes within the workplace.
- Students in pairs make a series of visits to an external organisation.

Recommended reading

Extensive reading and resources will be given as appropriate.

BH512 Advanced Group Dynamics
12.5 credit points • 26 hours of class time • Hawthorn • Prerequisite: Leadership, Following and Group Dynamics • Assessment: tba

A subject in the Graduate Diploma in Organisational Dynamics

Objectives
- To assist students to explore and to understand the dynamics of "relatedness" between the individual, the group and the institution, and the implications of this connection for work.

References
• To deepen their understanding of group, inter-group and institutional dynamics.
• To examine the nature of organisations as a psycho-social process that gives rise to "mind" at individual, group and institutional levels.
• To study and research in a context whereby students come to appreciate, value and respect the importance of the emotional life of groups, organisations and institutions to the workplace.
• To be enabled to use the integration of thinking, feeling, desiring and acting on themselves (w/ their direct experience) toward their understanding.

Content
The course will include directly experiential work in groups and seminars/reading sessions.

Recommended reading

BH513 Innovation, Change and Power in Organisations
12.5 Credit Points • 26 hours of class time • Prerequisite: Leading, Following and Group Dynamics, or equivalent Advanced Group Dynamics • Assessment: Assignment (including individual and dyadic analysis)

A subject in the Graduate Diploma in Organisation Dynamics. Assignment (including individual and dyadic analysis)

Objective
To foster a greater appreciation of organisation and team dynamics through familiarity with advanced psycho-dynamic theory, experiential learning as researchers and the development of observation skills.

Content
Seminar format to include reading discussion groups and reflection groups; Fieldwork

Recommended reading

BH514 Work Teams in Action: Observation and Reflection
12.5 Credit Points • 26 hours of class time • Prerequisite: Leading, Following and Group Dynamics, or equivalent Advanced Group Dynamics • Assessment: Assignment (including individual and dyadic analysis)

A subject in the Graduate Diploma in Organisation Dynamics.

Objective
To demonstrate advanced skills in writing process notes following observations and competence in applying thematic analyses to this data; Competence in applying advanced psycho-dynamic theories to explore and elaborate upon observed workplace dynamics; a capacity to apply organisational analyses to work problems as a prelude to intervention.

Content
Seminar format to include reading discussion groups and reflection groups; Fieldwork

Recommended reading

Swinburne University of Technology | 1998 Handbook
BH590 The Learning Organisation 2: People, Change and Continuous Improvement


This subject is part of the core of the Master of Business Administration and is required to complete the Graduate Certificate and Graduate Diploma in Business Administration.

Objectives
- To develop an understanding of the theories of organisational change and to identify students’ preferred ways of seeing and understanding organisational activities and their implications for their approaches to leading, managing and coping with change. To practice using different frames for analysing and understanding organisational dynamics particularly in students’ workplaces in order to develop approaches directed towards continuous improvement.
- To build on skills developed in BHX5 The Learning Organisation 1: Interpersonal, Leadership and Team Skills, focussing specifically on leadership, management, communication, consulting and negotiation; and
- To develop skill in communicating verbally and in writing, analysis and interpretation of organisational activities.

Content
Students will be introduced to a metaphorical approach to organisational analysis and to develop an understanding of their own preferred approaches to leading and managing. Various aspects of organisational dynamics will be considered, including mechanistic, organic, political, cultural and ethical approaches to understanding organisation within the overarching frame of the learning organisation. There will be a particular focus upon skill development in areas such as leadership, management, communication, consulting and negotiation skills. Continuous improvement is the underpinning objective in developing these skills. Within the theme of continuous improvement, the subject also provides students with an opportunity to consider and reflect on how organisational dynamics impact on the development and implementation of business strategy.

Textbook

Recommended reading

BH604 Management, Organisation and People

12.5 Credit Points. Duration: 2-2.5 hours per week over 1 semester. Prerequisites: Nil. Instruction: lectures/discussion/experiential exercises/audio visual simulations (management behaviour laboratory). Assessment: group report and presentation, individual journals/group dynamics paper

Objectives
- Develop a systematic awareness of organisational processes and problems, and a managerial perspective in students
- Introduce theoretical models which are applied to problems in order to strengthen the skills of impartial analysis of organisational issues
- Develop an understanding of human behaviour in organisations and to develop interpersonal skills as a crucial element in this learning experience
- Help students apply their learnings as organisational members in the workplace both in their roles as managers, and as support staff.

Content
- The nature of organisations
- Roles
- Team work and inter-group dynamics
- Self-awareness
- Leadership/followership
- Motivating/Building commitment
- Conflict and negotiation
- Power and influence
- The manager from a Human Resources perspective

Textbook

References

BH606 Culture and Conflict in Organisations

4 hours per week. Hawthorn. Prerequisites: BH505, BH506. Assessment: papers and interview analysis

A subject in the Graduate Diploma course in Organisation Behaviour.

Objectives and content
The subject introduces students to current theory and practice associated with organisation culture as a prelude to managing conflict and change. It examines the fundamental elements and dynamics of organisation culture. Participants are required to analyse an organisation in terms of its culture and assess, given that culture, how conflict and change might be more effectively managed. The subject is tightly sequenced with the following subject BH607 Leadership and Change in Organisations.

Recommended reading
Participants will be given extensive handouts and these will be used as a basis for class discussion and accompanying experiential activities.

BH607 Leadership and Change in Organisations

4 hours per week. Hawthorn. Prerequisite: BH507. Assessment: fieldwork project in small groups (cultural analysis)

A subject in the Graduate Diploma course in Organisation Behaviour.

Objectives and content
This subject has three specific points of focus:
- Leadership and systems theory;
- Leadership and psychodynamics;
- Leadership and transformation.

It is assumed that leaders need to know about the influences which create change and the processes necessary to produce a transformation rather than a rearrangement. This will be linked to change, Exploration will be made of static states, disequilibrium, transformation and flow states. Change agent skills will also be explored.

Recommended reading
Participants will be given extensive handouts.

BH690 Leadership and Culture in Organisations

12.5 Credit Points. One semester of 15 weeks; may be designed as 4 Saturdays x 6 hours; with 3 x 2 hour mid week sessions. Hawthorn. Prerequisites: completion of the core MBA subjects. Assessment Methods: major essay, fieldwork report

A subject in the Master of Business Administration

Objectives
To develop an understanding of the nature of leadership from a variety of perspectives; to have examined several contemporary issues surrounding leadership in organisations; to have observed leadership within workgroups and developed their own ways of analysing its effects.

Content
This unit will focus on the nature of leadership and its links to organisational culture. The will be done through reading, an examination of their own leadership capacities, and an observational task in the field. Several approaches to leadership will be examined, as will questions such as:
- How does leadership differ from management?
- How are power and authority related to leadership?
- How can leadership reside in an organisation?
- Are groups the leaders they deserve?
- Are different forms of leadership required for different tasks?
- Are different forms of leadership required by different people at different stages of their lives or careers?
- How is strength related to leadership?
what of the questions of difference? gender? ethnicity?

In addition, students will have the opportunity to observe a workgroup with the specific objective of understanding how the dynamics of leadership and group culture interact.

Recommended reading
Ong, S.R., Hardy, C. and Nord, W., Handbook of Organization Studies, Sage Publications, YEAR.

BH691 Managing People Across Cultures

12.5 Credit Points· one semester, 2 hours per week • or in block or Saturday mode •
Hawthorn • Prerequisites: completion of MBA core subjects • Assessment: Individual - Current Issues Essay, Syndicate Report - Organisational Case Study, Syndicate Presentation

A subject in the Master of Business Administration

Objectives
To develop an understanding of national, corporate and regional cultures as they impact on cross-cultural management; to consider some of the challenges associated with managing people across cultures from a human resource management perspective; to explore some of the challenges in cross cultural management; and to investigate some of the above issues through experiential activities and workplace projects.

Content
National and Corporate Culture

The meaning of culture; national culture and corporate culture; understanding and valuing diversity; the group and the individual; roles, relationships and feelings; and the importance of status.

International Human Resources Management

Planning, recruiting and selecting, training and development, career planning, performance appraisal, rewarding and compensating, industrial relations, separation, organisational problems and repatriation.

Cross Cultural Management

Organisational structure, leadership and vision, power and influence, ethics, communication and negotiation.

Recommended reading

BH692 Role, Task and System

12.5 Credit Points· one semester of 15 weeks, two hours per week may be designed as 4 Saturdays x 6 hours with 3 x 2 hour mid week sessions • Hawthorn • Prerequisites: completion of MBA core subjects • Assessment: 1 case study assignment of an organisational issue, 1 analysis of ‘finding, making and taking’ a role within their organisation or within the intergroup exercises

A subject in the Master of Business Administration

Objectives
To develop an understanding of an open systems approach to enterprises and their organisation into tasks; to familiarise students with an analysis of ‘role’ that places emphasis on the crucial interrelatedness of roles and the importance of communication between them; to understand communication within organisations as occurring at socio-emotional levels as well as at logical-cognitive levels, and the effect this has on how people take up roles and define their tasks; to better able to analyse and constructively act within difficult work situations, through an understanding of the issues of role and task and their associated authorities.

Content
This unit will focus on work systems and their organisation into tasks at both formal and informal levels. The organisation of task will be studied in terms of the ‘open or closedness’ of the system to its environment (hence to its suppliers, clients and society more broadly), and in terms of internal relations. This will include the way people take up their roles within the work system (as managers, work teams etc.) and from there, relate to others. Emphasis will be placed on the way members perceive, understand and ‘join with’ the organisation; and how this influences the way they take up and operate within organisational roles. Also, emphasis will be placed on how organisational tasks affect and are affected by interpersonal, communicational and emotional issues within the organisation.

Recommended reading

BH693 Strategy, People & Performance

12.5 Credit Points· one semester, two hours per week • or in block or Saturday mode •
Hawthorn • Prerequisites: completion of MBA core subjects • Assessment: Individual Workplace Project, Syndicate Report - Organisational Case Study, Syndicate Presentation

A subject in the Master of Business Administration

Objectives
To develop an understanding of the critical links between strategic change, people and performance in achieving organisational success; to identify the importance of the integration of business, HRM and functional strategies; to consider the impact of strategic business decisions such as outsourcing, telecommuting etc. on HRM strategy and individual performance; to consider the HRM strategic choices available to an organisation in meeting its performance objectives; and to explore some of the above issues through a workplace project which focuses on the issues of maintaining competitive advantage through people whilst meeting organisational requirements for continuous improvement.

Content
Strategic Context
Understanding internal and external environments, managing change from a strategic perspective, business, HRM and functional strategies, current strategic issues such as globalisation, outsourcing, telecommuting, social responsibility and ethics.

Managing the HRM Activity - Strategic Choices
Attraction and placement of human resources, maximising HR productivity and continuous improvement, maintaining human resources, strategic separation.

Developing Capability and Performance
Aligning employee expectations with strategy, enabling and evaluating performance.

Recommended reading

BH707 Strategic Change

12.5 credit points • Duration - 4 hours per week over 1 semester • Prerequisites - completion of the Graduate Diploma in Management. Systems or equivalent • Instruction: lecture/semiminar/case studies/workshops • Assessment: individual assignment and seminar group assignment

Objectives
The subject builds upon the knowledge and skills developed in earlier subjects to develop ways of understanding the factors to implement change (especially strategically) effectively within an organisation. Raising awareness of the need to
manage change and conflict, the associated complexities and ambiguities and the consequences of various processes of managing them.

Content
Topic covered in this subject include:

- culture and organisational analysis; analysing organisational situations, including the need for change and identifying barriers to successful implementation
- evaluating alternatives for bringing about desired change and selecting the most effective implementation approach
- leadership, consulting skills and the role of the systems manager as a change agent
- group dynamic and group development

Textbooks
No single text covers the subject material

References
Schein, E. Organisation, Culture and Leadership, Jossey-Bass, California, 1987

BH708 Processes of Inquiry and Research
Organisation Behaviour, Part 1
(Intercultural Understanding)

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: essay and research project
A subject in the Master of Business (Organisation Dynamics)

Objectives

- To develop within participants an understanding of their cultural identity and how this influences the way they manage and research.
- To research ‘Australian-ness’ as a cultural identity in management using a team based ‘inter-view’.

Content

Drawn from studies in psychology, sociology and social anthropology it provides a starting point for the conceptualisation of cultural identity. Concepts include gender, authority, religion, and race.

Recommended reading
Sue, D.W., Counseling the Culturally Different. 2nd edn, New York, Wiley, 1990

BH709 Processes of Inquiry and Research
Organisation Behaviour, Part 2
(Senior Management Responsibilities)

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: critique of two research based papers, development of questionnaire and test and evaluation of questionnaire
A subject in the Master of Business (Organisation Dynamics)

Objective
To inquire into the responsibilities of senior management with regard to the strategic direction of their organisation using a personal questionnaire designed by the student.

Content
The conceptualisation of corporate policy and strategic planning and the development of a testable questionnaire instrument to research these activities with senior managers.

Recommended reading

BH710 Processes of Inquiry and Research
Organisation Behaviour, Part 3
(Framing Organisational Learning)

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: design research, conduct and analyse pilot interviews; essay providing rationale for research design
A subject in the Master of Business (Organisation Dynamics)

Objective
To develop a capacity to evaluate methodological alternatives for investigating a particular research focus; to design qualitative research; and to develop skills in in-depth interviewing.

Content
This unit considers alternative frameworks for researching a complex organisation system. The nature of knowledge and understanding is explored, along with alternate research frameworks, and methods of qualitative data collection and analysis. The technique of in-depth interviewing is practised and developed.

Recommended reading

BH711 Processes of Inquiry and Research in
Organisation Behaviour, Part 4
(Managing Oneself in Role)

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: role analysis report
A subject in the Master of Business (Organisation Dynamics)

Objective
To explore and understand the process, risks and judgements required in finding, making and taking an organisational role.

Content
The concepts of role, system and unconscious defences are explored as a basis for understanding role performance in organisations. The technique of organisational Role Analysis is practised and developed.

Recommended reading
To be provided in class

BH803 Doctoral Practicum

25 credit points • Hawthorn • Prerequisites: BH708, BH709, BH710, BH711
A subject in the Professional Doctorate in Organisation Dynamics

Objective and content
The practicum involves a work based action learning project. This is designed to develop and extend the student’s capacities to work at a high professional level within their organisation or, in the case of consultants and social scientists, with client organisations. Students meet on a weekly basis to discuss their projects.

BH804 Private Reading Unit A
(Elective subject)

12.5 credit points • Hawthorn • Prerequisites: BH708, BH709, BH710, BH711
A subject in the Professional Doctorate in Organisation Dynamics

Objective and content
A subject of the student’s choice, approved by the Program Manager, from any other postgraduate program relevant to the student’s professional development.

BH805 Private Reading Unit B
(Elective subject)

12.5 credit points • Hawthorn • Prerequisites: BH708, BH709, BH710, BH711
A subject in the Professional Doctorate in Organisation Dynamics.
A subject of the student’s choice, approved by the Program Manager, from any other postgraduate program relevant to the student’s professional development.

BH904 Professional Doctorate Thesis
BH904(E)

50 credit points • Hawthorn • Prerequisites: BH708, BH709, BH710, BH711
Subjects in the Professional Doctorate in Organisation Dynamics.

Objective and content
The doctoral thesis reports on a piece of high level research conducted in the area of Organisational Dynamics. This research is likely to take the form of an action research project but may involve other forms of research as agreed by the project supervisor. The research may be conducted by teams of students, although the thesis is the work of an individual. Personal supervision is provided. The thesis will be examined externally by academics from other Australian or international universities.

There is a class based research seminar that is part of this subject. This seminar is conducted fortnightly.

BI490 International Business

12.5 credit points, One semester • Hawthorn • Prerequisites: Nil • Assessment: class test, group assignment, written examination
A subject in the core of the Master of Business Administration and is required to complete the Graduate Certificate and Graduate Diploma in Business Administration

Objectives
To provide a framework for the study of international business. It looks at the...
development of international business from a historical perspective up until the present day, and outlines the key challenges facing international business managers into the 21st century. Whilst eclectic and global in coverage, the subject also seeks to focus on the topic from the context of Australia’s international outlook and perspectives.

Content

Defining International Business

Historical Development of International Business

- international trade
- balance of payments accounts and international monetary systems
- global investment factors

International Organisational Environment

- culture
- political
- technological
- competition and competitive advantage

Managing International Business

- strategic decisions
- implementation issues

Australia’s International Context

- a critical analysis of Australia’s international competitive advantage
- identification of future trends and opportunities

Textbook


Recommended reading


BI712 International Marketing

3 hours per week • Hawthorn • Prerequisite: nil though a basic understanding of the marketing discipline is assumed • Assessment: Assignments & Final Examination.

A subject in the Masters of International Business

Objectives

- To introduce the students to the international marketing environment and tasks.
- To expose students to a wide variety of cultural environments and business situations.
- To encourage them to reflect on the practical significance of differences in a number of regional business environments.
- To discuss the market, and the market entry mode, selection processes.
- To develop students’ intercultural business communication competence and skills.
- To develop a global perspective on international marketing.
- To discuss the key success factors in international marketing today and tomorrow.

Content

International marketing environment and tastes; the culture variable in international marketing; political and economic global environment; interregional comparisons; modes of market entry; global product management; intercultural marketing communication; global pricing; key success factors in international marketing; the future of global marketing

Recommended reading


BI713 Business Language and Cultural - Context A

and

BI723 Business Language and Cultural - Context B

3 hours per week for 2 semesters • Hawthorn • Prerequisite: nil • Assessment: To be advised but the opportunity will be provided to focus on either the development of language or cultural skills depending on the interest and proficiency of each student. Currently on campus (for international students) are Australian, Chinese, Italian, Japanese, Korean or Vietnamese.

A subject in the Masters of International Business

Credit may be granted for comparable units completed at an appropriate academic level.

Objectives

- To provide each graduate with a basic understanding and appreciation of at least one foreign language and culture of relevance to Australia’s international trading position
- To develop an understanding of the basic linguistic concepts and an appreciation of business etiquette, courtesies and conventions.
- To provide the opportunity to study the culture, society, economy and business practices of the particular language being studied, and by so doing enable students to appreciate the issues more sensitively when approaching any foreign market.

Content

Introduction to the chosen language; training in language patterns and grammar, writing, conversation, listening and comprehension; introduction of historical and cultural topics of direct relevance to the development of the language and society, and the nature of contemporary business practices; contact with an appropriate business or professional organisation relevant to the language being studied; writing of papers and research assignments.

Recommended reading

To be advised

BI715/BI825 International Business Project (Minor Thesis)

3 hours per week for one semester, plus 1 hour supervisor contact or equivalent per week (averaged over three semesters) • Hawthorn • Prerequisite: nil • Assessment: To be advised in reports and presentations in BI715. A final thesis of 18-20,000 words in BI825.

Subjects in the Master of International Business

Objective

This component of the course is designed to enable candidates to develop high level skills in conducting substantial research projects and to work with their results in an ongoing way.

Content

- BI715 Research Methodology
- BI825 Research Design and Exploratory Research
- Data collection and Analysis
- Preparation of Written project

The final report, to be submitted at the completion of BI825 which will contain between 18-20,000 words.

BI721 International Trade and Finance

3 hours per week • Hawthorn • Prerequisite: BI1711 Foundations of International Business • Assessment: to be advised.

A subject in the Masters of International Business. Credit may be given for a comparable unit completed at an appropriate academic level.

Objectives

The intention in this unit is to provide students with the theoretical and analytical skills necessary for the understanding and evaluation of international trade and financial issues specifically:

- to provide an understanding of the nature and significance of international trade and finance.
- expand students’ knowledge of current international trade and finance issues and instruments which are of specific importance to the business community and government.
- extend students’ awareness and understanding of developing regional patterns
Content
This unit provides an applied study of international finance and trade. Topics covered include:

- Australia’s external position (balance of payments-concepts, trends and outlook, current outlook and problems); the international financial system (events since 1945, international financial centres, current outlook and problems); the basis of international trade (gains from trade, trade restrictions, arguments for protection, costs of protection, policy instruments, trade liberalisation); monetary and financial policies relating to trade and growth (trade liberalisation, GATT/WTO, regionalism and regional trade, foreign investment and globalisation).

Recommended reading
To be advised.

BI722 International Marketing Research
3 hours per week • Hawthorn • Prerequisite: BI1002 International Marketing and an understanding of undergraduate level statistical methods. • Assessment: (I) Computer tasks (II) Final assignment (III) Final examination.

A subject in the Masters of International Business
Credit may be granted for equivalent work at an appropriate academic level.

Objectives
- provide the environmental context in which international marketing research is conducted, including consideration of the marketing environment and the socio-cultural environment;
- demonstrate how and where sources of information can be obtained in relation to international markets;
- expose course participants to a range of data sources, both print and electronic, which are essential for marketing research;
- provide course participants with an understanding of, and some experience in using, statistical, demographic, geo-demographic and computer aided telephone interviewing and telemarketing software; and
- provide the technical skills necessary for planning, executing and reporting marketing research conducted using quantitative and/or qualitative methods.

Content
Problem definition; data sources and the review of related literature; international demographic trends; research designs; data analysis and interpretation; preparing written and oral reports.

Recommended reading

BI811 International Financial Management
3 hours per week • Hawthorn • Prerequisite: BI1002, through a basic understanding of the Accounting discipline is assumed. i.e. balance sheet, profit and loss, cash flow, statements, ratio analysis. Students without this knowledge may be required to undertake an additional bridging unit in this area. • Assessment: Assignment and examination.

A subject in the Masters of International Business
Credit may be given for a comparable unit completed at an appropriate academic level.

Objectives
- The current push is for Australian businesses to think and trade in an international dimension. There are aspects of managing business finance which must be considered and applied by any business operating internationally, whether large or small. This unit is designed to facilitate students’ appreciation of the difficulties and benefits of operating internationally, from a financial viewpoint. To achieve this, the objectives of this subject are for students to:
  - gain a conceptual and practical framework within which key financial decisions of a company operating internationally can be analysed;
  - gain an understanding of the use of the financial analysis techniques appropriate in solving international financial problems and how to apply them;
  - understand the principles of asset and liability management in an international context; and
  - gain an understanding of the financing techniques appropriate for international trade and application of these techniques.

Content
Introduction; multinational corporations; exchange rates; the International Monetary System; measuring and managing international trade risk; financing foreign trade; international portfolio investment; managing funds in international trade; corporate strategy and foreign investment; accounting aspects of multi-national corporations; taxation aspects of international finance; international partnerships and joint ventures.

Recommended reading

BI812 Legal Aspects of International Business
12.5 Credit Points one semester, two hours per week • Hawthorn • Prerequisites: complete of MBA core subjects • Assessment: approved research project, final examination.

A subject in the Master of Business Administration

Objectives
To consider the legal aspects of international trade emphasising the following area:
- the Law as a reflection of the culture and society within which international business may be conducted;
- international contracts of sale or goods, including a study of trade terms, performance of the contract, acceptance and rejection of goods, and the rights of the unpaid seller and buyer;
- proper law of a contract and jurisdiction to determine disputes;
- methods of transportation and distribution of goods and the legal principles relating thereto;
- financing and insurance and involved in export sales, the role of tariffs and protection policies;
- international conventions for the protection of industrial property;
- international franchising;
- international intellectual property; and
- international joint ventures.

Content
History of mercantile law; Regulation of international trade; Trade treaties; Law of international intellectual property; International carriage of goods; etc.

Conflicts of law; Enforcement of foreign money judgments; Law of agency in relation to international sale of goods; Finance of international trade; Foreign investment and exchange controls.

Textbook

BI813 International Management
12.5 Credit Points one semester, two hours per week • Hawthorn • Prerequisites: completion of MBA core subjects • Assessment: group case study and presentation, individual organisational case analysis, individual paper identifying the student’s cultural identity and its impact on their own working style.

A subject in the Master of Business Administration

Objectives
To develop in students: a sound understanding of comparative cultural perspectives on managing and their impact on conducting international business; an understanding of Human Resource Management issues in managing across national boundaries; a personal understanding of the cultural context from which the student has developed, and the impact of their own cultural identity on their business role, and a practical approach to the application of their personal and theoretical learning to the conduct of international business.

Content
The course will establish the critical importance of culture and the impact on differing cultural contexts in understanding the issues facing Human Resource Management in the conduct of international business. Comparative models of managing will be examined and such issues as the impact on international management of differences in leadership approaches and differing ethical values systems will be explored. Also examined will be the strategies and functions appropriate to international management.

Swinburne University of Technology | 1998 Handbook
management, and the management of human resources across national boundaries. As relevant, current issues facing Australian managers will be used for comparative purposes including ethics and social responsibility, women in management, and managing change.

Textbook

In addition students will be referred to a variety of wider readings from both books and journals. Students will be expected to use extensively the library collection available in this field.

BI821 Global Information Strategies
3 hours per week • Hawthorn • Prerequisite: Nil • Though a basic understanding of computer information technology in the context is assumed • Assessment: Group assignment, Individual research report.

A subject in the Masters of International Business

Objectives

- This unit examines both the opportunities for the strategic application of information technology (IT) in the context of the international organisation and international trends in the communication of information. The subject will examine the role of information technology in the context of multinational firms and the more general globalisation of business. For multinational firms, information technology and international networks overcome the geographical and temporal barriers among the different organisational parts and ensure coordination of activities. Approaches towards understanding the strategic importance of information technology will also be studied and particular attention will be given to inter organisational systems and the resultant changing relationships with business partners.
- This subject also examines international market, policy and cultural trends in many fields of communications with special attention on the telecommunication industry. It will examine many complex forces for change, particularly the increasing international trend towards privatisation, mega- amalgamation, liberalisation and deregulation. The various schools of thought and practices related to industry retirement and development in the context of telecommunications and information technology will also be studied.

Content
International information systems; the distributed enterprise; inter organisational systems; IT strategy for a multinational corporation; international market, policy and cultural trends in telecommunications; innovation and development in the information industry.

Recommended reading
To be advised.

BI822 International Logistics Management
3 hours per week • Hawthorn • Prerequisite: BI711, BI811, BI812. Assessment: (i) Assignments (ii) Final Exam.

A subject in the Masters of International Business

Objectives

- The course is designed to examine and analyse the international aspects of logistics and channel management, and the role the logistics function plays in the formation of international competitive advantage and best practice.
- Attention is first directed to channels between countries and then to distribution channels within overseas markets.

Content
Designing international distribution strategies; export options; export documentation; channels of distribution within overseas markets; wholesale linkages to overseas markets; international logistics and physical distribution; evaluation of international channel alternatives; patterns of retailing in international markets; international marketing channels for counter trade; international sourcing; problems in managing international channels; service standards.

Recommended reading

BI823 International Business Policy
3 hours per week • Hawthorn • Prerequisite: All units in Stages 1, 2 & 3 of the Masters program. Assessment: (i) Assignments (ii) Case Study Presentations.

A subject in the Masters of International Business

This is a core and capstone unit and no credit will normally be given.

Objectives

- This unit is studied in the context of a dynamic global environment of social and technological change. All basic business skills must be integrated for strategic planning and therefore learning from all other units this final unit will be applied.
- Special objectives of this unit are:
  - to consolidate the strategic planning process and the range of techniques used in international business planning as studied during the course;
  - to develop skills in using a variety of frameworks for making strategic decisions;
  - to emphasise the importance of the current development phase of the industry in which an enterprise operates as a basis for appropriate strategy development;
  - to develop skills in evaluating the effective business planning and for the implementation of the strategic planning process; and
  - to work in syndicate groups in industry to examine a strategic planning project.

- to consider these issues and techniques, and their implication, in the international context.

Content
Strategic management - a global perspective; the ethical dimension in international strategic decision making; determining the international business mission; situation analysis in the international environment; international ESC Gap analysis; international strategy and competitive advantage; selecting an international business strategy; project management in the international environment; implementation and review; evaluation and control.

Recommended reading

BL111 Law in Global Business
3 hours per week • Hawthorn • Prerequisite: nil • Assessment: tests and final examination

A subject in the Bachelor of Business

Objectives

- The objectives of this subject are:
  - to introduce students to basic legal concepts;
  - to introduce students to important areas of business law including company, contract, tort and intellectual property law;
  - to develop an understanding of the nature and function of law, in particular the relationship of law, business and society;
  - to introduce students to comparative and international aspects of business law.

Content
The subject begins with an introductory study of the concepts, techniques and institutions of the common law and civil law traditions. It then proceeds to two case studies on the role of law in promoting business activity - one in the law of contract and the other in company law. Next, the role of law in controlling business activity is studied using a case study in tort law. Finally, a consideration is made of the role of law in the global environment of business. The general aim of the subject is to enable students to gain an understanding of the law applicable to agreements, and in particular those negotiated during the course of the establishment, and conduct of businesses. Particular attention is given to the legal repercussions of concluding an agreement (including the impact of statute and branching obligations undertaken).

Recommended reading
Holland, P., Wilson, S., Law in Global Business, Swinburne University Press, Melbourne, 1999

BL220 Contract Law
3 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business • Assessment: test, assignment and exam

A subject in the Bachelor of Business

Objectives and content

- The general aim of this subject is to enable students to gain an understanding of the law applicable to agreements, and in particular those negotiated during the course of the establishment, and conduct of businesses. Particular attention is given to the legal repercussions of concluding an agreement (including the impact of statute and branching obligations undertaken).
Recommended reading

Khoury, D. and Yenomi, Y.S., Understanding Contract Law. 4th edn, Sydney, Butterworths, 1995
Lekhter, P. Australian Business Law, North Ryde, CCH, 1995

BL221  Company Law

3 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business • Assessment: to be advised.

A subject in the Bachelor of Business.

This subject is compulsory for students in the accounting stream; optional for others.

Objectives and content

To conduct a legal analysis of business organisations, including three weeks examining

Butterworths, 1995
Latimer, P.
Assessment: to be advised.

Textbooks

Students will require a copy of The Corporations Law,

Lipton, P. and Herzberg, A.

Recommended reading

Gooley, J., Corporate and Associations Law, Butterworths (Current Edition).
Barrett, B., Australian Corporations Law, CCH.

BL222  Marketing Law

3 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business • Assessment: test, assignment and final examination or major research project

A subject in the Bachelor of Business

Objectives and content

The subject involves an examination of the legal controls imposed on the

Marketing Law, Law Book Co., Sydney, 1993
Healey, D., Terry, A., Misleading or Deceptive Conduct, CCH Australia Ltd., North Ryde, 1991
Livermore, J., Clark, E., Marketing Law, Law Book Co., Sydney, 1993

BL224  Retailing Law

3 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business • Assessment: test, assignment and final examination or major research project

A subject in the Bachelor of Business

Objectives

The objective of this subject is to provide a practical knowledge and awareness of the
day-to-day activities of the business.

Content

Topics covered in this subject include the liability of retailers under the laws of contract and negligence, crime and retailing, establishing a retail business,

Marketing Law, Law Book Co., Sydney, 1993

Recommended reading

Clarke, B., Kaproulias, S., Law for Retailers in Australia, Data Legal, 1995

BL226  Information Technology and Communications Law

2 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business • Assessment: 4,500 word paper • Equivalent to BL132

A subject in the Bachelor of Business

Objectives

To conduct a legal analysis of current topics in Information and Communications Law.

Content

Current topics:

• introduction to information technology and communications law;

• international communications law;

• intellectual property in information technology;

• privacy and information security;

• computer crime and security;

• jurisdiction to determine disputes;

• international conventions;

• international treaties;

• jurisdiction to determine disputes;

Recommended reading

Because no text provides a suitable coverage of current issues, students will be provided with or given access to materials including a reading guide on a weekly basis.

BL331  International Business Law

3 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business • Assessment: to be advised.

A subject in the Bachelor of Business

Objectives and content

The purpose of the subject is to consider the legal aspects of international business law.

The emphasis of the subject is on the following topics:

• introduction to international law concepts;

• basics of international contracts;

• jurisdiction to determine disputes;

• international conventions;

• international treaties;

• jurisdiction to determine disputes;

Recommended reading

To be advised.

BL332  Employment Law

3 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business • Assessment: To be advised.

A subject in the Bachelor of Business

Objectives and content

The general objective is to assess the impact of law upon the relationship of

The general context is that of employment, employer and employee. The following matters are covered in this subject:

• the contract of employment — the formation of the contract of employment, distinguishing an employee from an independent contractor, the terms of the contract of employment, common law remedies for wrongful termination;

• the arbitration system — the constitutional context, the system in operation in

Recommended reading

To be advised.

Swinburne University of Technology | 1998 Handbook
BL333 Finance Law
3 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business • Assessment: to be advised.
A subject in the Bachelor of Business

Objectives and content
This subject provides students with an understanding of banking, finance and securities in the context of the Australian legal system. Specific topics include the banker/customer relationship, legal framework of lending, negotiable instruments, securities and remedies, and bankruptcy and insolvency.

Recommended reading

BL334 Asian Business Law
3 hours per week • Hawthorn • Prerequisite: BL111 Law in Global Business or Stage I Political Studies subject • Assessment: research paper or examination
A subject in the Bachelor of Business

Objectives and content
The general objectives of this subject are to introduce students to the legal environment of business in Asia and to develop an understanding of the context of law in Asian countries, particularly the cultural and historical context. The subject will examine the interrelationship between law, business and society in selected Asian countries. It will explore the way the law has been used to stimulate economic development. It will concentrate on the process of constitutional development in Asia, in particular, the link between economic development and democratisation in selected Asian countries. Countries studied will include Indonesia, Hong Kong, Korea and India.

Recommended reading
Lindsey, T., At the Crossroads: Current Issues in Indonesian Law, Oxford University Press, 1997
Song Sang-Yun, Korean Laws in the Global Economy, Seoul, Bak Young Sa, 1998
References to specific countries will be made available to students.

BL400 Business Law Honours
Students should seek advice from the appropriate Business Law staff when formulating their discipline-specific course of study and their research project proposal.

To encourage a multi-disciplinary approach, students may, subject to approval, undertake selected honours level coursework subjects from other schools, divisions, or institutions provided that they show the relevance of these coursework subjects to their proposed area of research. Such arrangements are subject to the student having any necessary prerequisite studies and may be subject to any quotas imposed on those subjects by the offering School.

Students must submit their proposal to the Business Law Honours Convener for approval prior to the commencement of their honours program. Approval for a student’s discipline-specific course of study and research project proposal shall be subject to the availability of any necessary resources and the availability of appropriate staff supervision.

Advanced Studies in Business Law
Students will undertake a program of advanced study designed to support their research project proposal. This will involve the application of legal reasoning and legal techniques to issues which are of importance to business, government and society. The program will consist of supervised readings and seminars.

Business Law Honours Research Project
Each student will be required to undertake an individual program of advanced study in one or more areas of business law in his or her preferred area of specialisation. Potential areas of research should reflect expertise within the School which includes law relating to contracts, companies, marketing, retailing, employment, tourism, international marketing, finance, computers, Asian business law and European business law. Students will be required to make presentations at progressive stages of their research. The research project will be presented in the form of a written dissertation of approximately 15,000 words in length.

Note that entry into the honours year is competitive and the number of places is subject to the availability of any necessary resources and the availability of appropriate staff supervision.

BM110 The Marketing Concept
3 hours per week • Hawthorn • Prerequisite: nil • Assessment: examination, assignments, presentation, class exercise
A subject in the Bachelor of Business

Objectives and content
This subject explores basic business and marketing concepts from a variety of perspectives. The objective is the understanding of key concepts upon which to build a framework for the integration of a variety of ideas on business-customer exchanges and an understanding of the role of the marketing function. This understanding of marketing and marketing people will aid in the understanding of other disciplines in the Bachelor of Business as well as providing a strong philosophical foundation for the vocational study of marketing.

Recommended reading
Other supporting material will be prescribed when appropriate in lectures. It is expected that extensive use will be made of the large collection of relevant material in the library – both texts and current journals.

BM220 Market Behaviour
2 hours per week • Hawthorn • Prerequisite: BM110 The Marketing Concept • Assessment: examination & assignments
A subject in the Bachelor of Business

This subject is highly recommended as the first post-core Marketing subject studied in the marketing sequence.

Instruction in a subject of this nature requires active participation. The theoretical aspects of consumer behaviour are supplemented by practical problems through the use of case studies and fieldwork exercises.

This subject is a mandatory requirement for a major sequence in Marketing.

Objectives
The objective of this subject is to study the process of choice in both consumer and business-to-business purchasing contexts, along with its determinants and its implications for marketing strategy. At the completion of the subject, students should have acquired an understanding of:

★ the process of human decision making
★ the three main influences on consumer choice
★ the individual consumer
★ environmental influence
★ market strategy
★ the main influences impacting on business to business purchasing decisions
★ the DMU (Decision Making Unit) or buying centre
★ organizational factors and constraints

Specific aims:
★ to allow second-stage students to explore basic human behaviour concepts and theories, as they relate to purchasing decisions in both consumer and
The objective of this subject is to examine the concepts of planning and strategy in marketing, the role and methods of strategic analysis, as well as issues related to strategy formulation, implementation and control. It focuses on the marketing planning process as a key tool in an organisation's interaction with its environment.

In the highly competitive, volatile and turbulent business world of the mid-90s it is particularly important for Australian companies to carefully analyse their strategic planning, sharpen their business analysis skills and see beyond the geographical or product based boundaries of the markets in which they currently compete. Acquiring and maintaining competitive advantage by having a consistently superior business/marketing planning system will be one of the most vital strengths of successful businesses of the future. This subject gives students the opportunity to acquire a working understanding of various methods of marketing planning and the ability to apply them appropriately in developing and implementing marketing strategies that respond to the challenges of the environment.

Specific aims:
- to allow students to consolidate and develop upon the concepts developed in BM110;
- to enhance students' capacity to critically analyse business situations from a marketing viewpoint;
- to give students a working understanding of the methods and concepts of strategy analysis and how these can be applied in practice;
- to expose students to a systematic approach to developing marketing strategy; and the program decisions needed to implement the overall marketing strategy;
- to further build students' analytical and communication skills.

A case study with a strongly practical emphasis and discussion of prescribed articles form a major part of the course. The emphasis on business report writing is continued, with more complex reports required. The major assignment requires creation of an actual marketing plan for a real organisation.

Framework:
- The structure and process of marketing planning;
- Sources of information in marketing planning;
- The external environment: analysis the customer and the industry;
- The corporate mission and marketing audit;
- Analytical tools;
- Tools in marketing planning;
- Developing marketing objectives;
- Marketing programs;
- Product, promotion, distribution and price planning.

Recommended reading
Jain, S.C., Marketing Planning and Strategy, 4th edn, South Western, Cincinnati, Ohio, 1993
Other supporting material will be prescribed when appropriate. It is expected that extensive use will be made of library resources.

BM223 International Marketing
2 hours per week • Hawthorn • Prerequisite: BM110 The Marketing Concept • Recommended prerequisite: BM220 Market Behaviour • Assessment: examination/assignment

A subject in the Bachelor of Business
This subject is a mandatory requirement for a major sequence in Marketing.

Note: This subject is equivalent to BM332 International Marketing. Students who have studied BM332 will not be permitted to study this subject.

Objectives:
- to introduce students to the global business environment and to the fundamentals of the international marketing task and
- to discuss the need for, and the mechanism and requirements of, international competitiveness.

Specific aims:
- to examine the Australian global competitiveness in the 1990s with the aim of helping the students to understand the reasons and consequences of globalisation for the Australian economy in general, and Australian companies in particular;
- to examine the international strategic diamond and the key success factors in international business;
- to present PEST (political, economic, socio-cultural and technological) framework, and to incorporate the analysis in the international marketing planning process;
- to examine the EPRG schema (ethnocentric, polycentric, regiocentric, geocentric) in the formulation of international marketing strategies.

Recommended reading

BM330 Product Management
2 hours per week • Hawthorn • Prerequisite: BM222 Marketing Planning and one other Stage 2 Marketing subject • Assessment: assignment and test

A subject in the Bachelor of Business
This subject is a mandatory optional requirement for a major sequence in Marketing, either BM330 or BM331 must be studied.

Objectives:
Students enrolling in the subject come prepared with an understanding of basic marketing concepts, from first year studies which have in turn been enriched at second year level with the subjects Market Behaviour and Marketing Planning. The objective of this subject is to enable students to apply their marketing knowledge to the specific area of product management. Specific objectives address the subject from the management approach, with a lesser emphasis on other approaches such as economic, technical or purely creative. These areas are not ignored but they are treated as contributory disciplines.

Content:
- to explore the meaning, importance and function of the product management role in business today;
- to examine the impact of product management practices on the development of goods and services based products.
- to examine the range of concept-generating techniques used for new product development;
- to examine the means of evaluating new product ideas;
- to examine the preparation of a product, a product launch plan and its importance as a marketing control tool for new products, product maintenance and product "re-launches";
- to understand the importance of - product positioning within the target marketing process - branding - packaging
and the importance of successful working relationships with advertising, marketing, research, promotion agencies, etc. in the product management process;
- to explore the international aspects of product management.

Specific aims:
- to understand the importance of successful working relationships within the organisation, particularly with sales, production, supply and research and development, in the product development process.

Recommended reading
BM331 Services Marketing and Management

2 hours per week • Hawthorn • Prerequisite: BM222 Marketing Planning and one other Stage 2 Marketing subject • Assessment: examination, assignments, class presentation

A subject in the Bachelor of Business

This subject is a mandatory/optional requirement for a major sequence in Marketing. Either BM330 or BM331 must be studied.

Objectives

The services business is the fastest growing sector nationally as well as globally. This subject explores the major differences between the marketing of services as distinct from product marketing, and aims at providing students with special skills required to develop and implement marketing strategies in service businesses.

Content

- distinctive aspects of service marketing;
- market research in services environment;
- service encounter management;
- understanding and developing design for existing and new services;
- communication and services;
- demand management;
- understanding the meaning of quality and its determinants;
- relationship marketing;
- managing service culture;
- implementing the service strategy;
- international services and its future;

Recommended reading


BM333 Communications Strategy

3 hours per week • Hawthorn • Prerequisite: BM220 Market Behaviour, BM222 Marketing Planning • Recommended prerequisite: BI228 Blending Research • Assessment: examination, assignment, class presentations

This subject is an elective subject for Bachelor of Business.

Objectives

This is not a course about how to create advertisements. Rather it draws together the various marketing units and looks at:

- the various strategies employed when communicating with customers;
- and provides students with the necessary skills to develop and evaluate effective communication strategies.

Content

Topics include:

- the communication process;
- planning the communication budget;
- inside an advertising agency;
- advertising media issues;
- public relations and publicity;
- sales promotion;
- direct marketing;
- international advertising;
- evaluating the effectiveness of the communication strategy.

Recommended reading


BM336 European Business Studies

3 hours per week • Hawthorn • Prerequisite: BM233 International Marketing and one other Stage 2 Marketing subject • Assessment: final text, assignments

A subject in the Bachelor of Business

Objectives

- to enable students to gain an appreciation of some of the European country markets and their business environments, and
- to apply this knowledge to develop Australian companies marketing strategies suited to these countries.

Specific aims:

- to look at what makes up national business environment and business infrastructure;
- to recognise distinctive characteristics of Australia’s business culture;
- to enhance student’s capacity to view and compare other countries’ diverse business cultures or business environments with our own;
- to explore some differences and similarities that exist between some of the European national cultures and our own;
- to exemplify and discuss some important particularities of customer situation and behaviour in those countries from an Australian perspective; and
- to apply knowledge of overseas markets in assessing business potential and recommending market entry modes and ways of marketing Australian products in these European countries.

Recommended reading


BM338 Asian Pacific Business Practice

2 hours per week • Hawthorn • Prerequisite: BM223 International Marketing and one other Stage 2 Marketing subject • Assessment: three assignments, class presentation

A subject in the Bachelor of Business

Objectives

To equip students with an understanding of the current economic development in the major Asian Pacific nations (ASEAN-6, NIEs-3, China, Australia, New Zealand, Canada, Japan and the United States) and the growing business opportunities and linkages in this region.

Specific aims:

- to give the students an understanding of the current states of economic development in the major Asian Pacific economies;
- to understand the uncontrollable factors (political-legal, economic, sociocultural, and technologically) affecting business in the major market groups in the Asian Pacific;
- to study the emergence of a fourth economic driving force, namely the overseas Chinese entrepreneurs, in the Asian Pacific and its implications for Australia;
- to study the emergence of a ‘Greater Chinese Economic Zone’ (China, Hong Kong and Taiwan), and its potential effects on the region;
- to study the dominance of Japan and its effects on the Asian Pacific economy;
- to learn about business practices (ethics, negotiation style, Confucianism, family business groups) prevailing in Asia-Pacific.

Recommended reading


Textbooks


Australia’s Alliance: Trade and International Investment. Canberra, Department of Foreign Affairs and Trade, 1992


Ding, D., The Chinese Entrepreneurs in East Asia, Sydney, Committee for Economic Development of Australia (CEDA), 1993

Department of Foreign Affairs and Trade, Australia’s Business Challenge: Southeast Asia in the 1990s. Canberra, Australian Government Publishing Service, 1992


BM341 Business Strategy

2 hours per week • Hawthorn • Prerequisite: As a capstone subject in the Marketing major or Management major, students must have completed the four Stage 2 and Stage 3 subjects required for each major respectively or enrolled to study Business Strategy in parallel with Stage 3 subjects, normally in the final semester of the course • Recommended Prerequisite: BI220 Electronic Marketing • Assessment: assignment and test

A subject in the Bachelor of Business.

This subject is a mandatory requirement for the major sequence in Marketing and the major sequence in Management.

Objectives

This subject will provide an appreciation of the various issues that are currently significant in the area of competitive advantage. It will provide an understanding of management problems involved in developing strategic policies for organisations in both public and private sectors in contemporary, competitive environments.
environments, both locally and globally; and to provide a practical understanding of how corporate objectives, using competitive advantages, are developed and how these are translated into strategic plans and implemented. To have students develop integrated decision-making processes and techniques which ensure effective transition from the present to the future. To demonstrate a holistic and systematic resource management understanding.

**Content**

**Strategic Planning Processes**
- External audit and company internal audit: indicators of performance - financial and non-financial;
- Developing a competitive advantage: through factors such as customer satisfaction management; quality management; strategic alliances; relationship building; information technology;
- Crafting strategy: portfolio analysis, generic strategies, grand strategies for both single-dominant product businesses and multi-business companies
- Business ethics, organisations culture and politics, leadership
- Implementation: structure, re-structure and control

**Recommended Reading**
Barney, J., Catalising and Sustaining Competitive Advantage, Addison-Wesley, 1997

Other supporting material will be prescribed where appropriate. It is expected that extensive use will be made of library resources.

**BM490 Marketing Management**

Students should seek advice from the appropriate Marketing staff when formulating their discipline-specific course of study and their research project proposal.
To encourage a multi-disciplinary approach, students may, subject to approval, undertake selected honour-level coursework subjects from other schools, divisions or institutions provided that they show the relevance of these coursework subjects to their proposed area of research. Such arrangements are subject to the student having any necessary prerequisite studies and may be subject to any quotas imposed on these subjects by the offering school. Students must submit their proposal to the Marketing Honours Convenor for approval prior to the commencement of their honours program. Approval for a student's discipline-specific course of study and research project proposal shall be subject to the availability of any necessary resources and the availability of appropriate staff supervision.

**Advanced Studies in Marketing**

Students will undertake a program of advanced study which will consist of supervised readings and seminar participation which is designed to broaden and add depth to the student's understanding of contemporary marketing issues relevant to Australia and its global competitiveness. The reading and seminar program will support the student in carrying out their marketing research project.

**Marketing Honours Research Project**

Students will be encouraged to undertake a substantial research project in marketing. Potential areas for research will reflect staff expertise within the department and could include market behaviour; marketing strategy and planning; communication; marketing research and business policy. Research projects will be supervised within a group seminar setting and students will be required to participate in class presentations as they progress in their research program. Students will be expected to submit their research project in the form of a written dissertation of approximately 15,000 words in length. Students intending to complete their degree with honours must apply for entry into the honours year by the end of their three year degree.

Note: entry into the honours year is competitive and the number of places is subject to a quota.

**BM590 Corporate Strategy**

Objectives
- To provide an understanding of management problems involved in developing strategic policies for organisations in both the public and private sectors in contemporary, competitive environments, both locally and globally; and to provide a practical understanding of how the strategic planning process works, how corporate objectives are developed and how these are translated into strategic plans and implemented.
- The nature and value of the strategic planning process.

**Textbook**

**Recommended Reading**
BM602 Strategic Management

12.5 credit points • Duration: 2 hours per week • Prerequisite: BM604 Management, Organisation and People • Instruction: lectures, seminars, case studies • Assessment: individual assignment (40%), group case studies (30%), exam (30%)

Objectives
- The subject provides students with an understanding of the management problems involved in developing strategic policies for organisations in both the public and private sectors.
- Specific aims:
  - to present various perspectives of strategic management processes;
  - to discuss how the strategic planning process works, how corporate objectives are developed and how they are translated into strategic plans;
  - to acquaint the students with an array of strategic management analysis and decision tools;
  - to discuss the meaning of effective communication in strategic management;
  - to discuss the meaning of the competence-based strategic management paradigm; and
  - to enhance students’ analytical skills through a series of strategic management experiential exercises, discussion of practical problems as presented in case studies, and through professional evaluation of the strategic planning process, and of the competitive position of businesses/industries, conducted in their assignments.

Recommended reading
Fred R. David, Strategic Management, 8th edn, Prentice Hall, 1995

BM606 Marketing Research Methods

2 hours per week • Hawthorn • Prerequisite: BM600 Research Methodology, BM601 Marketing Management 1 or equivalent subjects • Assessment: To be advised.

A subject in the Graduate Diploma in Market Modelling

Objectives and content
This subject introduces the theory and practice of research in a marketing environment. Students will be instructed in using appropriate research methods and techniques to provide information for marketing decision-making. The importance of research to strategic and tactical problems will be emphasised. Topics to be covered are: the importance of research to strategic and tactical problems; the research brief and proposal; defining the marketing research problem; specifying research objectives; determining the research design; information sources; qualitative research; quantitative data collection methods; measurement and scaling procedures; sample designs; field work and data collection; data analysis; report preparation and result presentation.

Recommended reading
Details will be provided at the first lecture.

BM690 Communication Strategy

12.5 Credit Points • one semester, 2 hours per week • Hawthorn • Prerequisite subjects: completion of MBA core subjects or equivalent • Assessment: major group assignment, and seminar presentation

A subject in the Master of Business Administration

Objectives
On completion of this subject, students should be able to use a conceptual framework for the planning, integration and control of the communication process; demonstrate the strategic use of techniques of sales promotion, PR and direct marketing using a variety of mediums including the internet and identify the need for evaluating the effectiveness of the marketing communication plan.

Content
In keeping with the practical nature of this subject, there will be ample opportunity to develop the skills of the various methods of marketing communication within workshops in computer labs where appropriate. Communicating with the customer: the relationship between consumer behaviour, positioning, brands and marketing communication.

How does advertising work? Communication models.

The institution of advertising: setting communication objectives, budgeting, allocating funds to different forms of promotion, briefing an advertising or promotions agency: the brief; the agencies response: the creative proposal.

Sales Promotion: the role of sales promotion

Public relations: publicity, crisis management and issue marketing

Evaluating the effectiveness of the marketing communication plan.

Legal and ethical perspectives of communicating with your customer

Textbooks
Given the breadth of topics covered and any particular interest of the students, no text has been prescribed. However students are expected to become familiar with references listed below and any other readings as advised.

Recommended reading

BM691 Marketing Analysis

12.5 Credit Points • one semester, 2 hours per week • Hawthorn • Prerequisite: completion of MBA core subjects or equivalent • Assessment: major group assignment, and seminar presentation

A subject in the Master of Business Administration

Objectives
To provide students with an understanding of the issues related to the decision making processes involved in Marketing. Students will be introduced to the principals and practices of marketing research and will learn how to interpret information such as demographics, scenarios, demand forecasts and sensitivity analysis to assist them to make marketing decisions. Students will also learn how to evaluate the tools that are required by marketing professionals to make informed decisions.

Content
Introduction to Marketing Research

Defining the marketing research problem, types of research, questionnaire design, buying and evaluating marketing research.

Market segmentation

The principals involved in segmenting a market, information needs when segmenting a market.

Demographics

Sources of demographic information, the use of demographics in assisting marketing professionals to assess the viability of a new product or retail outlet, assessing Australia's demographics and the populations of our major trading partners to assist business decision making and strategic planning.

Business Forecasting

Introduction to business forecasting, assessing product and services demand forecasts, interpreting time series data and assessing its use in marketing decisions.

Scenario Analysis

Using optimisation to enhance the decision making process.

Risk Analysis

Using uncertainty, risk and simulations to monitor marketing decisions.

Recommended reading

Swinburne University of Technology | 1998 Handbook

BM692 Market Planning, Implementation and the Law

12.5 Credit Points • one semester, 2 hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: A subject in the Master of Business Administration

Objectives
To introduce students to the role of marketing in the business and organisational community, with particular reference to the planning function and the external environment, in particular the legal system.

Content
Particular issues to be considered will include:
- the relationship between the strategic, marketing and product planning functions;
- marketing planning methodology and the mechanisms of preparing a marketing plan;
- product planning and development methodology and the mechanisms of product launch;
- trade practices or fair trading laws: their impact on the marketing communications, packaging and labelling functions;
- restrictive trade practices law: its impact on the pricing and distribution arenas;
- intellectual property law: protection of brand names for goods and services, inventions and designs;
- managing external relationships: legal, advertising and market research.

Recommended reading

BM693 Strategy for Competitive Advantage

12.5 Credit Points • one semester, 2 hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: Individual assignment/seminar paper, Group assignment, final test

A subject in the Master of Business Administration

Objectives
To provide an appreciation of the various issues that are currently significant in the area of competitive advantage. It will help students to develop the ability to be constantly monitoring those aspects of running a business that affect its competitive position in its markets.

Content
Having considered the basic framework of competitive advantage theory through various perspectives as an introductory section, students then move to a study of particular issues of relevance to today's manager. Recognising that the factors which confer a competitive advantage may vary rapidly in today's highly competitive business world, the issues discussed, and their relative importance, will change as the business environment changes. Particular issues to be considered will include:
- indicators of performance - financial and non-financial;
- competitive advantage through quality management;
- competitive advantage through relationship building;
- competitive advantage through strategic alliances;
- competitive advantage through information technology;
- as well as various issues of current topical relevance.

Recommended reading
Barney, J., Gaining and Sustaining Competitive Advantage, Addison-Wesley, 1997.

BQ110E Quantitative Analysis A (Enabling)
BQ110 Quantitative Analysis A
BQ111 Quantitative Analysis B

3 hours per week • Hawthorn • Prerequisites: students without appropriate Year 12 mathematics, or its equivalent, must take BQ110E Quantitative Analysis A (Enabling) consisting of three hours per week for one semester followed by BQ110 Quantitative Analysis A consisting of three hours per week for one semester. Students with Year 12 Maths Methods C grade or higher, or its equivalent, may be eligible to take the subject BQ111 Quantitative Analysis B consisting of three hours per week for one semester • Instruction: lecture/tutorial • Assessment: BQ110E, examinations; BQ110, examination, assignment; BQ111, examinations, assignment

A subject in the Bachelor of Business
The content of BQ111 is the same as the combined content of BQ110E and BQ110, but the time allocation differs.

Objectives
Ensure that all students attain a higher level of numeracy and are able to develop a method of approach which can be applied in subsequent areas of their course.
Provide students with a knowledge of particular mathematical and statistical techniques that will foster a greater understanding of the quantitative procedures required in various disciplines within the Bachelor of Business.

Content
The subject has distinct business modelling emphasis and is applied in nature with interpretation and presentation forming an integral part of the subject.
Topics covered will normally include the following:
- presentation of statistical data;
- measures of central tendency and dispersion;
- introduction to probability and probability distributions;
- sampling and sampling distributions;
- estimation and confidence intervals;
- hypothesis testing;
- index numbers;
- correlation and linear regression;
- time series analysis including introduction to the mathematics of finance.

Recommended reading
Comprehensive student notes and references will be made available.

BQ220 Business Forecasting

3 hours per week • Hawthorn • Prerequisites: BQ111 Quantitative Analysis B or (BQ110E + BQ110 Quantitative Analysis A) and BT110 Information Technology • Assessment: Individual assignments

A subject in the Bachelor of Business

Objectives
- Give a practical introduction to current business forecasting techniques;
- Introduce students to the statistical tools available on integrated packages such as MS Excel;
- To demonstrate the use of forecasting in a business environment via case studies.

Content
Techniques covered will include time series analysis, moving averages, exponential smoothing and regression analysis.

Recommended reading

BQ221 Marketing Data Management

3 hours per week • Hawthorn • Prerequisites: BQ111 Quantitative Analysis B or (BQ110E + BQ110) Quantitative Analysis A • Assessment: Syllabus assignment, examination

A subject in the Bachelor of Business
Note: Students should not undertake this subject if they have completed BQ/BE225, BQ227 or BQ332.
Objectives and content
This subject forms an important part of the market analyst’s toolkit. The subject has been designed to equip students with the techniques and skills required to access and analyse information relevant to the market research activities of both private and public companies. The approach taken in this subject is a practical one and therefore considerable use will be made of PC-based business modelling software packages.

This subject will:
- introduce students to a number of data archives, public access databases and videotext-type information sources;
- develop the necessary skills to access information sources using data management and statistical software on microcomputer and in a mainstream computer environment;
- extend students’ knowledge of the statistical methods that are necessary for the analysis of primary and secondary data.

Recommended reading

BQ223 Business Demography
3 hours per week • Hawthorn • Prerequisite: BQ111 Quantitative Analysis B or (BQ111E + BQ110) Quantitative Analysis A • Assessment: examination/assignment
A subject in the Bachelor of Business
Students intending to complete a major or minor in marketing are strongly recommended to include this subject as part of their studies.

Objectives
- Provide an introduction to the major demographic processes which impact on the changes to human populations;
- explore the market implications of population characteristics both in Australia and internationally for products and services;
- provide an environment in which students learn to use specialised demographic software.

Content
The subject will normally cover the following areas: sources of demographic data, measurement and business implication of the demographic processes of mortality, fertility and migration, population estimates and projections, cohort analysis and spatial analysis.

Recommended reading

BQ225 Economic Techniques for Business
3 hours per week • Hawthorn • Prerequisite: BE110 Microeconomics & BQ110E and BQ111 or BQ111 Quantitative Analysis A or B
Note: Students should not undertake this subject if they have completed BE225, BQ221, BQ227 or BQ332
The aim of this unit is to equip students with the techniques and skills generally used in Economics and market research in business. The course will cover a wide variety of techniques with an emphasis on analysis and interpretation of information rather than underlying mathematical theory.

Recommended reading

BQ227 Marketing Research 2
3 hours per week • Hawthorn • Prerequisite: BQ111 (or BQ110E + BQ110) and BQ226 Marketing Research 1 • Assessment: syllabus assignment, examination
A subject in the Bachelor of Business (only for students who have completed BQ226)
Students who have completed SM278 are precluded from this subject.

Objectives and content
This subject builds on the preliminary work undertaken in the subject Marketing Research 1. It takes the research task from the initial data analysis and verification stage through to the report phase.

This subject will:
- focus on the implementation of the survey instrument developed in BQ226 so as to demonstrate the marketing research process;
- require students to carry out marketing research fieldwork, including developing a sampling plan, pilot testing and interview scheduling;
- focus on editing data entry and validation of the marketing research data collection;
- require students to develop a data analysis plan for reporting the results of the study;
- develop the necessary skills to use an appropriate statistical software package in order to analyse survey and experimental data;
- enable students to present the findings of the research topic both orally and in written form.

Recommended reading
Note: This subject is equivalent to BQ221 Marketing Data Management. Students who have studied BQ221 or BQ226 will not be permitted to study this subject.

BQ228 Management Decision Techniques
2 hours per week • Hawthorn • Prerequisite: BQ111 Quantitative Analysis B or (BQ110E + BQ110) Quantitative Analysis A and BQ110 Information Technology • Assessment: examination and assignment
A subject in the Bachelor of Business
Students intending to complete a major or minor in accounting are strongly recommended to include this subject as part of their studies.

Objectives
- Provide students with an awareness of a range of business modelling techniques and their application to a variety of accounting and general business problems;
- enable students to use an understanding of the inter-relationships between business modelling techniques and the traditional accounting function in an organisation;
- form the basis for a more extensive study of the application of these techniques in subsequent subjects.

Content
The emphasis of this subject is on the practical solution of specific business problems and, in particular, on the recognition, formulation and interpretation stages of a business modelling solution. In this subject considerable use will be made of MS Excel.

Areas of study will normally include:
- the use of business modelling techniques to manage inventory, encompassing traditional and modern methods;
- the general problem of resource allocation with an emphasis on linear programming, including an introduction to post-optimality analysis;
- the evaluation of risk in the business environment through computer based software.

Textbook
Tapsign, C.R.T., Spreadsheet Modeling and Decision Analysis, Course Technology, 1995

Recommended reading
Render, B. and Stair, R.M. Quantitative Analysis for Management. 5th edn, Boston, London, Allyn and Bacon, 1994
Anderson, M.O. and Linkena, R.J. Quantitative Management: An Introduction. 2nd edn, Boston, MA., Kent, 1988

BQ229 Marketing Research
3 hours per week • Hawthorn • Prerequisite: EM110 and BQ110E and BQ110 or BQ111 • Corequisites: BM220 and BM222 • Assessment: Assignment and Examination
A subject in the Bachelor of Business
Note: This subject should not be taken if students have completed BQ226 Marketing Research 1 and BQ227 Marketing Research 2.
Note: This subject is equivalent to BQ221 Marketing Data Management & BQ/BQ225 Economic Techniques for Business.

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Subject Details

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The course consists of 5 parts:
- understanding the nature of the marketing problem in Market Research terms
- developing the most appropriate research design
- implementation of the research design
- basic analysis of the results
- communication of the results

Students will be required to learn how to use SPSS for Windows to analyze market research data.

Recommended reading

BQ230 Electronic Marketing
2 hours per week • Hawthorn • Prerequisite: Nil • Assessment: Examination and Case Study
A subject in the Bachelor of Business
Note: It is highly recommended that students undertake this subject prior to commencing BQ241 Business Strategy.

Objectives
The purpose of this subject is to help students develop an understanding of the importance of electronic marketing in current business and commercial activities. Students will develop an appreciation of the need for a more dynamic and interactive marketing database which has the capacity to record details of the interactions with customers.

Content
The course consists of:
- Database Marketing Applications
- Designing a Presence Using Database Marketing
- Multimedia Marketing Databases
- Advertising and Promotional Strategies
- Internet Commerce
- Profiling Customers
- Issues and Future Directions

Recommended reading

BQ330 Market Modelling
3 hours per week • Hawthorn • Prerequisite: BQ111 Quantitative Analysis B or (BQ110E + BQ110 Quantitative Analysis A) and BT110 Information Technology • Assessment: Individual and syndicate assignments
A subject in the Bachelor of Business

Objectives
- Introduce students to the usefulness of business modelling;
- Provide tools and a framework for decision making;
- Introduce MS Excel spreadsheet based modelling;
- Demonstrate market modelling through extensive use of case studies;
- Create models that are useful in the decision making process.

Content
The material covered will include formulation of decision support models, defining variables, documenting model, implementation and maintenance of models, sensitivity analysis, simulation, and decision making under risk. These will be achieved using MS Excel.

Recommended reading

BQ332 Advanced Marketing Research
2 hours per week • Hawthorn • Prerequisites: BQ223 Marketing Research • Assessment: Examination and Case Study
A subject in the Bachelor of Business
Students should not do this subject if they have completed BQ221, BQ225, BQ223 or BQ227.
Note: It is highly recommended that students undertake this subject as part of the Marketing minor

Objectives
The focus of this subject is the application of marketing research. The main objective being to teach students to appreciate and understand the applications of marketing research rather than concentrating on the executional details and analysis of marketing research.

Content
The course consists of three broad areas:
- Marketing a new brand (including Product testing; Segmentation and positioning);
- Marketing an existing brand including Advertising research; Sales promotion;
- Market Monitoring (including Monitoring consumers and competitors).

Recommended reading

BQ335 Quality Mechanisms and Measures
2 hours per week • Hawthorn • Prerequisites: BQ111 Quantitative Analysis B or (BQ110E + BQ110 Quantitative Analysis A) • Assessment: syndicate assignment and examination

Objectives
- To look at quality from a cross functional perspective;
- To equip students with a mixture of tools and practices useful for creating and maintaining quality in the workplace;
- To critically evaluate existing quality practices within an organisation and recommend improvements.

Content
Quality management is composed of two related systems - the management system and the technical system. The management system is concerned with planning to meet customers needs, organising resources, managing continuous improvement and facilitating employee involvement. The quantitative issues relating to quality form the basis of the technical system. This subject will focus on both qualitative and quantitative issues relating to quality control and improvement.

Recommended reading

BQ400 Business Modelling Honours
Students should seek advice from the appropriate Business Modelling staff when formulating their discipline-specific course of study and their research project proposal.
To encourage a multi-disciplinary approach, students may, subject to approval, undertake selected honours level coursework subjects from other schools, divisions, or institutions provided that they show the relevance of these coursework subjects to their proposed area of research. Such arrangements are subject to the student having any necessary prerequisite studies and may be subject to the availability of any necessary resources and the availability of appropriate staff supervision.

Advanced Business Modelling Techniques
Students will be required to investigate advanced theoretical business modelling techniques which support their research project proposal. In particular, students will be expected to demonstrate their understanding of these techniques by applying them to one or more business modelling case studies and presenting their findings via participation in a seminar program. Students may also be required to analyse specific business case studies, consult Recommended reading, periodicals and conference proceedings and investigate the use of computer software packages as part of this subject.

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Business Modelling Honours Research Project

Students will be required to undertake a substantial research project utilising business modelling techniques within their chosen area of speciality. The research project may involve the collection and analysis of data, an extension of the student's theoretical knowledge, the use of existing computer software packages or the production of computer software via programming. Students will be expected to report their research activity in the form of a written dissertation of approximately 15,000 words in length and will be required to progressively present their findings as part of a research seminar program.

Students intending to complete their degree with honours must apply for entry into the honours year by the end of their third year degree.

Note that entry into the honours year is competitive and the number of places is subject to a quota.

BQ405 Research Methodology

3 hours per week • Hawthorn • Prerequisite: nil • Assessment: seminar participation, assignments

A subject in the Bachelor of Business Honours

Objectives and content

- Research Methodology aims to equip students with the necessary research skills to conduct research studies for higher degrees. It is designed to facilitate the development of independent learning skills. Students will be presented with research methodologies appropriate to their discipline as well as those most commonly used in other disciplines. Throughout this subject students will make extensive use of library resources.

Research Methodology topics normally covered include:

- Posing research questions
- Selection and definition of problems
- Formulation of Hypotheses
- Measurement of Concepts
- Library research methods
- Qualitative research methods
- Survey research methods
- Experimental research methods
- Analysis and Interpretation of Research Results
- Presenting a project outline and report writing techniques
- Report Writing Techniques

Recommended reading

BQ500 Research Methodology

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: examination/assignment

A subject in the Graduate Diploma in Market Modelling

Objectives

- Equipping students with the necessary research skills to conduct studies for higher degrees.
- Facilitating the development of independent learning.
- Enhancing students' knowledge and use of computer software.

Content

The subject contains the following major themes: Posing research questions and the measurement of concepts; an introduction to the type of research; the preparation of a research plan; data analysis and interpretation; the preparation of a research report.

Recommended reading

BQ507 Market Modelling I

2 hours per week • Hawthorn • Prerequisites: nil • Assessment: individual assignments

A subject in the Graduate Diploma in Market Modelling

Objectives

- Introducing students to business modelling.
- Providing a framework for decision making.
- Introducing students to modelling with integrated packages such as MS Excel.
- Demonstrating market modelling through extensive use of case studies.

Content

The material covered will include decision models, formulation, defining variables, sensitivity analysis, documenting models, using spreadsheets as decision support tools, implementation and maintenance.

Recommended reading
Daelenbach, Hans G., George, John A. and McNickle, Donald C., Introduction to Operation Research Techniques, 2nd edn, Chichester, Alyn and Bacon, 1983

BQ509 Business Modelling

3 hours per week • Hawthorn • Prerequisites: nil • Assessment: syndicate assignments

A subject in the Graduate Diploma course in Business Administration

Objectives

- Giving students an understanding of the role of quantitative analysis in the decision-making process. The skills acquired are used in other subjects of the course as well as giving an appreciation of quantitative techniques via practical applications.

Content

Students are required to select four modules out of six possible modules to complete this subject. The modules included are demography, linear programming, forecasting, inventory management, quality control and survey analysis. User-friendly computer packages are employed throughout the subject wherever possible, reflecting their importance and usefulness.

Recommended reading
Render, B. and Stair, R.M., Quantitative Analysis for Management, 5th edn, Boston, Allyn & Bacon, 1994

BQ606 Business Demography

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: examination/assignment

A subject in the Graduate Diploma in Market Modelling

Objectives

- Introducing students to business forecasting techniques.
- Build Marketing Decision Models using MS Excel.

Content

Forecasting techniques covered will include time series analysis, moving averages, exponential smoothing, regression and judgmental analysis. Marketing models used will analyse factors such as demand, price and advertising.

Recommended reading

BQ607 Market Modelling II

2 hours per week • Hawthorn • Prerequisites: nil • Assessment: individual assignments

A subject in the Graduate Diploma in Market Modelling

Objectives

- Introducing students to business forecasting techniques.
- Build Marketing Decision Models using MS Excel.

Content

Forecasting techniques covered will include time series analysis, moving averages, exponential smoothing, regression and judgmental analysis. Marketing models used will analyse factors such as demand, price and advertising.
Recommended reading

BQ703 Technological Forecasting
2 hours per week • Hawthorn • Prerequisites: Completion of the Graduate Diploma in Management Systems or equivalent assessment • Assessment: Individual assignments

A subject in the Master of Business (Information Technology)

Objective
Introduce students to qualitative business forecasting techniques, in particular, the methods used in conducting a technological forecast in an information technology environment.

Content
The course will provide an introduction to the necessary concepts for technological forecasting including the necessary traditional quantitative and qualitative forecasting approaches.

Recommended reading

BS141 Introductory Law
5 credit points • 2 hours per week • Hawthorn

This is a first year subject of the Bachelor of Applied Science (Environmental Health)

Content
Sources of law, problems with the law, the tiers of Australian Government Commonwealth, State, Local Government. The Parliamentary Process. Constitutional constraints affecting environmental and public health legislation.

Delegated legislation:
• relevance to environmental health officers;
• advantages and disadvantages;
• reviewing through Parliament and the courts.
The Australian court system, court personnel and tribunals with specialized jurisdictions.
The civil and criminal trial process.

Judges as a source of law — precedent and legal reasoning. Case studies of particular relevance will be examined (hyperlink: consumer protection; nuisance (environmental controls) and strict liability (hazardous materials)).

Judges as a source of law — the main judicial approaches to statutory interpretation (plain meaning or policy), the context of words in a statute, the purpose of the particular. Relevant meanings limited to class or association, gaps in a statute, inconsistent provisions, conflict with property rights, penal provisions.

BS2530 Food and Environment Laws
10 credit points • 4 hours per week • Hawthorn

This is a second year subject of the Bachelor of Applied Science (Environmental Health)

Content
• Legislation relevant to the environmental health officer in local government, the Health Act, enabling legal provisonal, e.g. nuisance, infectious disease, building, accommodation, incidental controls;
• the Food Act — controls on food premises, preparation and sale of food, etc. Warranties, third party procedure, defence of reasonable precautions;
• incidental powers and controls by virtue of the Local Government Act will also be considered;
• legislation relevant to the environmental health officer in state government authorities;
• Environment Protection Authority. Consideration of the Environment Protection Act, state environment protection policies and regulations thereunder;
• relevant judgements on the application/interpretation of the legislation will be studied.

BS2540 Legal Procedure and Evidence
10 credit points • 4 hours per week • Hawthorn

This is a second year subject of the Bachelor of Applied Science (Environmental Health)

Content
The legal process of prosecution — choosing the appropriate court, who may prosecute, the rule against ambiguous allegations; what must be specified in the information and summons; rules with respect to service and proof of same. Time limits. Adjournment.
The civil and criminal trial process. Differences in trial procedures for summary and indictable offences. Pleas, examination of witnesses, powers of the court.
The rules of evidence statutory and judicial developments, the burden and standards of proof, hearsay, documents, admissions, improper obtained evidence, competent and compellable witnesses, expert witnesses, judicial notice and other relevant evidentiary issues will be considered.

In the context of mock trials, which will commence from the initial interview of a complainant, particular problems relating to both procedure and evidence, sampling and entry powers will be considered.

Particular problems caused by the concept of legal personality when prosecuting the corporate defendant and whether criminal sanctions are appropriate will be examined.

BS428 Administration and Management
5 credit points • 2 hours per week • Hawthorn

This is a fourth year subject of the Bachelor of Applied Science (Environmental Health)

Content
An introduction to management theory and practice, with special reference to management agencies, which will build on the industry-based learning experiences of Environmental Health students.
The course will study recent changes in local government namely amalgamation, compulsory competitive tendering, enterprise bargaining, financial and resources management, and administrative procedures. The role of the environmental health officer will be examined in the light of these organisational changes.

BS447 Administrative Law
7.5 credit points • 2 hours per week • Hawthorn

This is a fourth year subject of the Bachelor of Applied Science (Environmental Health)

Content
To consider efficient internal administrative procedures to ensure against liability for negligent advice.

Regulatory controls — Statutory duties and liability for breach, effective administration procedures and alternatives in regulatory techniques.
The role of the Ombudsman and Committees of Enquiry.
The Administrative Law Act and review by courts and tribunals of the administrative process, the application of the rules of natural justice, notice and fair hearing, the duty to give reason, impartiality and bias.

BS513 Business Studies Accounting
7.5 credit points • 2 hours per week • Hawthorn

A subject in the Bachelor of Applied Science (Maths and Computer Science)

Content
The purpose of this course is to provide students with a workable knowledge of the accounting principles and concepts, with an understanding of how accounting information is reported and used in decision-making.

On completion of this subject, students should be able to:
• Outline the major internal and external users of accounting information;
• Explain how accounting information may be used to assist in making business decisions;
• Be able to prepare accounting reports - balance sheet, and profit and loss statements;

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• Prepare a bank reconciliation statement and understand its role in cash
control;
• Prepare a cash budget and cash flow statement;
• Select and use financial ratios to analyse the profitability and financial
stability of a business entity.

Recommended reading

BS619 Business and Management
10 credit points • 4 hours per week • Hawthorn
This is a fourth year subject of the Bachelor of Applied Science (Applied Chemistry and Biochemistry)

Content
• Business administration, business communications and industrial relations.
• Industrial motivation and job satisfaction. Leadership in organisations;
• the business environment — the effects of social, legal, economic,
political and technological factors, industrial innovation;
• financial decision making — cost factors, sales forecasts, profitability,
potential return on investment and associated risks, capital investment
planning, budgeting;
• the function of research and development in the chemical and biochemical
industries;
• safety and legal liability (towards oneself and others) in the chemical and
biochemical industries.

BS626 Behaviour in Organisations
5 credit points • 3 hours per week • Hawthorn
• Assessment: tests and assignments

Content
The objectives of the subject are to enable students to:
• understand the nature and importance of human resources as an
organisational asset;
• obtain a better understanding of themselves, their impact on people and
the way other people;
• influence their own behaviour;
• explore the implications of both work groups and informal groups in
organisations;
• consider the impact of alternative organisation designs on organisational
effectiveness; and
• understand the role of managers and the impact of alternative managerial
style on organisational effectiveness.

BS721 Business and Management
20 credit points • 4 hours per week • Hawthorn
See BS619 for details.

BT110 Information Technology
12.5 credit points • 4 hours per week • Hawthorn • Prerequisites: nil •
Instruction: lectures/tutorials/laboratory • Assessment: examination 70% assignments 30%
This is a core subject in the Bachelor of Business

Objectives
• To give students a broad understanding of information technology in the
business environment;
• To endow students with computer skills which will be of immediate benefit
in other units, and of later use in their careers.
• To provide a firm basis for later computing units.

Content
Management needs and information technology solutions, information systems,
fundamentals of computing, hardware and software, data communications,
artificial intelligence, security, word processing, spreadsheets, databases and
Internet (theory and practice).

Textbooks
Dryden 1996

References
Other current introductory books on information technology.
Swinburne produced guides on software.

BT111 Introduction to Information Technology
12.5 credit points • 4 hours per week • Hawthorn • Prerequisites: nil •
Instruction: lectures/tutorials/laboratory • Assessment: examination 70% assignments 30%
A subject in the Bachelor of Information Systems.

Objectives
• To give students a broad understanding of information technology in the
business environment.
• To endow students with computer skills which will be of immediate benefit
in other units, and of later use in their careers.
• To provide a firm basis for later computing units.

Content
Management needs and information technology solutions, information systems,
fundamentals of computing, hardware and software, data communications,
artificial intelligence, security, word processing, spreadsheets, database and
Internet (theory and practice).

Textbook
Dryden 1996

References
Other current introductory books on information technology.
Swinburne produced guides on software.

BT112 Business Programming 1
12.5 credit points • 3 hours per week • Hawthorn • Prerequisites: nil •
Instruction: lectures/tutorials/laboratory • Assessment: examination 80% assignments 20%
A subject in the Bachelor of Business.

Objectives
• To introduce students to the programming concepts most widely used in
business and organisational computing.
• To allow students to gain experience in reading and writing small
applications as well as using the various language and programming
environment references used in building these applications.

Content
An overview of the modern business computing environment along with the
basic building blocks used in a wide variety of modern languages. The subject
provides a thorough introduction to the following: sequence, selection, iteration,
objects, methods and events, procedures and functions, array processing, good
programming design and debugging.

Textbook
Sala, P. Introduction to Programming using Visual Basic Version 4, Swinburne Press,
1997

References
Gerbeng, J.L. Visual Basic Programming - A laboratory Approach, Computer Science
Press, 1996
McKalvy, M. Visual Basic 4 - Fast and Easy Way to Learn, CUE, 1995

BT220 Data Analysis and Design
Duration: 3.5 hours per week • Prerequisite - BT110 or BT111 • Instruction:
lecture/laboratory • Assessment: examination (80%) and assignment (20%)
A subject in the Bachelor of Business.

Objectives
To extend basic information technology user skills to the development of a
simple automated data base update and retrieval system to solve a well-
bounded business problem.

Content
Appropriate automated tools will be used to assist in the design and generation
of a simple inquiry and update system. The emphasis is on gaining an
understanding of the problem in its business context, and the need for adequate
documentation of the system and management of this data to ensure that the
information produced by the data base system is relevant and accurate.
Students will use conceptual data analysis methods to produce a logical data
model.

Textbooks
BT228 Business Programming 2A

12.5 credit points • Duration: 3.5 hours per week • Prerequisites: BT112 • Instruction: lecture/tutorial/laboratory • Assessment: examination (60%), assignments (20%) and test (20%)

A subject in the Bachelor of Business.

Objectives
To give students a sound understanding of the principles and practice of procedural programming.
To produce students worthy of immediate hire as trainee programmers in a commercial environment.

Content
- programming process, from problem definition through to program testing;
- principles of structured programming;
- importance and philosophy of testing, and designing a testing strategy for a given program specification;
- designing a logical structured solution to a problem using structure charts and pseudocodes;
- reading, understanding, modifying and debugging COBOL programs;
- how to design, write, test and document attractive, well-structured programs in COBOL involving - sequential files, indexed files, reports, control breaks, data validation, character string manipulation, tables, arithmetic.

Textbooks
- Cobol course notes.

References

BT229 Business Programming 2B

12.5 credit points • 3.5 hours per week • Prerequisites: BT112 • Instruction: lecture/tutorial/laboratory • Assessment: examination (50%), assignments (30%) and test (20%)

A subject in the Bachelor of Business.

Objectives
- To build upon the programming skills and concepts learned in Business Programming 1.
- To give students an understanding of sound software engineering principles through programming in a block structured language (currently C). The emphasis is on developing and maintaining information systems applications using modular techniques.

Content
Topics covered include the following:
- program structure
- data structure
- algorithm design
- data validation
- arrays and tables
- sequential files
- reporting
- indexed files
- strings
- testing

Textbooks

References

BT331 System Architecture 1

12.5 credit points • 3.5 hours per week • Prerequisites: BT229 and BT112 • Instruction: lecture/tutorial • Assessment: examination (70%) assignments (30%)

A subject in the Bachelor of Business.

Objectives
Given a problem relating to a computer system, the student will be able to...
communicate with an expert to effect a solution.

Content
- concepts of basic computer hardware and their functions during operation
- an understanding of software architecture of a computer, the capabilities of the operating system and its dependence on hardware
- basic concepts and components involved in data communications
- the goals and structure of the ISO reference model for computer network protocols
- the data communication services and facilities provided by the common carriers
- benefits of data communications for an organisation and the management of this function.

Textbook

References
Halsey, F. Data Communication - Computer Networks and OSI, Addison-Wesley Publishing Company, 2nd ed., 1993
Fawcett, E. and Schedel, A. Contemporary Data Communications - A Practical Approach, Maxwell Macmillan, 1994

BT332 System Architecture 2
12.5 credit points • 4 hours per week • Prerequisites: BT112 and BT331 • Instruction: lecture/tutorial/laboratory • Assessment: examination (70%) and assignment (30%)
A subject in the Bachelor of Business.

Objective
To provide sufficient knowledge and skill that, given a problem relating to a computer system, a student can correctly interpret and communicate the problem and suggest a possible solution.

Content
Information technology is changing from being centralised and disconnected to being distributed and networked. Mainframe computers are being replaced by networked PCs and once isolated computers are being connected in global networks. Software too is evolving towards distributed applications and client/server relationships. In this new distributed computing environment, no longer is it possible to say exactly where a specific task is performed or data is stored, as CPUs, communication lines and storage media at many sites may be involved.

A task will be achieved by cooperation among several software processes communicating on the same computer or between computers on opposite sides of the world, essentially the same principles are involved.

This subject looks at the underlying architecture of computer systems and provides concepts to help the student appreciate how software processes share services and communicate in such networked, multiuser computer systems. It also shows the student how to solve certain problems in such environments by using and reusing available resources. To illustrate architectural concepts and practice user problem solving, various systems, such as UNIX, Internet, DOS/Windows/NE, Novell may be studied.

Textbook
To be advised

References
Glass, G. UNIX for Users and Programmers, Prentice-Hall 1983
King, A. Inside Windows 95, Microsoft Press, 1994, Chaps 2-4
Krol, E. The Whole Internet, O'Reilly & Associates, 1992
Comer, D. The Internet Book, Prentice Hall, 1995
Tait T.C. A Network of Objects, Van Nostrand Reinhold, 1996

BT333 Information Systems 2
12.5 credit points • 3 hours per week • Hawthorn • Prerequisites: BT112, BT220 and BT223 • Instruction: lectures/tutorial • Assessment: examination and assignments.
A subject in the Bachelor of Business.

Objectives
Information systems which meet the business needs of organisations must be based on a thorough understanding of the information needs and the business processes. Traditional methods of analysis, design and implementation are inadequate to handle the large and complex systems of the future. Instead, object-oriented methods may be more likely to succeed. However, object-oriented methods require a different way of thinking about business and modelling the requirements.

This subject examines object-oriented techniques in detail and demonstrates how to analyze and transform the business requirements into an object-oriented specification for system design. By the end of this subject, students should be able to apply these approaches to analyze a given business situation correctly to produce an object-oriented specification.

Content
- Concepts and Terminology of the Object-Oriented Paradigm
- Object-Oriented Models: Class Diagram, State Transition Diagram, Use Case
- Object-Oriented Methods: Domain Analysis, Application Analysis

Textbooks
To be advised
major project component in which CASE software will be used.

Textbook

References
Barker, R. Case and Method Tasks and Deliverables, Wokingham, Addison-Wesley, 1990
Barker, R. Case and Method Entity Relationship Modelling, Wokingham, Addison-Wesley, 1993
Barker, R. Case and Method Function and Process Modelling, Wokingham, Addison-Wesley, 1992

**BT338 Information Systems Project**

12.5 credit points • 4 hours per week or equivalent • Prerequisites: BT331, BT328, BT228 or BT228 • Instruction: Seminars, supervised reading, and individual consultation as required • Assessment: written report and presentation 100%

A subject in the Bachelor of Information Systems

Objectives
This subject provides students with the opportunity to work in a formal project environment in the areas of analysis, design, development and implementation of an information system, using a variety of software engineering and development tools. They will deepen and broaden their understanding of practical computing, and reinforce the theory learned in other subjects.

Content
Students will employ the skills learned in other subjects, such as
- systems analysis strategies
- software engineering techniques
- project control
- standards development
- database implementation
- programming
- unit and system testing
- software package implementation design
- risk analysis

References

**BT339 Database Management Systems 1**

12.5 credit points • 4 hours per week over 1 semester • Prerequisites: BT112 and BT222; BT223 is desirable • Instruction: lectures/tutorials/laboratory • Assessment: examination (60%) and assignment (40%)

A subject in the Bachelor of Business and Bachelor of Information Systems

Objectives
The major objective of this unit is to equip students with a practical and theoretical knowledge of database management systems so that they can work productively on projects involving database applications. The emphasis is on relational database management systems. Students will be given the opportunity of working with a major commercial relational database management system.

Content
DBMS terminology and concepts, including database objects, data dictionaries, data integrity, data independence, transaction management, concurrency control, recovery, triggers, stored procedures, cursors.

Designing on-line database transactions using a forms tool.

Performance issues.

Textbook

References
Date, C.J. An Introduction to Database Systems, Addison-Wesley, 6th ed. 1995
Keefe, M. Using the Oracle Tutorial, Addison-Wesley, 1993

**BT340 Business Computing Applications**

12.5 credit points • 3.5 hours per week over 1 semester • Prerequisites: BT221 • Instruction: lectures/tutorials/laboratory • Assessment: a major group assignment (40%) and one final exam (60%)

A subject in the Bachelor of Business and Bachelor of Information Systems

Objectives
The unit covers the relationships and distinctions between the different types of application systems within the business environment, with major emphasis on computer-based information systems. The unit explores in detail typical business systems and involves spreadsheet, DBMS and EIS and MIS software.

Content
- particular features and requirements of various business information systems applications: marketing, manufacturing, financial and human resources computer-based systems
- the design of good quality entity forms, screens and reports
- the essential elements of an Executive Information System, and other decision support systems
- design, implementation and manipulation of files using electronic spreadsheet, DBMS and EIS and MIS software
- mastery of an Executive Information System/MIS package

Textbook

References
Schuller and Sinner, Management Information Systems, 2nd ed., Irwin, USA, 1992

**BT341 Knowledge Based Systems**

12.5 credit points • 4 hours per week • Hawthorn • Prerequisites: BT112 and BT220 • Instruction: lectures/tutorials/laboratory • Assessment: examination and assignments

A subject in the Bachelor of Business

Objectives
To introduce students to the nature and applications of expert systems and natural language processing, artificial neural networks and case-based reasoning. The subject involves practical work using a PC based expert systems shell and build an expert systems prototype.

Content
Basic concepts of Artificial Intelligence, knowledge based systems and expert systems, what expert systems are, how they are developed and who is using them, how expert systems differ from conventional software programs, the nature of expertise, basic concepts of knowledge engineering, principles of rule based systems, handling of uncertainty, inferring forward and backward chaining, use of PC based expert systems shell, introduction to associated technology.

**BT342 Database Management Systems 2**

12.5 credit points • 4 hours per week over 1 semester • Prerequisite: BT338 • Instruction: lectures/tutorials/laboratory • Assessment: examination (60%) and assignment (40%)

A subject in the Bachelor of Business and the Bachelor of Information Systems

Objectives
The overall objective of the subject is to build upon the concept and skills gained in Database Management Systems 1, by examining database design, implementation and performance issues in both local and distributed client-server environment.

Content
Programming using embedded SQL embedded in a third generation language.

Physical design issues.

The use of database and transaction analysis and optimiser plan information to check/improve performance.

The effective use of views to achieve data independence.

Design and implementation of distributed systems.

References
Date, C.J. An Introduction to Database Systems, Addison-Wesley, 6th ed. 1995
Bell, D. and Grimson, J. Distributed Database Systems, Addison-Wesley, 1990

Swinburne University of Technology | 1998 Handbook
BT363 Database Management Systems 3
12.5 Credit Points • 4 hours per week over 1 semester • Prerequisites: BT339
• Instruction: lecture/lab/tutorial • Assessment: examination (80%) and assignment (20%)
A subject in the Bachelor of Information Systems.

Objectives
The overall objective of this subject is to build upon the concepts and skills gained in Database Management Systems 1, by exploring a number of current issues, advanced topics and future directions with a view to providing students with a broader and deeper understanding.

Content
A series of topics selected from:
• Alternative transaction models
• Object oriented, object-relational and extended relational systems
• Database standards bodies, current and future standards including SQL3
• DBMS benchmarking
• Alternative DBMS architecture.

References
O'Neill, Patrick, Databases: Principles, Programming, Performance; Morgan Kaufmann 1994

BT400 Information Systems Honours
Students should seek advice from the appropriate Information Systems staff when formulating their discipline-specific course of study and their research project proposal.

To encourage a multi-disciplinary approach, students may, subject to approval, undertake selected honours-level coursework subjects from other schools, divisions or institutions provided that they show the relevance of these coursework subjects to their proposed area of research. Such arrangements are subject to the student having any necessary prerequisite studies and may be subject to any quotas imposed on these subjects by the offering School.

Students must submit their proposal to the Information Systems Honours Convener for approval prior to the commencement of their honours program. Approval for a student's discipline-specific course of study and research project proposal shall be subject to the availability of any necessary resources and the availability of appropriate staff supervision.

Advanced Studies in Information Systems
Students will be required to undertake an individual program of advanced study in one or more areas of contemporary information systems theory and practice. Student's individual study programs will be based on a combination of attendance at a series of lectures and/or seminars based on the research interests of staff and postgraduate students in the information systems department and a supervised reading program. Students will be expected to prepare a written report on the results of their particular course of study and will also be required to present their findings in a seminar.

Information Systems Honours Research Project
Students will be required to undertake a substantial research project, investigating an aspect of information systems theory or practice, which may be selected to suit the student's preferred area of specialisation. Students will be expected to report their research activity in the form of a written dissertation of approximately 15,000 words in length and will be required to progressively present their findings at part of a research seminar program.

Students intending to complete their degree with honours must apply for entry into the honours year by the end of their three year degree.

Note that entry into the honours year is competitive and the number of places is subject to quota.

BT410 Information Systems Research Methodology
2 hours per week • Hawthorn • Prerequisites: completion of the Bachelor of Business or equivalent • Assessment: pass/fail only Submission of thesis or dissertation proposal
A subject in the Honours Year of the Bachelor of Business.

Objectives
• To ensure that all Information Systems students who are required to undertake a substantial research project (leading to a thesis or dissertation) are familiar with the requirements of academic research;
• to assist students to develop a formal proposal for their research project.

Content
The course provides a definition of an Honours, Masters and PhD dissertation or thesis. It covers the academic research process including: identifying a topic for research, accessing the literature, placing research in a continuum of knowledge, formally stating and justifying the research question, designing and appropriate program of research, choosing a research method, writing the proposal, conducting the research and writing a thesis or dissertation.

Recommended reading
Neuman, W.L., Social Research Methods: Qualitative and Quantitative Approaches, Boston, Allyn and Bacon, 1984
BT550 Introduction to Information Systems

12.5 credit points • 4 hours per week • Hawthorn • Prerequisites: nil • Instruction: lectures/tutorials/library • Assessment: examination 70%, assignments 30%

A subject in the Graduate Diploma of Information Systems

Objectives
- To give students a broad understanding of information technology in the business environment.
- To endow students with computer skills which will be of immediate benefit in other units, and of later use in their careers.
- To provide a firm basis for later computing units.

Content
Management needs and information technology solutions, information systems, fundamentals of computing, hardware and software, data communications, artificial intelligence, security, word processing, spreadsheets, databases and Internet (theory and practice).

Textbook

References
Other current introductory books on information technology.

Swinburne produced guides on software.

BT551 Business Programming 1

12.5 credit points • 3 hours per week • Hawthorn • Prerequisite: nil • Instruction: lectures/tutorials/library • Assessment: examination 60%, assignments 40%

A subject in the Graduate Diploma of Information Systems

Objectives
- To introduce students to the programming concepts most widely used in business and organisational computing.
- To allow students to gain experience in reading and writing small applications as well as using the various languages and programming environment references used in building these applications.

Content
An overview of the modern business computing environment along with the basic building blocks used in a wide variety of modern languages. The subject provides a thorough introduction to the following: sequence, selection, iteration, objects, methods and events, procedures and functions, array processing, good program design, testing and debugging.

Textbook

References
McKelvey, M., Visual Basic 4 - Fast and Easy Way to Learn, QUE, 1995

BT561 Data Analysis and Design

12.5 credit points • 3.5 hours per week • Hawthorn • Prerequisite: BT550 • Instruction: lectures/tutorials/library • Assessment: examination 80%, assignment 20%

A subject in the Graduate Diploma of Information Systems

Objectives
This subject aims to extend basic information technology user skills to the development of a simple automated database system and retrieval system to solve a well-bounded business problem.

Content
Appropriate automated tools will be used to assist in the design and generation of a simple inquiry and update system. The emphasis is on gaining an understanding of the problem in its business context, and the need for adequate documentation of the system and management of this data to ensure that the information produced by the data base system is relevant and accurate.

Students will use conceptual data analysis methods to produce a logical data model.

Textbooks

References

BT562 Business Computing

12.5 credit points • 3 hours per week • Hawthorn • Prerequisite: BT550 • Corequisite: BT561 • Instruction: lectures / tutorials/library • Assessment: examination 50%, assignments 50%

A subject in the Graduate Diploma of Information Systems

Objectives
- To extend the understanding of business information systems and how information technology is used to solve business problems.

The approach is form the management/end user perspective.

Skills are further developed in more advanced spreadsheeting, Internet work, and various other software products

Content
Information Systems with particular emphasis on DSS, using technology for competitive advantage, and user computing, problem solving, advanced spreadsheet design, development and testing, Human Computer Interface, office and information systems, file and desk utilities, backup plans, compression utilities, viruses, solver, curve expert, powerpoint, dynamic data exchanges.

Textbook

Recommended reading
Any other book with a similar title usually titled "Management Information Systems...

In addition, reading guidelines will be issued covering journal articles and newspapers.

BT563 Information Systems 1

3.5 hours per week • Hawthorn • Prerequisites: BT550 • Instruction: lectures / tutorials/library • Assessment: examination and assignment

A subject in the Graduate Diploma of Information Systems

Objectives
To introduce students to the process of traditional systems development. It is suitable for those intending a career in the Information Technology industry or those intending a career in another discipline but wish to understand how the process of information development takes place. It assumes students have passed Introduction to Information Systems and have studied or are studying Data Analysis and Design concurrently.

Content
This subject used a case study to teach the techniques of structured analysis within the framework of a systems development lifecycle.

Upon completion of this unit students would be expected to be able to: describe the tasks involved in systems development, describe a number of approaches to developing a system, evaluate the feasibility of a project from an end user perspective, use the tools and techniques of structured analysis, develop a system specification for a case study using the tools of structured analysis, reconcile the process and data models you develop for the case study, evaluate the user interface of an information system using HCI principles, present your system specification to management in written and verbal formats.

Textbooks

Recommended reading
Whitten, Bentley and Barlow, Systems Analysis and Design Methods, Irwin, 3rd edition, 1994
Power, Cheney and Crow, Structured Systems Development, Boyce and Fraser, 1990
Jordan and Machesky, Systems Development, PWS, Kent, 1990
BT564 Business Programming 2A
12.5 credit points • 3.5 hours per week over 1 semester • Prerequisites: BT551
• Instruction: lecture/tutorial/laboratory • Assessment: examination (60%), assignments (20%) and test (20%)
A subject in the Graduate Diploma of Information Systems

Objectives
To give students a sound understanding of the principles and practice of procedural programming.
To produce students worthy of immediate hire as trainee programmers in a commercial environment.

Content
• programming process, from problem definition through to program testing;
• principles of structured programming;
• importance and philosophy of testing, and designing a testing strategy for a given program specification;
• designing a logical structured solution to a problem using structure charts and pseudocode;
• reading, understanding, modifying and debugging COBOL programs;
• how to design, write, test and document attractive, well-structured programs in COBOL involving - sequential files, indexed files, reports, control breaks, data validation, character string manipulation, tables, arithmetic.

Textbooks

References
Grauer, R. Structured Cobol Programming, USA, Wiley, 1994

BT565 Business Programming 2B
12.5 credit points • 3.5 hours per week over 1 semester • Prerequisites: BT551
• Instruction: lecture/tutorial/laboratory • Assessment: examination (60%), assignments (30%) and test (20%)
A subject in the Graduate Diploma of Information Systems

Objectives
To give students an understanding of sound software engineering principles through programming in a block structured language (currently C). The emphasis is on developing and maintaining information systems applications using modular techniques.

Content
Topics covered include the following:
• program structure
• data structure
• algorithm design
• data validation
• arrays and tables
• sequential files
• reporting
• indexed files
• strings
• text

Textbook

References

BT570 System Architecture 1
12.5 credit points • 3.5 hours per week over 1 semester • Prerequisites: BT551
• Corequisite: BT561 • Instruction: lecture/tutorial • Assessment: examination (70%) and assignments (30%)
A subject in the Graduate Diploma of Information Systems

Objectives
Given a problem relating to a computer system, the student will be able to communicate with an expert to effect a solution.

Content
• concepts of basic computer hardware and their functions during operation
• an understanding of software architecture of a computer, the capabilities of the operating system and its dependence on hardware
• basic concepts and components involved in data communications
• the goals and structure of the ISO reference model for computer network protocols
• the data communication services and facilities provided by the common carrier.
• Benefits of data communications for an organisation and the management of this function.

Textbook

References
Burd, S.D. Systems Architecture - Hardware and Software in Business Information Systems: Boyd and Fraser Published.
Parnes, E. and Schneider, A. Contemporary Data Communications - A Practical Approach, Maxwell Macmillan, 1994

BT571 System Architecture 2
12.5 credit points • 4 hours per week • Prerequisites: BT551 and BT570
• Instruction: lecture/tutorial/laboratory • Assessment: examination (70%) and assignment (30%)
A subject in the Graduate Diploma of Information Systems

Objective
To provide sufficient knowledge and skill that, given a problem relating to a computer system, a student can correctly interpret and communicate the problem and suggest a possible solution.

Content
Information technology is changing from being centralised and disconnected to being distributed and networked. Mainframe computers are being replaced by networked PCs and once isolated computers are being connected in global networks. Software too is evolving towards distributed applications and client/server relationships. In this new distributed computing environment, no longer is it possible to say exactly where a specific task is performed or data is stored, as CPUs, communication lines and storage media at many sites may be involved. A task will be achieved by cooperation among several software processes communicating with each other according to standard protocols. Whether processes communicate on the same computer or between computers on opposite sides of the world, essentially the same principles are involved. This subject looks at the underlying architecture of computer systems and provides concepts to help the student appreciate how software processes share services and communicate in such networked, multiuser computer systems. It also shows the student how to solve certain problems in such environments by using and reusing available resources. To illustrate architectural concepts and practice user problem solving, various systems, such as UNIX, Internet, DOS/Windows/NT, Novell may be studied.

Textbook
To be advised

References
Glass, G. UNIX for Users and Programmers, Prentice-Hall 1983
King, A. Inside Windows 95, Microsoft Press, 1994, Chaps 2-4
Knill, E. The Whole Internet, O'Reilly & Associates, 1992
Come, D. The Internet Book, Prentice-Hall, 1995
Tall T.C. A Network of Objects, Van Nostrand Reinhold, 1995

BT572 Information Systems 2
12.5 credit points • 3 hours per week • Prerequisites: BT551, BT556, BT570 • Instruction: lectures/tutorial/laboratory • Assessment: examination and assignments
A subject in the Graduate Diploma of Information Systems
This subject examines object-oriented techniques in detail and demonstrates how to analyse and transform the business requirements into an object-oriented specification for system design. By the end of this subject, students should be able to apply these approaches to analyse a given business situation correctly to produce an object-oriented specification.

**Content**
- Concepts and Terminology of the Object-Oriented Paradigm
- Object-Oriented Models: Class Diagram, State Transition Diagram, Use Case
- Object-Oriented Methods: Domain Analysis, Application Analysis

**Textbooks**
To be advised.

**BT573 Information Technology Strategies**
12.5 credit points • 4 hours per week over 1 semester • Prerequisites: any two stage 2 computing subjects • Instruction: lecture/tutorial • Assessment: research paper (100%)

A subject in the Graduate Diploma of Information Systems

**Objectives**
At the end of the course the student will be able to:
- understand the way that managers think and work and the need for computer systems to improve their effectiveness in decision-making;
- justify the need for careful analysis, risk assessment and control procedures suitable for different system-development approaches;
- understand the strategic role of information technology and the need to achieve alignment between IT and corporate strategy.

**Content**
This subject examines the relationship between information technology and its organisational context. Students will study the ways in which information technology can be used for competitive advantage and planning methods which integrate information systems and business strategies. The role of an information system as part of an overall business plan will be examined and associated costs, benefits and risks will be considered.

- information systems theory
- decision support systems
- information systems issues for management
- information systems planning network
- the organisational role of end user computing
- aligning IT with business strategy
- quality and risk strategies

**Textbook**

**References**

**BT576 Database Management Systems**
12.5 credit points • 4 hours per week over 1 semester • Prerequisites: BT551, BT561 • Instruction: lecture/lab/tutorial • Assessment: examination (60%) and assignment (40%)

**Objectives**
The major objective of this unit is to equip students with a practical and theoretical knowledge of database management systems so that they can work productively on projects involving database applications. The emphasis is on relational database management systems. Students will be given the opportunity of working on a major commercial relational database management system.

**Content**
DBMS terminology and concepts, including database objects, data dictionaries, data integrity, data independence, transaction management, concurrency control, recovery, triggers, stored procedures, cursors.

**Textbook**

**References**
Date, C.J. *An Introduction to Database Systems*, Addison-Wesley, 6th ed., 1995
Kroenke, M. *Using the Oracle Toolset*, Addison-Wesley, 1995

**BT577 Business Computing Applications**
12.5 credit points • 3 hours per week over 1 semester • Prerequisites: BT562 • Instruction: lecture/tutorial/laboratory • Assessment: examination (60%) and one final exam (60%)

**Objectives**
The unit covers the relationships and distinctions between the different types of
application systems within the business environment, with major emphasis on computer-based information systems. The unit explores in detail typical business systems and involves spreadsheet, DBMS and EIS and MIS software.

**Conent**
- particular features and requirements of various business information systems applications: marketing, manufacturing, financial and human resources computer-based systems
- the design of good quality entity forms, screens and reports
- the essential elements of an Executive Information System, and other decision support systems
- design, implementation and manipulation of files using electronic spreadsheet, DBMS and EIS and MIS software
- mastery of an Executive Information System/MIS package

**Textbook**

**References**

**BT578 Knowledge Based Systems**
12.5 credit points • 3 hours per week • Hawthorn • Prerequisites: BT581 and BT561 • Instruction: lectures/tutorials/laboratory • Assessment: examination and assignments

A subject in the Graduate Diploma of Information Systems

**Objectives**
To introduce students to the nature and applications of expert systems and natural language processing, artificial neural networks and case-based reasoning. The subject involves practical work using a PC based expert systems shell to build an expert systems prototype.

**Content**
Basic concepts of Artificial Intelligence, knowledge based systems and expert systems, what expert systems are, how they are developed and who is using them, how expert systems differ from conventional software programs, the nature of expertise, basic concepts of knowledge engineering, principles of rule based systems, handling of uncertainty, inferencing forward and backward chaining, use of PC based expert systems shell, introduction to associated technology.

**BT589 Database Management Systems 2**
12.5 credit points • 4 hours per week over 1 semester • Prerequisites: BT576 • Instruction: lecture/lab/tutorial • Assessment: examination (60%) and assignment (40%)

**Objectives**
The overall objective of the subject is to build upon the concept and skills gained in Database Management Systems 1, by examining database design, implementation and performance issues in both local and distributed client-server environment.

**Content**
Programming using embedded SQL embedded in a third generation language.
Physical design issues.
The use of database and transaction analysis and optimiser plan information to check/improve performance.
The effective use of views to achieve data independence.
Design and implementation of distributed systems.

**References**
Bell, O and Grimson, J. Distributed Database Systems, Addison-Wesley, 1992

**BT590 Database Management Systems 3**
12.5 credit points • 4 hours per week over 1 semester • Prerequisites: BT576 • Instruction: lecture/lab/tutorial • Assessment: examination (60%) and assignment (40%)

**Objectives**
The overall objective of this subject is to build upon the concepts and skills gained in Database Management Systems 1, by exploring a number of current issues, advanced topics and future directions with a view to providing students with a broader and deeper understanding.

**Content**
A series of topics selected from:
- Alternative transaction models
- Object oriented, object-relational and extended relational systems
- Database standards bodies, current and future standards including SOL3
- DBMS benchmarking
- Alternative DBMS architecture

**References**

**BT590 Information Technology for Management**
12.5 Credit Points • One semester • Hawthorn • Prerequisites: Nil • Assessment: continuous
A subject in the core of the Master of Business Administration and is required to complete the Graduate Diploma of Business Administration

**Objectives**
To examine the relationship between information and technology, and its organisational context. Students will study the ways in which information technology can be used for competitive advantage and planning methods which integrate information systems and business strategies. The role of an information system as part of an overall business plan will be examined and associated costs, benefits and risks will be considered. At the end of the course the student will be able to:
- understand the way that managers think and work and the need for computer systems to improve their effectiveness in decision making;
- justify the need for careful analysis, risk assessment and control procedures suitable for different system approaches;
- understand the role of information technology and the need to achieve alignment between IT and corporate strategy.

**Content**
- information systems theory
- decision support systems
- information systems issues for management
- information systems planning network
- the organisational role of end user computing
- aligning IT with business strategy
- quality and risk strategies

**Recommended reading**

**BT601 Systems Project Management**
12.5 credit points • 3 hours per week over 1 semester • Prerequisites: Nil • Instruction: pre-requisites: Nil • Assessment: assignment (50%) research report (50%)
A subject in the Master of Information Systems

**Objectives**
After completing this subject, students should be able to:
- understand the main reasons for success or failure of information systems projects;
- coordinate the skills of a systems development team, users and operators;
- understand how formal planning and control methods, including measurement, can be applied to the development process;
- plan and control the implementation of new systems.

**Content**
Topics covered include:
- estimation
- project leadership
- project planning and control
- project administration

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• quality management
• systems development productivity techniques
• risk management
• implementation of systems projects

References

BT602 Information Systems Management
12.5 credit points • 5 hours per week over 1 semester • Prerequisites: nil • Instruction: classes/seminars/workshops/case studies • Assessment: syndicate case studies (40%) individual research report (60%)

Objectives
The subject addresses a number of topics and issues related to the theory and practice of Information Systems Management.

Content
• the relationship between corporate and Information Systems strategic planning;
• infrastructure, policies, procedures, technical, financial and human resources;
• the role of the I.S. division in the organisation and balancing of competing demands made on its services;
• the responsibilities of the various I.S. functional areas and the coordination of their interaction;
• selecting and appraising I.S. personnel;
• negotiation for hardware and software.

Text
There is no single text for this subject.

References

BT638 Business Analysis
12.5 credit Points • 2 hours per week over 1 semester • Prerequisites: relevant experience • Instruction: lecture/tutorial • Assessment: individual assignment (50%) group assignment (50%)

A bridging subject in the Master of Information Systems (Management Stage 2)

Objectives
This subject is intended to develop a formal awareness of the process of analysing and developing systems while at the same time emphasising the necessary communication skills for success. The subject will focus on the business application of technology, the role of users in systems and the development of analytical skills for business.

Content
Topics will include:
• further understanding the system development process
• evaluation of the effectiveness of computerised information systems
• the development of techniques for successful communication with both users and other computing professionals
• written skills of report writing and essays
• fact gathering techniques of interviewing, questionnaires, sampling etc
• verbal communication skills for various forms of presentations
• examination of, and justification for, typical systems in business

References

BT703 Introduction to Business Software
2 compulsory hours per week • Hawthorn • Prerequisites: nil • Assessment: to be advised

A subject in the Master of Business Administration (conversion students only)

Objectives
The aim of this subject is to:
• introduce students to information technology concepts with particular emphasis on decision support systems;
• enable students to appreciate, and gain practice in the application of a range of PC-based analysis methods as a means of providing information for management decision making;
• enable students to confidently use a number of key software packages which can be utilised in other areas of the course.

Content
Software and hardware components of decision support systems
• Decision support system concepts
• Recent software developments
• Hardware facilities available
• Specific application software available for decision support analysis
• Recent developments in decision support software
• Mainframe vs PC based decision analysis

Decision support software
Spreadsheets
• An appreciation of the nature and role of modelling in the decision making process, e.g. financial, forecasting, simulation.
• Choosing the right type of decision analysis tool for a specific application.

Using Lotus 1-2-3 for decision analysis.
Students will be expected to acquire the necessary skills needed to build their own models.

Graphics
• The presentation of information in a graphic format, including output from modelling packages.
• Using presentation graphics software for effective communication.

Data bases
• Using corporate data as source material for micro-based decision support tools.
• Data base packages as a decision support facility. Students will be expected to acquire the necessary skills needed to build and query their own data bases.

• Availability and accessing of public data bases.

Recommended reading
As this subject is primarily concerned with the use of application software and current developments in using microcomputers, text books form a minor component of reference material. Software documentation, user manuals and current journal articles will provide the major reference material for the subject. It is required that students have access to a PC for work undertaken outside formal session times.

BT706 Information Technology Effectiveness
12.5 Credit Points • one semester; three hours per week • Hawthorn • Prerequisites: Nil • Assessment: assignment, research report

A subject in the Master of Information Systems

Objectives
To develop an understanding of the financial management of the Information Technology Department, the management of productivity and quality in software development and the application of metrics to the management of information technology.

Content
Financial management
Cash flow, chargeout, budgets and capital expenditure evaluation
Quality - overview of total quality management, factors affecting productivity and quality in software development, approaches to controlling quality, quality standards, measurement of quality
Metrics - measuring information technology performance quality, operatetoes and productivity measured at both strategic and tactical levels, evaluation information technology investments including information technology infrastructure
Recommended reading
Carlson, W.M. and McNurlin, B.C., Uncovering the Information Technology Payoffs, United Communications Group, 1982.

BT711 Information Systems Requirements
12.5 credit points • 2 hours per week over 1 semester • Prerequisite: nil
Instruction: lecture/tutorial • Assessment: project work (100%)
A subject in the Master of Information Systems

Objectives
To extend students’ knowledge and understanding of and competency in the modelling of data requirements in a business oriented setting.

Content
The aims of data modelling and its role in information systems development. The NIAM approach to developing a fact model. The underlying assumptions and limitations of NIAM. Development of a fact model diagram using the NIAM approach for a given business scenario. Conversion of a NIAM conceptual schema into relational logical schema. Conversion of NIAM fact models into equivalent Entity Relationship models. Optimizing a NIAM conceptual schema using appropriate schema transformations.

Recommended reading

BT712 Systems Strategies
12.5 credit points • 2 hours per week over 1 semester • Prerequisite: nil
Instruction: lecture/tutorial • Assessment: assignment/project work (100%)
A subject in the Master of Information Systems

Objectives
• to study the influence of automated development methods on the systems development process
• to develop awareness of a range of approaches to meeting the information systems requirements of organisations.

Content
Architecture of information systems; standard solutions; packages and templates; application re-use; evolutionary development of information systems; reverse engineering; system integration; methodologies.

References
To be advised.

BT713 Automated Development Methods
12.5 credit points • 2 hours per week over 1 semester • Prerequisite: BT711 Information Systems Requirements or IT554 Information Systems Requirements
Instruction: lectures/seminars • Assessment: individual research project (100%)
A subject in the Master of Information Systems

Objectives
This subject addresses a number of topics and issues related to the theory and practice of CASE technologies and the design and development of information systems. Students will be given the opportunity to utilise an integrated CASE tools with emphasis on applying theory to practice.

Content
Topics covered in this subject include:
• introduction to computer aided software engineering (CASE) technology;
• designing information systems, methods for designing in forms suitable for automated development;
• software development, including software implementation, maintenance
• reverse versus re-engineering

Textbooks
No single text covers the subject material

References
Haras, J., Information Engineering for the Advanced Practitioner, Addison-Wesley, 1992
Spurr, K. and Layzell (Eds) CASE on Trial, Wiley, Chichester, 1990

BT714 Information Systems Dynamics
12.5 credit points • 2 hours per week over 1 semester • Prerequisite: BT711 Information Systems Requirements or IT554 Information Systems Requirements
Instruction: lectures • Assessment: assignment (100%)
A subject in the Master of Information Systems

Objectives
• develop students’ understanding of the event/state (dynamcis) perspective of information systems
• introduce several analysis and design techniques for dealing with information systems
• develop students’ critical awareness of the role of object-orientation for information systems

Content
The subject is approached from the following perspectives: requirements engineering, conceptual modelling, object-oriented analysis and design. Material from current practice and current research is used. Implementation aspects of dynamic requirements such as relational database triggers and user interfaces are covered.

Recommended reading
Martin, J. and Odek, J., Object-Oriented Methods: A Foundation, Prentice Hall, 1995
Rumbaugh, J. et al., Object-Oriented Modeling and Design, Prentice Hall, 1992

BT715 Automated Systems Development Project
50 credit points • 4 hours per week over 2 semesters or equivalent • Prerequisite: Completion of 4 approved Stage 2 subjects
Instruction: Supervised reading, laboratory and field work, and individual consultation as required
Assessment: Deliverable items (requirements and specification documents, system and user manuals, the working system itself, and an evaluation of its effectiveness in satisfying the requirements) 100%
A subject in the Master of Information Systems

Objectives
To gain experience in the automated systems development process; to develop an information system.

Content
The project may be undertaken either individually or as part of a small group where appropriate. All stages of the development process will be covered, culminating in the production of a working system.

References
To be advised.

BT727 Technological Forecasting and Innovation
12.5 credit points • 2 hours per week over 1 semester • Prerequisite: completion of Stage 2A of Management Stream
Instruction: lectures and seminars • Assessment: Major case study submitted in form of management report (100%)
A subject in the Master of Information Systems

Objectives
• identify the appropriate approach to adopt for a forecasting problem (i.e. differentiate between the approaches of predictive, casual and more importantly [for users and workers in the field of information technology] qualitative forecasting (specifically technological forecasting).
• be able to carry out a technological forecasting exercise and then, via the medium of a management report, communicate the findings to the appropriate people;
• to create an awareness of the strategies and problems of innovation diffusion in industry
• to develop skills to manage the innovation of technology

Content
Topics include general introduction to forecasting approaches, time based forecasting techniques, scenario analysis, latest developments in IT and emerging technologies, their diffusion through the workplace and industry in general. Advantage will be taken of local and visiting speakers. The selection of technologies for examination is subject to developments at the time that the subject is offered. It is anticipated that technologies in such areas as communications and knowledge based introduction and measuring the success of new technology.

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Recommended reading

References
There is no prescribed text. Students will be directed to appropriate books and journal articles.

BT731 Project 1
25 credit points • 4 hours per week ∨ 1 semester or equivalent • Prerequisites - nil • Instruction: Supervised reading, field work and individual consultation as required • Assessment: written report and presentation 100%
A subject in the Master of Information Systems

Objectives
To provide a flexible program of study which allows the student to undertake a special project. This would require research into a topic which is relevant to the course but alternative to the prescribed subjects in Stage 1 of the Master of Information Systems degree.

Content
Students will work on an approved project under staff supervision. Projects will usually require a literature survey and a theoretical or experimental investigation. Students will present their research results to staff and students in a school seminar or equivalent.

References
There is no prescribed text. Students will be directed to appropriate books and journal articles.

BT732 Project 2
25 credit points • 4 hours per week ∨ 1 semester or equivalent • Prerequisites - nil • Instruction: Supervised reading, field work and individual consultation as required • Assessment: written report and presentation 100%
A subject in the Master of Information Systems

Objectives
To provide a flexible program of study which allows the student to undertake a special project. This would require research into a topic which is relevant to the course but alternative to the prescribed subjects in Stage 2 of the Master of Information Systems degree.

Content
Students will work on an approved project under staff supervision. Projects will usually require a literature survey and a theoretical or experimental investigation. Students will present their research results to staff and students in a school seminar or equivalent.

References
There is no prescribed text. Students will be directed to appropriate books and journal articles.

BT733 Minor Thesis
50 credit points • 4 hours per week ∨ 2 semesters or equivalent • Prerequisites - completion of 4 approved Stage 1 subjects • Instruction: Supervised reading, field work and individual consultation as required • Assessment: written report and presentation 100%
A subject in the Master of Information Systems

Objectives
To provide an opportunity for students to develop analytical, research and report writing skills while exploring in depth a topic from either the Management or Technology Streams.

Content
Students will work on an approved project under staff supervision. Projects will require a literature survey and a theoretical or experimental investigation. A preliminary proposal of the project to be undertaken must be submitted for approval by the management panel of the Masters program and it is expected that topics will be related to the current research interests of staff. There will be a requirement for formal monthly reporting by the candidates, both oral and written throughout the project. Failure to meet satisfactory standards of progress may preclude final submission for the Masters degree. Students will present their research results to staff and students in a school seminar or equivalent. The thesis will be examined by at least two examiners. While developing their thesis proposal, students will attend a course of study on research concepts and methodologies.

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Glossary of Building Terms, Standards Australia, 1984
Notes on Science of Building, V.J.P.S.

CE192A Statutory Control
7 credit points (sem 1), 11 credit points (sem 2) • 3 hours per week (sem 1), 5 hours per week (sem 2) • Hawthorn • Prerequisites: nil • Instruction: lectures, tutorials, assignments • Assessment: examination 80%, assignments 20%
This is a first year subject in the Bachelor of Technology (Building Surveying)

Objectives
To provide students with an understanding of the role and duties of a building surveyor and an introduction to acts and regulations.

Content
• This subject covers topics such as administration and law, local government; the role of the building surveyor; statutory functions related to Acts and regulations; the building surveyor as manager;
• liaison with other council departments, public authorities and private enterprises;
• basic principles of the regulations. General knowledge of related Acts, regulations, codes and standards;
• plan checking of domestic type applications for building permit.

Recommended reading
Building Act Annot, 1998
Building Code of Australia, Vols 1 & 2, ABCD, 1986
Building Regulations Annot, 1994

CE192B Introduction to Construction Law
4 credit points • 2 hours per week (sem 1) • Hawthorn • Instruction: lectures, tutorials • Assessment: examination 80%, assessed work 20%
This is a first year subject in the Bachelor of Technology (Building Surveying)

Objectives
To enable students to understand the origins of law and to provide building surveyors with a suitable legal background for the proper discharge of their duties.

Content
This subject covers the concept of law, sources of law, origin and development of common law and Australian law, hierarchy of courts and the branches of law.

Recommended reading
The Law Handbook. Fitzroy Legal Service

CE196 Communications
5 credit points (sem 1 & 2) • 2 hours per week, 2 seminars • Hawthorn • Instruction: lectures, tutorials • Assessment: assessed work 100%
This is a first year subject in the Bachelor of Technology (Building Surveying)

Objectives
This subject introduces students to the techniques and strategies for developing and refining skills in written and oral communication, understanding social and urban issues relevant to the work of building surveyors, and the interpersonal relationship skills range aimed to assist students to extend their focus on self-learning and self-development.

Recommended reading
Wadsworth, D. (ed.) Building Surveyor: Other Recommended reading to be advised during lectures

CE204 Computer Application
5 credit points • 2 hours per week (sem 1) • Hawthorn • Instruction: lectures, tutorials, laboratory work • Assessment: assessed work 100%
This is a second year subject in the Bachelor of Technology (Building Surveying)

Objectives
To enable students to understand the operation and use of computers in industry. The subject covers introduction to microcomputers, operating systems, Overview of windows applications related to word processing, spreadsheets and CAD.

Recommended reading
Person, R., Using Excel 4 for Windows, OHU, 1992

CE206 Data Management
10 credit points • 5 hours per week • Hawthorn • Prerequisites: SK190 Computing and EF101 Professional Skills • Assessment: assignments and examination
This is a subject in the Bachelor of Engineering (Civil)

Objectives
To develop skills in all modes of communication, and an understanding of the operation and use of computing systems and their engineering applications.

Content
Information gathering; comprehension and critical assessment of information; methods of problem analysis and solution; verbal; written and graphic communication.

Recommended reading
The Law Handbook. Fitzroy Legal Service
Anstat, 1993
Anstat, 1994
Swinburne Press, 1998 Handbook

Subject Details
Swarthmore University of Technology | 1998 Handbook

Statically determinate structures: analysis for reactions, shear force, bending moment and axial force diagrams for beams and frames; analysis of trusses. Deflection of beams; standard formulae, use of principle of virtual forces for deflections in beams.

Materials technology: characteristics, components and types of steel, timber, masonry and concrete as a building material. Performance characteristics relative to structural behaviour. Design and testing of concrete mixes.

Computer applications: modelling and analysis of a range of structures relevant to the course using available software.

Recommended reading

Schodack, Daniel L., Structure. Regents (Prentice Hall), 1992


CE218 Structural Mechanics 1

10 credit points • 4.5 hours per week • Prerequisites: CE218 Structural Mechanics 1

This is a subject in the Bachelor of Engineering (Civil)

Objectives

Te develop an understanding of the analysis and behaviour of statically indeterminate beams and to introduce students to the structural design process, including aspects of the Loading code and the Concrete Structures Code.

Content

• Statically indeterminate structures: development of the slope deflection equations and introduction to matrix analysis of beams. Moment distribution method for continuous beams;
• design philosophies: limit state and permissible stress design; loading codes, design codes, design drawings, planning and building permits;
• concrete design: plain concrete, limit state design requirements, durability and fire resistance; detailing of reinforcement; design and detailing of beams and one way slabs (flexure and shear), short columns, single and strip footings and retaining walls;
• computer applications: modelling, analysis and design of a range of structures relevant to the course using available software.

Recommended reading


Cotes, R.C., Coutie, M.G. and Kang, F.K., Structural Analysis. 2nd edn, Survey, Melbourne, 1983


Astard, J., Reinforced and Prestressed Concrete - A Compendium of Examples. 1995


Standards Association of Australia. AS 3600 - Concrete Structures. Standards Association of Australia, Sydney, 1984

CE237 Hydraulics

15 credit points • 2.5 hours per week (sem. 1) and 4.5 hours per week (sem. 2) • Prerequisites: CE102 Engineering Design • Assessment: examination (85%), assignments, test and laboratory work (15%)

This is a subject of the Bachelor of Engineering (Civil)

Objectives

To teach students to apply fundamental laws of physics to the flow of water, in order to understand and analyse the steady flow of water through pipelines, channels, and a range of hydraulic structures;
• to improve students' abilities to communicate technical information, by means of concise calculation and brief reports;
• to develop students' abilities to learn from text books and technical notes.

Content

• Hydrostatics: fluid pressure; pressure and thrust; buoyancy and stability of floating vessels;
• Fluid flow: continuity, conservation of energy (Bernoulli's equation);
• Discharge control structures: orifices, orifice plate and venturi meter, weirs, sluice gates;
• Pipe flow: the Moody diagram; D'Arcy-Weisbach, Colebrook-White and empirical pipe formulas.
• Pipelines: systems; series and parallel pipelines; equivalent pipelines; branched systems; pumped systems; pipeline networks.
• Channel flow: uniform flow; Manning formula; part-full pipes; specific energy; the hydraulic jump; gradually-varied flow.
• Pump selection: classification and principles of operation; pump and system characteristics.

Recommended reading


CE243 Land Surveying

8 credit points • 4 hours per week (sem. 1) • Prerequisites: lectures, tutorials, fieldwork • Assessment: examination 80%, assessed work 20%

This is a second year subject in the Bachelor of Technology (Building Surveying)

Objectives

To enable students to understand basic land surveying techniques and legal aspects of surveys as related to building surveying practice.

Content

Principles and types of surveys and plans. Distance measurement, levelling, angle measurement, setting out. Cadastral surveying and laws related to surveying, check/relocation surveys, old law, transfer of Land Act 1958 and title office procedures.

Recommended reading


Shofield, W., Engineering Surveying. 3rd edn, London, Butterworths, 1984

CE246 Survey and Road Engineering

20 credit points • 5 hours per week • Prerequisites: SP124/125 and SM111/112 and SK180 or equivalent subjects • Assessment: practical work, assignments and examination

This is a subject of the Bachelor of Engineering (Civil)

Objectives

To develop in students a basic knowledge of Land Surveying theory and practice related to civil engineering.

To give students an understanding of the principles and practice of road design.

Content

Surveying theory: distance measurement including principles and use of electronic distance measurers; levelling; construction, use and adjustment of level; types; booking level; reductions; contour properties and use of contour plans; theodolites; including construction, use; traversing and angle reading methods; setting out of engineering works; introduction to Cadastral surveying and Geographical Information Systems.

Computation: trigonometry; traverse reductions; areas, volumes.

Survey practice: principles and types of surveys; detail surveys including road surveying; use of engineering surveying instruments and software to produce computerised plans.

Geometric design of roads: terminology and design of road cross sections; basic principles of road design and computer-aided road design; theory, coordination and computations related to horizontal and vertical elements in road design; cut and fill balance; applications in design project.

Recommended reading

Swarthmore School of Civil Engineering & Building. CE246 Survey and Road Engineering. (tutorials and practical notes). Swarthing University Press, 1995

Underwood, R.T., Road Engineering Practice. 1st edn, Macmillan Education, Australia, 1995


CE256 Structural Design 1

9 credit points • 4 hours per week (sem. 2) • Prerequisites: CE114 Applied Mechanics, SM193 Mathematics • Instruction: lectures, tutorials • Assessment: examination 70%, assessed work 30%

This is a second year subject in the Bachelor of Technology (Building Surveying)

Objectives

To familiarise students with the processes of design and checking of structural elements, with particular emphasis on the main provisions and underlying principles of codes of practice for steel structures, timber structures and for glazing in buildings.
Recommended reading
AS1170.1 Loading Code Standards Australia 1989
AS1286 Glazing in Buildings Standards Australia 1989
AS1684 National Timber Framing Code Standards Australia 1982
AS1720 Timber Engineering Code Standards Australia 1983
AS4100 Steel Structures Code Standards Australia 1980

CE276 Construction
11 credit points (sem. 1) & 7 credit points (sem. 2) • 5 hours per week (sem. 1), 3 hours per week (sem. 2) • Hawthorn • Prerequisite: CE173 Construction • Instruction: lectures, tutorials, drafting classes, field work • Assessment: examination 70%, diary, reports, research projects, folio of work 30%
This is a second year subject in the Bachelor of Technology (Building Surveying)

Objectives
To give students an understanding of the general principles, and details of buildings with load-bearing walls up to three storeys and single storey, wide span structures with framed or load-bearing walls, and to expose the students to architectural and engineering drafting related to buildings.

Recommended reading
Guide to Concrete Construction Standards Australia 1994
Economic Structural Steelwork Aus. 1983
Ferguson, B.J., Reinforcement Detailing Handbook Concrete Institute of Australia, 1998

CE277 Temporary Structures
7 credit points (sem. 1 & 2) • 3 hours per week for (sem. 1 & 2) • Hawthorn • Prerequisite: CE173 Construction • Instruction: lectures, tutorials, practical work, field work • Assessment: examination 70% exercises 30% • Scaffolding - internal scaffolding examination and satisfactory completion of practical work and assignments. Formwork/Falsework - Internal tests, assignments and site visit diary.
This is a second year subject in the Bachelor of Technology (Building Surveying)

Objectives
To give students an understanding of the general principles, structural details of scaffolding, falsework and formwork.

Content
Scaffolding - Part A
This covers the safe erection and use of the following scaffolding types:
• prefabricated systems;
• tube and fitting;
• miscellaneous including mobile and tower.
Practical erection and safe work practices in compliance with OH & S requirements.
Formwork - Part B
This section covers the temporary structures used in the construction of buildings.

Recommended reading
Equipment (Public Safety) General Regulations 1995
Occupational Health & Safety (PLANT) Regulations 1995
Australian Standard (Scaffolding) as 1576 3 Supplement 1-1991
Commencery on AS1576 Scaffolding Part 1: General Requirements
Formwork - Code of Practice
Formwork - A Practical Approach (McAdam)
Occupational Health and Safety Act 1985

CE283 Geomechanics
7 credit points • 3 hours per week (sem. 2) • Hawthorn • Instruction: lectures, tutorials, laboratory work • Assessment: examination 70%, reports 30%
This is a second year subject in the Bachelor of Technology (Building Surveying)

Objectives
To provide a building surveyor with the necessary knowledge of geomechanics to perform duties of inspection and approval of foundations and other earth works properly.

Content
Types of soil and rock, stresses in soils, strengths of soils, field and laboratory tests, soil water, foundations introduction to bearing capacity, settlement and footing design. Approval of foundation. Inspections.

Recommended reading
AS2970 Residential Slabs and Footings Code Standards Australia 1998
AS7296 Geotechnical Site Investigations Standards Australia 1993
Das, B.M., Principles of Geotechnical Engineering. 3rd edn, Boston, PWS, 1994

CE286 Geomechanics 1
15 credit points • 2.5 hours per week (sem. 1) and 4.5 hours (sem. 2) • Hawthorn • Prerequisites: CE102 Engineering Design • Assessment: assignments and examination
This is a subject of the Bachelor of Engineering (Civil)

Objectives
To enable students to recognize the terrain shape, geology, and soils of a region, and the influence of these factors on civil engineering projects; construct simple geographical cross sections; identify and classify rock and soil specimens; select shallow foundations for light loads taking into account shear strength, settlement, and expansive soil behaviour; carry out a basic site investigation for a domestic structure; estimate lateral earth pressures on retaining structures.

Content
Structure of the earth; tectonic plates and their movement; formation of rocks; rock types and their identification; elements of structural geology; measurement of dip angle and direction, strike, Geological mapping, Victorian physiography.
Formation of soil types and their identification; physical properties of soil; soil classification systems.
Geostatic stresses and the effective stress law; shear strength of coarse and fine grained soils; shear strength determination in the laboratory and the field; bearing capacity of shallow footing foundations subjected to concentric, eccentric and inclined loads; lightly loaded foundations on expansive soils; conducting a simple site investigation; immediate and consolidation settlement; earth pressure theory for rigid retaining walls; stability and sizing of retaining walls; sheet pile walls.

Recommended reading
Das, B.M., Principles of Geotechnical Engineering. 3rd edn, Boston, PWS, 1994

CE294A Statutory Control 2
7 credit points (sem. 1 & 2) • 3 hours per week for (sem. 1 & 2) • Hawthorn • Prerequisite: CE192 Statutory Control • Instruction: lectures, tutorials • Assessment: examination 70%, assessed work 30%
This is a second year subject in the Bachelor of Technology (Building Surveying)

Objectives
To give students an understanding of the major requirements and underlying principles in the regulations and acts pertaining to building control.

Content
This subject covers administration aspects, functions of building surveyors, acts and regulations together with plan checking related to industrial and commercial buildings.

Recommended reading
Building Act, Anstatt, 1933
Building Code of Australia, Vols 1 & 2, ABCD, 1996
Building Regulations Anstatt, 1994
Relevant Australian Standards

CE294B Town Planning
3 credit points • 2 hours per week (sem. 2) • Hawthorn • Prerequisite: CE182 Statutory Control • Instruction: lectures, tutorials • Assessment: examination 70%, assessed work, assignments 30%
This is a second year subject in the Bachelor of Technology (Building Surveying)

Objectives
This subject introduces students to problems in planned development in urban and rural environments.

Content
The planning process; the purpose of planning, historical development of urban settlements, sociological effects of the built environment; Administration of planning schemes. Residential planning standards. Basic surveys of planning, the use of remote sensing in urban planning. Introduction to GIS Systems for planning purposes.

Recommended reading

Swinburne University of Technology | 1998 Handbook
CE297 Management

5 credit points (lectures & 2) • 2 hours per week (lectures & 2) • Hawthorn
Prerequisite: CE196 Communications • Instruction: lectures, tutorials and field work • Assessment: examination 70%, assessed work 30%

This is a second year subject in the Bachelor of Technology (Building Surveying)

Content
This subject introduces students to accounting, financial reports and project evaluation. This subject includes introduction to accounting, analysis and interpretation of financial reports, cost accounting, project evaluation — financial analysis techniques applicable to projects.

Recommended reading
Swinburne Institute of Technology and Royal Melbourne Institute of Technology, Introductory Accounting and Finance for Management, 1984

CE306 Engineering Management

10 Credit Points • 4.5 hours per week • Hawthorn • Instruction: lectures, seminars • Assessment: examination 70%, assignments and presentations 30%

A third year subject in the Bachelor of Civil Engineering

Objectives
To introduce the processes of engineering management and the impact of industrial organisation, working conditions, legal and cost controls on engineering practice.

Content
Introduction to classical management theory: processes of management, management roles and functions, division of work, job analysis and design.
Organisational structures, informal groups.
Basic psychology: attitudes, motivation, leadership and morale; conflict resolution.
Organisational culture: influence and power in organisations; organisational change.
Supervision in engineering projects and enterprises.
Decision-making: policies, procedures and rules; delegation; authority, responsibility and accountability. Public, product and professional liability.
Australian industrial relations: employer and employee associations; causes, nature and settlement of industrial disputes; negotiation, conciliation and arbitration; awards and industrial agreement; productivity and enterprise bargaining. Employment by contract.
Compensation, salaries and wages; recruitment and training; physical working conditions; occupational health and safety; workers’ compensation.
Elements of contract law and contract management.
Project and production monitoring: preparation of progress reports; elements of cost control; setting standards, performance measurement; corrective action.

Recommended reading
Samson (Ed.), Management for Engineers. Longman-Cheshire, Melbourne, 1988

CE316 Structural Design 1

10 Credit Points • 4.5 hours per week • Hawthorn • Instruction: lectures, tutorials, laboratory work • Assessment: examination 100%

A third year subject in the Bachelor of Civil Engineering

Objectives
To introduce students to the behaviour and analysis of skeletal frames through approximate analysis, the plastic theory of structures and computer applications.
To introduce students to the design of steel and timber structures using Australian codes of practice.

Content
Approximate analysis of skeletal structures, checking computer analysis of structures.
Plastic theory of structural analysis; application to continuous beams and frames.

Swinburne University of Technology | 1998 Handbook
CE397 Industry Based Learning

A third year subject in the Bachelor of Civil Engineering

Objectives

To complete 24 weeks of full-time paid employment in a civil engineering related industry.

To gain industry based learning experiences which integrate aspects of engineering practice and local industrial practice covering some aspects of products or services.

To work as an engineering trainee under the direction of a professional engineer and be an effective part of a multi-disciplinary team within the industry.

To develop and document professional engineering practice for all industry and be an effective part of a multi-disciplinary team within the industry.

To establish and refine personal development skills in training in order to develop engineering competence towards the professional level.

To implement and gain further understanding of engineering management skills and practices operating within engineering organisational structures.

To observe and appreciate significant trends in employment work groups and industrial relations.

Content

Work requirements are established by the employer in consultation with Swinburne University.

Recommended reading

As suggested by either the industry supervisor or the Swinburne academic supervisor to support the student's work and personal development.

CE404 Computer Applications

5 credit points • 2 hours per week • Hawthorn • Prerequisite: CE204 Computer Applications • Instruction: lectures, laboratory work • Assessment: assessed work 100%

This is a fourth year subject in the Bachelor of Technology/Built Environment.

Objectives

This subject is designed to enable students to be aware of and use common programs for administrative and technical areas of building surveying.

Content

The subject covers external data bases, administrative software, technical software and decision support software.

It is expected that the activities undertaken in this subject will be coordinated with other subjects in the course where computer applications are the usual tool to assist in problem solving.

Recommended reading

Zwart, P.R. Microcomputers in Local Government, 1986. ACADS Code of Practice. CPI

CE428 Mechanics of Solids

10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, tutorials/laboratory work • Assessment: assignments 30%, examination 70% • Prerequisite: CE276 Structural Mechanics 1, CE277 Structural Engineering 1

A fourth year subject in the Bachelor of Civil Engineering

Objectives

To further develop an understanding of material behaviour and stress analysis as fundamental aspects of the engineering design and analysis process particularly with regard to structural engineering.

Content


Stress analysis: stress-strain relationships and the general equations of elasticity and compatibility; plane stress and plane strain problems; yield criteria, (Tresca, Von Mises); torsion: torque distribution diagrams, torsion in circular and thin walled sections; torsion of open cross sections; biaxial bending, shear centre, skew bending.

Energy theorems in structural analysis.

Recommended reading


Underwood, R.T. Road Engineering: Practice. 1st edn, Macmillan Education, Melbourne, 1995

CE438 Environment and Services

10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, tutorials and practical work, project sessions • Assessment: assignments 40%, examination 60% • Prerequisites: CE358Hdraulics

Objectives

To introduce students to environmental concepts, and natural systems.

To develop an understanding of environmental effects of pollution, particularly from construction sites, and appropriate site management.

To develop engineering principles and design applications relevant to property services.

Content

Introduction to the environment; sustainability and diversity, ecological systems, natural cycles (e.g. hydrologic cycle), natural systems (waterscources, atmosphere, groundwater).

Environmental effects of construction: sources, effects of erosion and sedimentation, noise and vibration, and particulates; standards and regulation; monitoring (with particular emphasis on water quality).

Property services: drainage, water supply, fire fighting, sewerage.

Site management: site control and treatment of pollutants.

Recommended reading


CE454 Structural Design 1

8 credit points (sem 1) • 4 hours per week (sem 2) • Hawthorn • Prerequisite: CE276 Structural Design • Instruction: lectures, tutorials • Assessment: examination 60%, assessed work 40%

This is a fourth year subject in the Bachelor of Technology/Built Environment.

Objectives

To familiarise students with the relevant codes of practice for concrete structures and for masonry structures.

Content


Concrete structures code. Masonry code.

Recommended reading

AS3600 Concrete Structures

AS3700 Masonry Code Standards Australia 1988

CE454 Structural Design 1

8 credit points (sem 1) • 4 hours per week (sem 2) • Hawthorn • Prerequisite: CE276 Structural Design • Instruction: lectures, tutorials • Assessment: examination 60%, assessed work 40%

This is a fourth year subject in the Bachelor of Technology/Built Environment.

Objectives

To familiarise students with the relevant codes of practice for concrete structures and for masonry structures.

Content


Concrete structures code. Masonry code.

Recommended reading

AS3600 Concrete Structures Standards Australia 1994

AS3700 Masonry Code Standards Australia 1988

Swinburne University of Technology | 1998 Handbook
**CE458 Design and Construction 1**

10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures • Assessment: individual presentations 50%, team reports 50% • Prerequisite: The student must be currently enrolled full time in Semester B or have substantially completed Semester B.

A fourth year subject in the Bachelor of Civil Engineering

**Objectives**

To practise the students in the design of the elements of structures and civil works and to enable the students to appreciate the constructability of their designs and to enable students to recommend the best suited construction methods. Students will also be introduced to the quality management aspects of the design and construction process.

**Content**

A range of designs will be chosen which will require creative solutions. Assignments will be in the form of written reports, design computation models and drawings as appropriate.

Students will be given additional lectures in theory and practice aimed at coordinating the activities involved and in the use of quality management of the design construction process.

Students will also be introduced to research method and design to prepare them for the Investigation Project in the following semester.

**Recommended reading**


**Standards Association of Australia:**


AS 3900 - 1990 Concrete Structures

AS 4100 - 1990 Steel Structures Code

Dr 94400 - Residential Slab and Footings. Draft Australian Standard, 1994

**CE468 Transport Engineering**

10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, tutorials, project sessions • Assessment: assignments 40%, examination 60% • Prerequisites: CE246 and CE300

A fourth year subject in the Bachelor of Civil Engineering

**Objectives**

To develop analysis and design skills applicable to unsignalised and signalised intersections.

To introduce design of non-road modes of transport.

To introduce studies in safety.

**Content**

Intersections: objectives and principles of design; unsignalised intersections including gap analysis, roundabout analysis and layout principles; signalised intersections including principles of signalisation, analysis, layout principles and introduction to SIDRA; signing and lining assessment; evaluation of intersection alternatives, survey and layout design project.

Pavements: traffic types and calculation, principles of pavement design, analysis and design of flexible and rigid pavements, introduction to CIRCLY, assessment of pavement alternatives.

Studies in safety: introduction to safety audit and accident studies.

Rail and air transport: introduction to planning and design related to rail and airports.

**Recommended reading**


Underwood, R.T. Road Engineering Practice. 1st edn, Macmillan Education, Melbourne, 1995


**CE470 Services**

5 credit points • 2 hours per week • Hawthorn • Prerequisite: MM269 Services

• Instruction: lectures, field excursions • Assessment: examination 60%, assessed work 40%

This is a fourth year subject in the Bachelor of Technology (Building Surveying)

**Content**

This subject deals with specialist services encountered in commercial and office buildings.

The following services are covered: air-conditioning, fire sprinklers, electrical services, specialist services, vertical systems lift and escalators. And in the area of site drainage, elements of hydrology, applications to roof, surface and subsurface drainage, hydraulic of pressure conduits, total energy line, hydraulic grade line, graphical representation, pipe formulas, minor losses, pump selection.

**Recommended reading**


Howard, C.A. An Introduction to Building Services, London, 1986


**CE476 Construction Engineering (Elective)**

8 credit points • 4 hours per week • Hawthorn • Assessment: assignments 50%, verbal presentations 50%

This is a fourth year subject in the Bachelor of Engineering (Civil)

**Objectives**

To introduce students to engineering practice in a range of construction activities.

**Content**

• Excavation excavation plant, drilling equipment, blasting rock, settling out of open excavations, support of open excavations.

• Road construction operations in road construction, quality control, plant output and selection, quarry operation, stabilisation of subgrades, roller compacted pavement, block pavement, geotextiles, layout of road works, administration of road works.

• Concrete production, delivery and inspection, crushed aggregate and sand plant, concreting plant, delivery systems, site inspection and quality control, formwork, curing, cold and hot weather concreting, shotcrete, precast concrete.

• Foundation construction dewatering, ground anchors, underpinning and shoring, footing and slab construction.

• Bridge construction methods for reinforced and prestressed concrete bridges, segmental bridge construction, girder launched construction.

**CE477A Construction 3**

7 credit points (sem 1) • 3 hours per week (sem 1) • Hawthorn • Prerequisite: CE278 Construction • Instruction: lectures, site inspections • Assessment: examination 60%, reports 40%

This is a fourth year subject in the Bachelor of Technology (Building Surveying)

**Objectives**

To give students an appreciation of the general principles and structural details for multi-storey structures.

**Content**

The subject covers structural systems, foundation types. Construction systems steel construction, concrete construction, including formwork and concrete placement. Excavations methods, equipment, trenching, rock excavation. Cladding and roofs cladding and roof materials and systems, curtain walls, glass and glazing sealants, thermal and acoustical performance, cleaning and maintenance trafficable and non-trafficable roofs, parapets, stormwater discharge. Partitions, walls and ceilings materials and details, acoustics, fire resistance and inspections of appropriate sites.

**Recommended reading**

Econstruct Structural Steelwork AISC, 1994 Various Australian Standards
CE477B Foundation Systems

7 credit points (sem 2) • 3 hours per week (sem 1 & 2) • Hawthorn • Prerequisites: CE2578 Construction, CE2579 Geotechnical Engineering • Instruction: lectures, laboratory work, field excursions • Assessment: examination 60%, assessed work 40%

This is a fourth year subject in the Bachelor of Technology (Building Surveying)

Objectives
To extend students' knowledge in the area of geomechanics.

Content

Recommended reading
AS1728 Geotechnical Site Investigations Standards Australia, 1993
AS2970 Residential Footing Code Standards Australia, 1996
Craig, R.F. Soil Mechanics, 5th edn, Chapman & Hall, '995
Das, B.M., Principles of Geotechnical Engineering, 3rd edn, Boston, PWS, 1994

CE477C Geomechanics and Structures

10 credit points • 5 hours per week • Hawthorn • Instruction: lectures, tutorials • Assessment: assignment 30%, examination 70% • Prerequisites: CE217 Structural Engineering 1

A fourth year subject in the Bachelor of Civil Engineering

Objectives
To develop and understand structural behaviour and analysis techniques for skeletal structures.

To extend the knowledge of reinforced concrete design.

CE490 Construction Management

5 credit points sem. 1 and 17 credit points sem. 2 • 2 hours per week (sem 1), 8 hours per week (sem 2) • Hawthorn • Prerequisites: CE297 Management • Instruction: lectures, tutorials • Assessment: examination 60%, assessed work 40%

This is a fourth year subject in the Bachelor of Technology (Building Surveying)

Objectives
To organise and management theory, to provide an understanding of the processes applied to industrial relations in Australia. It deals with types of contracts and administration of contracts and provides basic concepts of measuring and estimating materials and costs.

Content
The subject covers four main areas of study.

Management
Organisation and management theory. Management problems in organisations and ways of dealing with them. Recruitment job specification and advertisement. (56 hours.)

Industrial relations
The structure of collective bargaining conciliation and arbitration machinery, the structure and operations of trade unions and employer association, and the associated problems. Legislation dealing with equal opportunity and Occupational Health and Safety Workplace reform. Structure of awards. (28 hours.)

Contracts and specifications
Types of contracts and contract documents. Relationship between conditions of contract, specifications, drawings and bill of quantities. Understanding and preparation of specifications. Administration and enforcement of contract. (28 hours.)

Construction measurement and estimating
Measuring the materials and elements of a project. Application of basic rules to estimate cost. Quality control. Estimating field work. (28 hours.)

Recommended reading

CE494 Industry Based Learning

50 credit points • Assessment: report

A fourth year subject in the Bachelor of Civil Engineering

Objectives
To complete 24 weeks of full-time paid employment in a civil engineering related industry.

To gain industry based learning experiences which integrate aspects of engineering practice and local industrial practice covering some aspects of products or services.

To work as an engineering trainee under the direction of a professional engineer and be an effective part of a multi-disciplinary team within the industry.

To develop and document professional engineering practice for all industry assignments and to communicate professionally in written and verbal forms.
To establish and refine personal development skills in training in order to develop engineering competence towards the professional level.

To implement and gain further understanding of engineering management skills and practices operating within engineering organisational structures.

To observe and appreciate significant trends in employment work groups and industrial relations.

Content
Work requirements are established by the employer in consultation with Swinburne University.

Recommended reading
As suggested by either the industry supervisor or the Swinburne academic supervisor to support the student's work and personal development.

CE496A Statutory Control
7 credit points (sem 1) and 4 credit points (sem 2) • 3 hours per week (sem. 1) and 2 hours per week (sem. 2) • Hawthorn • Prerequisite: CE294 Statutory Control • Instruction: lectures, tutorials • Assessment: examination 60%, reports 40%

This is a fourth year subject in the Bachelor of Technology (Building Surveying) to further develop students' understanding of the principles underlying the relevant engineering competence towards the professional level.

To enable the student to select and design appropriate geostructures for retaining walls, and horizontal structures, and to determine the stability of rock slopes.

Anomalies in the act and regulations and procedures to overcome these. Redrafting Administration and law in-depth study of building surveyor's duties and his legislative responsibilities.

Content
To further develop students' understanding of the principles underlying the relevant regulations, acts, codes and standards and their application to major projects.

Objectives
Administration and law in-depth study of building surveyor's duties and his legislative responsibilities.

Functions the consultative role of the building surveyor in council and private practice.

Acts and regulations analysis of regulations and detailed study of total regulations and principles and a general ability to relate to all relevant codes and standards.

Anomalies in the act and regulations and procedures to overcome these. Redrafting of regulations.

Plan checking and assignments assignments will cover aspects such as council reports and meetings, joint reports, fast track process, major building approvals, dealing with multi-storey buildings.

Recommended reading
Building Act, Ansat, 1993
Building Code of Australia, Vols 1 & 2, ABCD, 1999
Building Regulations Ansat, 1994
Relevant Australian Standards

CE496B Statutory Planning
4 credit points • 2 hours per week • Hawthorn • Prerequisite: CE294 Statutory Control • Instruction: lectures, tutorials, field work • Assessment: project work 100%

Objectives
This subject deals with the regulatory and statutory aspects of urban planning.

Content
Topics covered are planning at the local and regional level. Planning law acts and legislation. Government town planning in Victoria. Planning appeals preparation for an appeal and participation in the appeals system. Urban landscape concepts relating to permit applications.

Recommended reading
Appropriate Planning Acts and Regulations

CE496C Professional Project
4 credit points (sem 1) and 10 credit points (sem 2) • 2 hours per week (sem. 1) and 4 hours (sem. 2) • Hawthorn • Prerequisite: CE294 Statutory Control/CE496A Statutory Control/Plan Checking, 3, CE496B Statutory Planning • Instruction: project work • Assessment: oral presentation 30%, final report 70%

Objectives
To develop students' initiative and self-education skills through work on an investigation project in an area relevant to the course.

Recommended reading
Building Act, Ansat, 1993
Building Code of Australia, Vols 1 & 2, ABCD, 1999
Building Regulations Ansat, 1994
Relevant Australian Standards

CE498 Geostructures and Rock Slopes
10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, tutorials, laboratory, field inspections • Assessment: examination 50%, assignment 30%, talk 20% • Prerequisite: CE498 Geomechanics and Structures

Objectives
To enable the student to select and design appropriate geostructures for retaining walls, and horizontal structures, and to determine the stability of rock slopes.

Recommended reading

To extend students' knowledge and skills in the areas of transport engineering, water engineering and municipal engineering, including environmental considerations.

Content
Transport Engineering (28 hours)
Organisation: transport economics, transport administration, transportation planning.

Road Engineering: road hierarchy; planning, design & construction of local networks; traffic generation by local developments; parking; computer packages for transport analysis.

Environmental & social issues: traffic noise, vehicle emissions; accident & safety studies.

Demand management: urban planning, demand based techniques, road pricing.

Freight transport: patterns of freight transport; freight systems; selection of mode; physical distribution.

Municipal Engineering (42 hours)
Powers and duties of local government engineers.

Responsibilities for new developments, roads and traffic management, area traffic management, street design, road maintenance, parking requirements and control, property and equipment.

Solid waste management.

Surveying including consideration of financial planning and constraints.

Land use planning: aspects of planning and building control relevant to local government; environmental affects statements.

Surveying: introduction to photogrammetry and remote sensing.

Recommended reading


This is a fifth year subject in the Bachelor of Engineering (Civil)

**Theorem of minimum potential energy, reciprocal theorems.** Applications to buckling problems.

To develop students’ initiative and self-educative skills through work on an investigation project in a topic area relevant to the course.

**Objectives**

Students will work in small groups on selected projects under staff supervision. Projects will be generated either by staff from their own research interests or from proposals put forward by industry sponsors. Students can propose their own projects but need the approval of a staff member who is prepared to act as a supervisor.

Each project will require a literature review, the formation and testing of an hypothesis and the development of a research plan, presented as a research brief early in the semester and a theoretical and/or experimental investigation. Results and conclusions will be presented as a progress report in the form of a poster paper accompanied by an oral presentation, and as a final written report at the conclusion of the project.

### Recommended reading

- Das, B.M. Principles of Geotechnical Engineering. 3rd edn, PWS, Boston, 1994

### Content

- Design of steel structures: buckling; stability; bracing systems; action under non-gravity loads; design of steel portal frames; modelling, analysis and design of elements and connections.
- Design in timber and masonry: design of timber structures; nailed and bolted connections; glulam and U.L. members; joint displacements; plate connectors and multi-nail connections; masonry design; plain and reinforced walls and columns.
- Determination of loads on structures subject to wind forces.
- Tension structures: rigid and extensible cables, membranes.
- Composite structures: partial composite action, application to beams.
- Structural dynamics. Earthquake loading and analysis.
- Plastic analysis of plates: yield line and strip methods.
- Tension structures: rigid and extensible cables, membranes.
- Composite structures: partial composite action, application to beams.
- Structural dynamics. Earthquake loading and analysis.
- Finite element analysis: frames, plates, shells.

### References

- Das, B.M. Principles of Geotechnical Engineering. 3rd edn, PWS, Boston, 1994

### Subject Details

**Prerequisites:** CE217/Structural Engineering 1, CE315 Structural Design 1

A fifth year subject in the Bachelor of Civil Engineering

### Objectives

To broaden the students’ understanding of the theory of structural mechanics and to consider some advanced topics in structural engineering. In particular to introduce aspects of structural dynamics, fire engineering and earthquake engineering and to enable the student to select and design foundations for heavily loaded structures.

### Content

- Introduction to structural dynamics: free and forced vibration of one degree-of-freedom systems; response spectra; analysis of multi degree-of-freedom systems; foundations for vibrating machinery.
- Fire engineering: fire loads and containment; performance of structural materials; elements and systems under fire conditions; methods of providing fire resistance.
- Earthquake engineering: general principles; static analysis; distribution of lateral forces; design of earthquake resistant structures; effect of earthquakes on deep foundations; magnification of earthquake loads due to soft soils.

### Recommended reading

- Das, B.M. Principles of Geotechnical Engineering. 3rd edn, PWS, Boston, 1994

### Content

- Tension structures: introduction to cables and membranes.
- Foundations for structures: structure-foundation interaction; interaction of lightly loaded structures and expansive soil subgrades; foundations on expansive soils: deep soft soils; rock, deep foundations on rock, rock socketed piles, raft foundations; excavation adjacent to structures: settlement, protective works.

### Recommended reading

- Das, B.M. Principles of Geotechnical Engineering. 3rd edn, PWS, Boston, 1994

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A fifth year subject in the Bachelor of Civil Engineering

**Objectives**

To broaden the understanding of the theory of structural behaviour and to consider some advanced topics in structural engineering. In particular to introduce aspects of structural dynamics, fire engineering and earthquake engineering and to enable the student to select and design foundations for heavily loaded structures.

### Content

- Tension structures: rigid and extensible cables, membranes.
- Composite structures: partial composite action, application to beams.
- Structural dynamics. Earthquake loading and analysis.
- Finite element analysis: frames, plates, shells.

### References


### CE518 Structural Engineering 2

**Objectives**

To broaden the understanding of the theory of structural behaviour and to consider some advanced topics in structural engineering. In particular to introduce aspects of structural dynamics, fire engineering and earthquake engineering and to enable the student to select and design foundations for heavily loaded structures.

### Content

- Introduction to structural dynamics: free and forced vibration of one degree-of-freedom systems; response spectra; analysis of multi degree-of-freedom systems; foundations for vibrating machinery.
- Fire engineering: fire loads and containment; performance of structural materials; elements and systems under fire conditions; methods of providing fire resistance.
- Earthquake engineering: general principles; static analysis; distribution of lateral forces; design of earthquake resistant structures; effect of earthquakes on deep foundations; magnification of earthquake loads due to soft soils.

### Recommended reading

- Das, B.M. Principles of Geotechnical Engineering. 3rd edn, PWS, Boston, 1994

### CE519 Structural Mechanics 2

**Objectives**

To broaden the understanding of the theory of structural mechanics and to consider some advanced topics in structural engineering. In particular to introduce aspects of structural stability, the finite element method, the theory of plates and shells and tension structures.

### Content

- Methods of structural analysis: first order linear and second order analysis with particular reference to codes of practice.
- The finite element method in structural engineering: general formulation of an element stiffness matrix; the CST element and higher order elements; applications.
- Behaviour of plates and shells: introduction to elastic theory; plastic analysis by yield line theory and strip methods.
- Tension structures: introduction to cables and membranes.
- Foundations for structures: structure-foundation interaction; interaction of lightly loaded structures and expansive soil subgrades; foundations on expansive soils: deep soft soils; rock, deep foundations on rock, rock socketed piles, raft foundations; excavation adjacent to structures: settlement, protective works.

### Recommended reading

- Das, B.M. Principles of Geotechnical Engineering. 3rd edn, PWS, Boston, 1994

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**Swinburne University of Technology | 1998 Handbook**
CE520 Urban Planning and Environment

10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, seminars and site visits • Assessment: assignments 100%

A fifth year subject in the Bachelor of Civil Engineering

Objectives
To provide a basic understanding of the systemic allocation and management of urban land in the context of sustainable development.

Content
Information: physical and social surveys; satellite technology; geographical information systems; land cover, tenure and use; census data.
Land use planning: historical origins; urban and regional structure; strategic planning; planning schemes; permits and conditions; developer-community agreements; local amenity; resolution of disputes; appeals.
Transport planning: travel demand; transport planning models; integration of land and amenity; resolution of disputes; appeals.

Recommended reading

CE533 Water Engineering (Minor Elective)

6 credit points • 3 hours per week • Hawthorn • Assessment: examination 60%, assignments 40%

This is a fifth year subject in the Bachelor of Engineering (Civil)

Objectives
To extend students’ knowledge and skills into unsteady, non-uniform flow phenomena. On completion, students should be able to apply these principles to the solution of practical problems.

Content
Flood estimation methods, flood routing through reservoirs and retarding storages, streamflow routing, graphical methods, application of computers in analysis and design.
Urban drainage major and minor systems, hydrologic and hydraulic performance of drainage systems for varying treatments, effects of urban redevelopment, on-site stormwater detention.
Underground water supplies steady state hydraulics, safe yield, artificial recharge, coastal groundwater hydro-dynamics, non-steady state hydraulics. Their solution, degradation of arable lands by saline groundwater intrusion.

CE539 Water Engineering

10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, tutorials, laboratory sessions, project sessions • Assessment: assignments 40%, examination 60% • Prerequisites CE236 Hydraulics

A fifth year subject in the Bachelor of Civil Engineering

Objectives
To develop students’ ability to apply the principles of hydraulics, hydrology and water quality to the design of stormwater systems and the management of urban catchments.
To improve students’ ability to communicate technical information, and review technical issues.
To develop students’ appreciation of social objectives and environmental issues in urban catchment management.

Content
Water treatment: wastewater, potable water, stormwater, water conservation.
Groundwater hydraulics: steady-state well hydraulics; modelling salt intrusion and landfill seepage.
Flood estimation: unit hydrograph method; statistical rational method; flood routing through storage and streams.
Urban drainage systems: major/minor systems; hydraulic design.
Flood attenuation: flood retarding basins, on-site detention, grass swales.
Open channels: structures; erosion and sedimentation; bank treatment.
Water quality in urban catchments: pollution sources; multiple uses and quality standards; source controls; gross pollution traps; nutrient ponds.

Recommended reading

CE550 Design and Construction 2

20 credit points • 4.5 hours per week for two semesters • Hawthorn • Instruction: lectures, case studies • Assessment: individual presentations 50%, synoptic presentations 50% • Prerequisites: CE458 Design and Construction 1, and the student must be currently enrolled full time in Semester 3 or have substantially completed Semester 2.

A fifth year subject in the Bachelor of Civil Engineering

Objectives
To enable students to develop concepts for structures and civil engineering works and to design substantial elements of those structures; and to prepare schemes for the construction of such systems, with due consideration given to the environment, and to give students an appreciation of the construction industry in Australia and Asia.

Content
A range of designs will be chosen which require creative solutions. Assignments will be in the form of written reports, design computations and drawings as appropriate. Students will be given additional lectures in theory and practice aimed at coordinating the activities involved in the construction industry in Australia and Asia.

Recommended reading

CE553 Structural Design (Minor Elective)

6 credit points • 3 hours per week • Hawthorn • Assessment: examination 60%, assignments 40%

This is a fifth year subject in the Bachelor of Engineering (Civil)

Objectives
To extend students’ knowledge and skills into structural design of special engineering structures.

Content
A selection of more advanced structural design projects chosen to emphasise the interpretation of current design codes and current design practices.

CE555 Civil Design

14.5 credit points • 5 hours per week • Hawthorn • Assessment: assignments 20%, examination 80%

This is a fifth year subject in the Bachelor of Engineering (Civil)

Objectives
To develop students’ abilities to synthesise knowledge in a practical design situation.

Content
Projects will involve medium scale developments. Initially project feasibility is considered including its environmental and social impact. It is followed by design computations and drawings in fields of hydraulics, transport, structures and construction practice.

CE560 Environmental Engineering and Planning

7.5 credit points • 6 hours per week • Hawthorn

A fourth year subject in the Bachelor of Applied Science (Environmental Health)

Content
The hydrologic cycle, rainfall measurement, run-off processes. Introduction to drainage system design. Open channel flow, estimation of total and peak flows.
Soil classification systems including laboratory and field identification and classification, Soil permeability and ground water flow.

Swinburne University of Technology | 1998 Handbook
Introduction to land use planning with particular emphasis on the role of the environmental health officer.

Structure and process of planning in Victoria including neighbourhood and regional planning.

Planning scheme surveys including environmental impact assessments.

CE562 Local Engineering Systems

10 credit points • 4.5 hours per week • Hawthorn • instruction: lectures, seminars and site visits • Assessment: assignments 100%

A fifth year subject in the Bachelor of Civil Engineering

Objectives
To introduce techniques for the development and maintenance of civil engineering systems needed to support regional and local scale urban communities.

Content
Engineering information; system auditing; capacity and condition surveys of hydraulic and transport networks; standards of service; system reliability; asset management and maintenance; assessment of demand; budgeting; sources of funding; setting priorities in works programs; characteristics of building, pavement, drainage and sewerage maintenance systems; system redevelopment.

Traffic management: local area traffic management; area network management; traffic demand management; signal linking; traffic legislation and regulation; pedestrian and cycle networks.

Local area engineering: residential subdivisions; commercial centres; major carparks; integration of parks and waterways; recreation facilities; open space networks; landscaping and streetscaping.

Solid waste management: waste generation rates; systems of collection including economics of recycling; landfill siting and design; landfill construction; leachate and gas control; rehabilitation, after-use and monitoring.

Recommended reading
Selected video tapes
Selected municipal publications
Selected publications from Australian Road Research Board

CE576 Construction Engineering (Major Elective)

9 credit points • 5 hours per week • Hawthorn • Assessment: class test 40%, assignments 30%, verbal presentation 30%

This is a fifth year subject in the Bachelor of Engineering (Civil)

Objectives
To develop students' knowledge of construction technology and the construction industry.

Content
- The construction industry organisation, economy and opportunities, entrepreneurial construction activities;
- plant output and performance of bulldozers, tractor scrapers, excavators, truck cycles;
- road and pavement construction; quality assurance and total quality management in construction operations;
- deteriorating assets; assessment, management and remedial problems;
- construction opportunities in the developing region of S.E. Asia and China;
- major projects in Australia;
- bridge construction steel, reinforced and prestressed concrete bridges, segmental and girder launched construction;
- piles, types, selection of precast, in situ, or steel pilling, installation methods, load tests;
- tunneling soft ground and rock tunneling, tunneling machines, tunnel linings, removal of excavated material, inlet and outlet structures;
- pipelines loads on precast and in situ pipelines due to different methods of excavation and backfilling, excavation and shoring, joints, laying techniques for precast pipelines;
- dams and embankments earth, rockfill and mass concrete gravity dams and embankments, arch dams, outlet works and spillways.

Recommended reading
Harris, F., Modern Construction Equipment and Methods. Longman Scientific, 1989
Reiss, F., Project Management Demystified. Spon 1992

CE580 Soil Dynamics

10 credit points • 4.5 hours per week • Hawthorn • instruction: lectures, tutorials, laboratory sessions • Assessment: examination 50%, assignment 30%, talk 20% • Prerequisites: CE469 Geomechanics and Structures

Objectives
To enable the student to appreciate the effect of seismic forces on soil and the soil-structure system and to be able to predict the effect of vibrations on adjacent structures. The student will also have the ability to design foundations for vibrating machinery.

Content
Seismicity of the earth; seismic active zones; seismicity of Australia; seismicity of Victoria; seismicity of Melbourne; lessons from the Newcastle earthquake; predicting the effect of earthquakes in local regions; systems of measurement of earthquake effects, (Mercalli, Richter, etc); types of vibrations; effect of vibrations; types of waves; limits of effects on structures; resonant frequency of soils; structures and humans; vibrating machinery; damping of vibrations; foundations for vibrating machinery.

Recommended reading
Das, B.M. Principles of Geotechnical Engineering. 3rd edn, PWS, Boston, 1994

CE582 Geomechanics (Minor Elective)

6 credit points • 3 hours per week • Hawthorn • Assessment: assignments/laboratory work 100%

This is a fifth year subject in the Bachelor of Engineering (Civil)

Objectives
To extend students' knowledge of geology and soil mechanics and introduce them to rock mechanics and give them an appreciation of the high level of experience and 'art' required to practice in the area of geomechanics.

Content
- Engineering geology of the Melbourne region;
- behaviour of lightly loaded structures on expansive soils;
- preventive and remedial measures to protect structures on expansive soils;
- moisture stabilisation for expansive soil sites;
- vibrations due to machinery and seismic shock;
- land full operations.

Recommended reading

CE589 Lightly Loaded Structures on Expansive Soils

10 credit points • 4.5 hours per week • Hawthorn • instruction: lectures, laboratory sessions, field inspections • Assessment: examination 50%, assignment 30%, talk 20% • Prerequisites: CE469 Geomechanics and Structures

Objectives
To enable the student to understand the behaviour of expansive soils and their effect on lightly loaded structures supported by them. The student will also be introduced to passive and active intervention and rehabilitation systems.

Content
Mineralogy of expansive clay soils; distribution of expansive soils in Melbourne and Victoria; effect of expansive soils on structures such as low rise buildings, roads and pipelines; surface movement related to seasion, climate and drought; moisture change in unsaturated soils; soil suction and soil movement; gilgai formation; variability of clay soils at the macro level; effect of depth of clay; effect of the depth of the water table; effect of the presence of trees on soil movement; moisture barriers; lime flush barriers; moisture recharge and active moisture stabilisation methods; foundations for structures in expansive soils.

Recommended reading
Das, B.M. Principles of Geotechnical Engineering. 3rd edn, PWS, Boston, 1994
Leeper, B.W., Uren, N.C. Soil Science. 9th edn, Melbourne University Press, 1993
HM50. Soil Mechanics for Road Engineers. HM50, 8th impression, 1969
CE590 Civil Engineering Management 2

10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, seminars and project work • Assessment: assignments and presentations 70%, class tests 30% • Prerequisites: CE599 Civil Engineering Management 1

A fifth year subject in the Bachelor of Civil Engineering

Objectives
To demonstrate the practice of engineering management throughout the life cycle of civil engineering systems in both public and private enterprise.

Content
The role and impact of engineers in society; nature of Australian engineering organizations; professional societies and professional ethics; professional development.

Research and development: processes of innovation and creative attitudes; forecasting technological change; identifying opportunities.

Corporate planning: mission objectives and strategies; congruence of organisation and environment; strategic planning; business operations; profit and competition; management information systems.

Finance of engineering operations: long term planning; sources of funds; equity and debt; venture capital; taxation; budgeting for capital and recurrent expenditure.

Project management: project planning and organisation team building; materials management; overheads; project planning and control; contract documentation; assessment of tenders; progress payments; arbitrations.

Operations and maintenance of engineering systems: depreciation as a budget element; timing of maintenance intervention; economic life of systems.

Recommended reading
Samsio (Ed). Management for Engineers. Longman-Cheshire, Melbourne, 1999
National Committee on Construction Engineering. Guidelines for Successful Engineering Construction. The Institution of Engineers, Australia, Canberra, 1994

CE596 Engineering Management

8 credit points • 5 hours per week • Hawthorn • Assessment: class tests 35%, assignments 65%

This is a fifth year subject in the Bachelor of Engineering (Civil)

Objectives
To make students aware of the role of the engineer in society and of effects of man on the environment.

To extend basic management concepts introduced earlier in the course into specific areas of management practice, and to give students a background into some common and important construction practices.

Content
The engineer and society

The role of the engineer in society, professional institutions, professional ethics. Environmental engineering

Global ecology, conservation versus development, sustainable use of renewable resources, control of use of non-renewable resources, values of natural systems, wilderness and landscape, environmental impact assessment, environmental rehabilitation.

Project management


Recommended reading
Samsio (Ed). Management for Engineers. Longman-Cheshire, Melbourne, 1999
National Committee on Construction Engineering. Guidelines for Successful Engineering Construction. The Institution of Engineers, Australia, Canberra, 1994

CE670 Construction Technology

12.5 Credit Points • one semester, four hours per week • Hawthorn • Assessment: assignment, presentation

This is a subject in the Master of Business Administration

Objectives
To develop a knowledge of the technological resources available for the execution of a construction project.

Content
Planning of construction programs, resource allocation, plant and equipment, soil investigation and data interpretation, construction materials, construction on soft soils, road construction, geosynthetics, craneage, bridge erection, steel fabrication, tunneling, construction planning, construction in SE Asia.

Textbooks
Illingworth, J.R., Construction Methods and Planning. Spon, 1983

Recommended reading
CIDB, Building Best Practice in the Construction Industry. CIDB, 1994
Hollis, M., An Introduction to Project Evaluation. Longman Cheshire Pty Ltd, 1993

CE673 Construction Law & Safety

12.5 Credit Points • one semester, five hours per week • Hawthorn • Assessment: 2x Assignments, 2x Assignments

This is a subject in the Master of Business Administration
Objectives
To give the student an appreciation of the legal and contractual responsibilities within the operation of a construction project; and to make the student aware of the need to manage occupational health and safety.

Content
Legal relationships; agency, partnerships, firms, companies, and incorporated associations.

CE677 Quantity Surveying A
12.5 credit points • 4 hours per week • Hawthorn

Objectives
To enable the student to prepare bills of quantities, to appreciate the various types of bills, to adjust feasibility studies and costs, to measure Civil Engineering, Engineering and Building and to use the appropriate electronic hardware and software for support.

Content
Standard Method of Measurement, measurement and billing of quantities, property oriented bill of quantities, including elemental specified and operational, principles of elemental cost analysis, reliability of data, measurement of Civil and Building quantities, computer assisted bills of quantities.

CE690 Civil Engineering Project Control
12.5 credit points • 4 hours per week • Hawthorn • Instruction: lecture/tutorial/discussion • Assessment: by assignment work

This is a subject in the Graduate Diploma of Engineering (Construction Management) and Master of Engineering (Construction Management)

Objectives
To introduce the techniques for establishing and maintaining control of a project.

Content
General conditions of contract; forms of contract; drawings, specifications and quantities; estimating, scheduling and programming; quality control; risk analysis; documentation of work progress and costs; progress payment procedures; industrial safety.

Recommended reading


CE691 Civil Engineering Management
12.5 Credit Points • one tutorial, four hours per week • Hawthorn • Prerequisite: Nil • Assessment: tests, 2 x team presentations

This is a subject in the Master of Business Administration

Objectives
To develop an awareness of efficient site management techniques.

Content
Responsibilities of a project manager; responsibility of site engineer; construction site organisation; site office procedures; contractor/principal relations; industrial arbitration; company structures; personal management; negotiations; arbitration and conciliation; formulation of goals and objectives, business strategies, technological strategies, operational planning, short range objectives, realising objectives, strategies and plans, planning construction programs, market niche, organisational structure and design, organisational life cycle, coordinating design and site functions, organising capital inputs, work methods, leaders working with people, leadership traits and behaviour, determinants of leadership effectiveness, difference between leading and managing, the effect of innovative leadership, entrepreneurial traits, entrepreneurs in construction, decision making.

Textbooks

Recommended reading
Carnegie, R. and Butlin, M., Managing the Innovative Enterprise, PUBLISHER and YEAR.
Friedman, W., Construction marketing and Strategic Planning, PUBLISHER and YEAR.
Hashimoto, Y., Improving Productivity in Construction, PUBLISHER and YEAR.
Parker, H.W., and Ogiloby, C.H., Methods Improvements for Construction Managers, PUBLISHER and YEAR.

CE692 Communications
12.5 credit points • 4 hours per week • Hawthorn • Instruction: lecture/tutorial/discussion • Assessment: written reports and class presentations

This is a subject in the Graduate Diploma of Engineering (Construction Management) and Master of Engineering (Construction Management)

Objectives
To develop the students’ understanding and practice of communication, both written and verbal.

Content
The theory and practice of communications. Students take part in a program designed to increase their personal capacities to understand and communicate well at different levels of oral and written communication, particularly as project managers in the construction industry. To this end various techniques are used and evaluated by the group.

The course also includes a brief study of the historical role of the engineer in the development of human communications, placing the profession in its social context. The purpose of the course is to enable the engineer to evaluate professional problems more competently and to communicate ideas more effectively.

Recommended reading
Robinson, O.M., Writing Reports for Management Decision. Columbus, Ohio, CE Merrill, 1969.

Practical work
Participation in class discussions is required.
CE693 Introduction to Contract Law
7.5 credit points • 2 hours per week • Hawthorn • Instruction: lectures/tutorial • Assessment: by assignment work
This is a subject in the Master of Engineering (Construction Management)

Objectives
This subject is intended to enable students to gain an understanding of the relevant law applicable to the building and construction process and to provide the students with the necessary skills to administer a building project.

Content
Contract types, contract documents, conditions of contract, choice of contract type relating to risk and financial considerations, site documentation, computer applications for site administration of contracts.

Legal system in Australia, sources of law, court structures, system of judicial precedence, types of law: criminal, civil, consumer, worker protection, law of partnership, law of bankruptcy.

Recommended reading

CE695 Property Management
12.5 credit points • 4 hours per week • Hawthorn

Objective
To give students an understanding of the operation of a building in terms of administering and marketing space for profit, and maintaining a building to an established standard within a budget. The students will be given an appreciation of the requirements of managing a portfolio of properties.

Content
Maintenance cycles and failure patterns in building components and services, maintenance budgets, performance criteria for building components and services, marketing of space and administration of the occupation of space, managing a portfolio of properties on behalf of clients.

CE696 Building Macroeconomics
12.5 credit points • 4 hours per week • Hawthorn

Objective
To give students an understanding of the elements contributing to the cost of a project.

Content
Project feasibility studies, cost control of the design phase, cost control systems for project construction, forecast of cost and cash flow for a project, project budgeting, total cost for a project, life cycle costing, computer applications for cost analysis recording, analysis and reporting.

CE697 Infrastructure Systems
12.5 credit points • 4 hours per week • Hawthorn

Objective
To develop an understanding of the hardware of the systems which support a high standard of civilisation and the operation of that hardware for the benefit of man.

Content
The support systems in modern urban areas, the history of the construction, water supply systems, sewage systems, road networks, rail networks, organisations to plan, construct, manage and maintain the systems, system control, system deterioration and rehabilitation, investment in systems, future costs of such systems, alternative means of providing the service, extending the life of the systems, planning for system replacement.

CE771 Construction Project Control
11.5 credit points (sem 2) • 4 hours per week (sem 2) • Hawthorn
This is a subject in the Graduate Diploma of Engineering (Construction Management)

Objective
To develop research and self-educative skills.

Content
Formation of hypothesis and setting of objectives, establishing reference sources, literature review, layout of thesis, incl chapter and sub-chapter headings, Experimental Design, Data gathering, Poster papers, Preparation of reports. Students work individually on a project dealing with an aspect of construction management or technology preferably related to their employment or to a data base in a construction firm. A literature survey is required. A state of the art report is prepared.

Recommended reading
Deas, R., Writing the Modern Research Paper, Alyn and Bacon, Boston, 1997.

CE772 Construction Technology
12.5 Credit Points • one semester, four hours per week • Hawthorn • Prerequisite: Nil, Assessment: 1 Test, 2 Assignments
This is a subject in the Master of Business Administration

Objectives
To develop an understanding of Construction & Building Systems and their most efficient use.

Content
Construction and building systems; prediction of performance; cost of production; system optimisation; computer based system modelling; maintenance and safety.

Textbooks

CE773 Research Project
50 credit points • 16 hours per week • Hawthorn • Instruction: practical work and data gathering requiring regular meetings with supervisors • Assessment: by written reports, thesis and presentations
This is a subject in the Master of Engineering (Construction Management)

Objectives
To develop students' knowledge, initiative and self-education skills through work on a research project in an area relevant to the course.

Content
This subject gives students the opportunity to apply subject matter studied in earlier subjects to construction and building related problems. Students will work individually or in small groups on selected projects which, where possible, will be industry based and sponsored and have direct relevance to the students' area of employment. Interaction between professional engineers in industry, supervising staff at Swinburne and students will help develop the students' competence. External supervisors may be appointed in addition to staff supervisors.

Projects will usually require a literature survey and a theoretical and/or experimental investigation. Results and conclusions will be presented in oral and written report form.

CE777 Quantity Surveying B
12.5 credit points • 4 hours per week • Hawthorn

Objective
To enable the student to prepare estimates at various stages of a project to different levels of accuracy incorporating overheads and variations using computer programs.

Content
Estimate preparation at the pre-design, design and tender stages, establishing the accuracy of estimating methods and the associated risks, assessment of overheads and margins and the incorporation into estimates, evaluate the implications of rise and fall clauses, evaluate sub-contract quotations and the implications of appended conditions, estimates of Civil Engineering works, coordination of the preparation of a major tender, statistical estimating methods, use of standard computer packages.
CE790 Financial Project Control

12.5 credit points • 4 hours per week • Hawthorn

This is a subject in the Graduate Diploma of Engineering (Construction Management)

Content

This subject introduces financial concepts that are important in evaluating projects, in financing projects; in financial control and in determining the profitability of projects. Cost control; financial control; determination of profitability; evaluation of projects; evaluation of sources of finance.

Recommended reading

Viner, 0" Aust., Vic. Divn., Risk Engineering Branch and the National Panel on Risk Engineering, American Society of Safety Engineers, 1985

CE791 Human Resource Management

5 credit points • 2 hours per week • Hawthorn • Instruction: lectures/tutorials/ seminars • Assessment: assignment work and seminar papers

This is a subject in the Master of Engineering (Construction Management)

Objectives

To make the student aware of the technique of human resource management.

Content

Client — contractor, sub-contractor relations, safety, personnel administration, individual and group psychology, industrial psychology, structure and role of the trade unions, human resource management.

Practical work

Visit arbitration court.

Recommended reading

Practical work


American Soc. of Safety Engineers, New Directions in Safety, Park Ridge, Ill., American Society of Safety Engineers, 1985


CE792 Health and Safety in Construction

5 credit points • 2 hours per week • Hawthorn • Instruction: lectures/tutorials/seminars • Assessment: assignment work and seminar papers

This is a subject in the Master of Engineering (Construction Management)

Objectives

To make the student aware of the effect of construction work on society and the environment.

Content

Control of pollution, effect of construction work on the environment, noise control, methods of dealing with objections from the public to proposed works, statutory regulations regarding safety and protection of the public, demolition requirements, hazardous aspects of construction, occupational health and safety, workcare.

Practical work

Assignment work and seminar papers. Inspection of site work.

Recommended reading


Hoyes, C.B., Occupational Safety and Accident Prevention, Amsterdam, Elsevier, 1988


CE793 Construction Law

10 credit points • 3 hours per week • Hawthorn • Instruction: lectures/tutorials/seminars • Assessment: assignment work and seminar papers

This is a subject in the Master of Engineering (Construction Management)

Objectives

To give the student an appreciation of the legal and contractual responsibilities within construction operations.

Content


Recommended reading

Carter, J.W., Outline of Contract Law in Australia. Sydney, Butterworths, 1983

Khuray, C., Understanding Contract Law: 3rd edn, Sydney, Butterworths, 1992

Caffrey, B.A., Guidebook to Contract Law in Australia: 4th edn, North Ryde, N.S.W., CCH Australia, 1991


CE794 Financial Management

10 credit points • 3 hours per week • Hawthorn • Instruction: lectures/tutorials/seminar • Assessment: assignment work and seminar papers

This is a subject in the Master of Engineering (Construction Management)

Objectives

To give the student knowledge of the financial consideration of company operations from site level to financial strategy.

Content

Principles of economics, cost control systems, cash flow forecasting, financing of projects, bidding and negotiation of contracts, computer modelling, bidding models, feasibility of projects, assessment of viability.

Practical work

Computer modelling.

Recommended reading

Friedman, W., Construction Marketing and Strategic Planning, New York, McGraw-Hill, 1984


Golborne, J., Site Cost Control in the Construction Industry, Butterworths, 1982


CE795 Infrastructure Asset Management

12.5 credit points • 4 hours per week • Hawthorn

Objective

To enable students to understand the requirements of managing large Civil Engineering systems.

Content

Asset management principles, deterioration models, intervention points for maintenance, maintenance levels, routine maintenance, rehabilitation, reconstruction, assessment of performance of an asset, life prediction, life cycle of an asset, construction costs vs total operating cost, establishment of the accepted operational standard of a system, operational cost and performance.

CE999 Construction Project

25 Credit Points • One semester, eight hours per week, or two semesters, four hours per week • Hawthorn • Prerequisites: CE590, CE591, CE670 • Assessment: Written report

This is a subject in the Master of Business Administration

Objective

To develop research and self educative skills.

Content

Formation of hypothesis and setting of objectives, estimating reference sources, literature review, layout of thesis, final chapter and sub chapter headings, Experimental Design, Data gathering, Fuzzier papers, Preparation of reports. Students work individually on a project dealing with an aspect of construction management or technology preferably related to their employment or to a data base in a construction firm. A literature survey is required. A state of the art report is prepared.

Recommended reading


**CP001 Principles of Cleaner Production**

7.5 credit points • 40 hours per week • Hawthorn • Assessment: one case-study analysis (50%), two written tests each of approximately 1½ hours duration (20%)

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

**Objectives**

To introduce the principles of, and strategies for, 'Cleaner Production', by which industry can reduce waste and improve efficiency, and demonstrate commitment to good corporate citizenship, community responsibility, and ecologically sustainable development. To introduce the essential principles and rationale of 'Cleaner Production' within local and global perspectives.

**Context**

At the completion of this module the participant should be able to:

- describe and explain the role of cleaner production principles in terms of overall business function, environmental conservation and ecologically sustainable development;
- identify and describe the roles of authorities and agencies with whom industry may interface, with respect to the establishment of cleaner production processes and technologies.

**Recommended reading**


**CP002 Resource Technology**

7.5 credit points • 40 hours per week • Hawthorn • Assessment: 2 minor written assignments (25%each) and one written examination (50%)

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

**Objectives**

To provide the participant with up to date information on resource management and options for waste minimisation, waste utilisation and waste treatment.

**Content**

To review existing technologies for, and the industrial and environmental consequences of, waste management. At the successful completion of this module the participant should be able to:

- describe strategies for the efficient use of energy sources and conservation of resources, within an industrial context;
- describe the potential for and benefits of improved amenity in 'mixed-use' areas;
- design a waste reduction strategy which addresses a specific industrial resourcing problem.

**Recommended reading**

Environmental Audit Guidebook, Centre For Professional Development

Environmental Law in Victoria. A Business Guide, Fresh Hill Hollingdale and Page, Centre For Professional Development

Environmental Management Practices: A survey of major Australian organisations, Cooper’s & Lybrand, August 1993


Journal of Cleaner Production

**CP003 Environmental Regulation**

7.5 credit points • 40 hours per week • Hawthorn • Assessment: two minor written assignments (40%each) and one major written assignment (60%)

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

**Objectives and content**

To introduce the major environmental legislation and policies and examine the consequences for waste management and cleaner production.

At the successful completion of this module the participant should be able to:

- distinguish between the key legislative controls and statutory guidelines as they relate to environmental protection in Australia;
- define the categories of environmental laws most likely to impact upon business activities in Victoria.

- present an overview of legal processes and the role of law in setting and enforcing environmental standards;
- review legislative processes which regulate waste management and cleaner production.

**Recommended reading**

Australian Heritage Commission Act 1975 with amendments

Environment Effects Act 1978

Environmental Law in Victoria. A Business Guide Fresh Hill Hollingdale and Page, Centre For Professional Development

Environment Protection (see Dumping) Act 1981

Flora and Fauna Guarantee Act 1988

Planning and Environment Act 1987

The Environment Protection (Impact of Proposals) Act 1974

Victorian Legislation Environment Protection Act 1970 including all regulations and statutory policies.

**CP004 Environmental Management**

7.5 credit points • 40 hours per week • Hawthorn • Assessment: two written assignments (60%each) and one examination (40%)

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

**Objectives and content**

- To introduce fundamental environmental management practices and authority requirements within the framework of 'Cleaner Production' principles.
- To examine industry's legal responsibilities for waste management and waste minimisation and review strategies for organisational development and implementation of environmental policy development within a framework of wider-community expectations.
- At the successful completion of this module the participant should be able to describe Company, Management and Director requirements, liabilities and responsibilities for waste management and waste minimisation.

**Recommended reading**

Draft ISO 14000


**CP700 Environmental Systems**

12.5 credit points • Hawthorn • Assessment: assignments and examination

This is a subject in Graduate Diploma and Masters in Cleaner Production

**Objectives**

- to provide an understanding of the philosophy of ecologically sustainable development
- to provide an understanding of eco-cycles and the environmental impacts upon them of industrial systems
- to provide a knowledge of industrial toxicology in air, land and water systems as local and global factors

This subject will provide a basis for understanding natural systems and the detrimental effect of industry on global ecological sustainability. It will show how the various systems are linked in interdependency, and the fragile balance that is necessary for stability.

**Content**

- Biological cycles: the carbon cycle, the water cycle
- Biological food chains
- Groundwater and soil systems
- Eco-systems and biological inter-relationships
- Case Studies
- Global Environmental Issues
- Classification and Inventory of Toxic Technologies and Chemicals
- Epidemiology

**CP701 Environmental Economics**

12.5 credit points • Hawthorn • Assessment: assignments and examination

This is a subject in Graduate Diploma and Masters in Cleaner Production

**Objectives**

- To investigate the claim that high environmental performance is not contrary to profit earning

Swinburne University of Technology | 1998 Handbook
Environmental issues mentally equate to high costs in industry. This subject will show that correct waste accounting offers potential to save money and reduce risk. It will also show the role of ISO 14000 on management systems to provide assured environmental practices.

Content
- Adding waste costs to cost centres management
- The potential value of the waste steam
- Financial balances on material balances
- Business/factory simulation of production and wastes
- Financial assessments of new/modified technologies/techniques
- Pay-back calculations for environmental projects
- Quick fix (local and global) and effects on economies
- Technology change versus process equipment life
- Risks assessments
- Scope of ISO 14000 series
- Business and economic ramifications of ISO 14000
- Links between cleaner production and ISO 14000
- Value of emissions

Recommended reading


Recommended reading


CP702 Eco-Design and Auditing
12.5 credit points · Hawthorn · Assessment: assignments and examination.

This is a subject in Graduate Diploma and Masters in Cleaner Production

Objectives
- to study the effects on the environment of processes, products and consumption from acquisition of raw materials to manufacture, use and post-use, and compare these effects with alternatives
- to study the eco-audit or waste minimisation process in detail with examples. This subject contains some of the key issues of Cleaner Production philosophy and practice and compares past practice in thinking and production with alternative, more environmentally friendly approaches to industrial systems

Content
- Life Cycle Diagrams
- Life Cycle Assessment: principles, models, mathematics
- Eco-design for processes with examples
- Eco-design for products with examples
- Eco-design for consumption and purchasing power
- Eco-Audit: the ten steps in detail
- Material Balances: examples and computer models
- Audit problems, obstacles, institutional drag
- Eco-audit examples from industry
- Simulation case study

Recommended reading
RMIT Centre for Design
Journal of Cleaner Production, UK

CP703 Cleaner Production in Industry - Part 1
12.5 credit points · Hawthorn · Assessment: assignments and examination

This is a subject in Graduate Diploma and Masters in Cleaner Production

Objectives
- to study the applications of best practice and changes to Cleaner Production across the broad scope of primary and packaged food industries
- to demonstrate best practice using actual case studies

This subject is one of the three that will give practical meaning to the application of Cleaner Production across a broad scope of industrial sectors.

Content
- Soils - NPK, trace elements, polisons, remediation, additives
- Forest industries - farming, harvesting, timber preservation and substitutes
- Dairy industry and associated products
- Meat industry - abattoirs, rendering, stock, poultry, fisheries and fish farming
- Crops - wheat, rice, vegetables, fruit
- Beverages - water, fruit juice, brewing, wine making
- Food wastes - composting, vermiculture, co-generation, bio-filters, micro-organisms
- Farming chemicals - fertilisers, insecticides, pesticides, herbicides, organic farming
- Packaged food - preservation, packaging
- Pharmaceuticals

Recommended reading
To be advised

CP704 Cleaner Production in Industry - Part 2
12.5 credit points · Hawthorn · Assessment: assignments and examination

This is a subject in Graduate Diploma and Masters in Cleaner Production

Objectives
- to study the applications of best practice and changes to Cleaner Production across the broad scope of primary and packaged food industries
- to demonstrate best practice using actual case studies

This subject is one of the three that will give practical meaning to the application of Cleaner Production across a broad scope of industrial sectors.

Content
- Plant location, layout, process flow, services
- Reaction energies - heat energy balances, waste heat recovery
- Petrochemicals and plastics
- Plant location, layout, process flow, services
- Chemicals manufacture
- High temperature pyrolysis, destruction
- Textiles and tanneries
- Pulp and Paper
- Glass, ceramics and cement
- Printing and photography
- Rubber
- Dry cleaning
- Biotechnology and cleaner production
- Catalysts - energy reduction, recovery, regeneration, re-use
- Physico-chemical separation techniques - settling, filtration, cyclone, centrifuge, ion-exchange, membrane techniques

Recommended reading
To be advised

CP705 Cleaner Production in Industry - Part 3
12.5 credit points · Hawthorn · Assessment: assignments and examination

This is a subject in Graduate Diploma and Masters in Cleaner Production

Objectives
- to study the applications of best practice and changes to Cleaner Production across the broad scope of primary and packaged food industries
- to demonstrate best practice using actual case studies

This subject is one of the three that will give practical meaning to the application of Cleaner Production across a broad scope of industrial sectors.

Content
- Soils - NPK, trace elements, polisons, remediation, additives
- Forest industries - farming, harvesting, timber preservation and substitutes
- Dairy industry and associated products
- Meat industry - abattoirs, rendering, stock, poultry, fisheries and fish farming
- Crops - wheat, rice, vegetables, fruit
- Beverages - water, fruit juice, brewing, wine making
- Food wastes - composting, vermiculture, co-generation, bio-filters, micro-organisms
- Farming chemicals - fertilisers, insecticides, pesticides, herbicides, organic farming
- Packaged food - preservation, packaging
- Pharmaceuticals

Recommended reading
To be advised

Swinburne University of Technology | 1998 Handbook
This subject will enable students to put their knowledge of Cleaner Production into practical use in industry and gain valuable experience working in a company.

Content
- Detailed literature and data base survey on the industry
- Effective liaison with management and workforce in a company
- Identification and quantification of wastes in the company
- Develop a number of alternative strategies/technologies to assist the company in waste minimisation in at least one area of the company's manufacturing facility
- Technical and economic assessment of recommended changes
- Preparation of final report as a proposal to the company for the recommended changes

Recommended reading
Not applicable

CPE01 Biological Waste Management

10 credit points • 40 hours per week • Hawthorn • Assessment: two written assignments and tests.

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

Objectives and content
To provide participants with knowledge and skills enabling them to advise and assist organisations in making informed decisions about biological treatment processes. To introduce the essential parameters which critically affect the bio-degradative process in both the natural environment and specifically constructed treatment facilities.

At the completion of this module the participant should be able to:
- describe the key requirements necessary for biodegradation;
- explain the affect of an alteration in any of the key factors upon the bio-degradative process.

Recommended reading

CPE02 Environmental Auditing

10 credit points • 40 hours per week • Hawthorn • Assessment: two written assignments and tests.

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

Objectives and content
To introduce the principles and practices of Environmental Auditing and demonstrate their application to industrial contexts.

At the successful completion of this module the participant should be able to:
- describe the rationale for, and benefits to (industry and the community) of, the undertaking of environmental audits;
- describe the essential steps and company responsibilities in commissioning environmental audits;
- outline the environmental audit process;
- describe an environmental audit protocol.

Recommended reading

CPE03 Design and Manufacture for Cleaner Production

10 credit points • 40 hours per week • Hawthorn • Assessment: two written assignments and final exams.

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

Objectives and content
To develop the participants knowledge and skills in principles of design and manufacture, for cleaner production. To introduce participants to principles of innovation in design and manufacture which can be applied to promote environmentally sound product manufacture.

To introduce techniques of functional analysis applied to design and manufacture within the context of environmental considerations. At the completion of this module the participants should be able to carry out the function analysis of a product with regard to its design and manufacture.

Recommended reading

CPE04 Minor Research Project

10 credit points • Hawthorn • Assessment: interim report and final report

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

Objectives and content
To provide an opportunity for the participant to develop and undertake a management or technical research project requiring the application of cleaner production principles within an industrial context.

At the successful completion of this unit the participant will be required to prepare, execute and evaluate a specific research project and communicate its progress and outcomes to a nominated audience.

At the successful completion of this unit the participant will be able to:
- describe the steps involved in undertaking a research project;
- describe the essential qualities and components of a graduate level research report;
- design in consultation with industry and the relevant authority a protocol to investigate the application of industry-specific cleaner production principles;
- prepare and present a written report based on research undertaken.

CPE05 Environmental Monitoring

10 credit points • Hawthorn • Assessment: assignments and examination.

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Cleaner Production

Objectives and content
To provide an overview of the main types and applications of methods and techniques used to monitor the environment for atmospheric, water, soil and waste industrial wastes. To outline the basic requirements for effective environmental sampling and data collection.

At the completion of this module the participant should be able to:
- describe the essential characteristics and purposes of sampling for environmental monitoring;
- prepare and execute a sampling regime for environmental monitoring;
- evaluate specific environmental monitoring data and make recommendations with respect to the need for further analysis.

Recommended reading
Fundamentals of Analytical Chemistry, Skoog & West, 1969
Instrumental Methods of Analysis, Willard, Hibbard Hunt, 1988
Relevant EPA publications, eg 273, 394, 363, 388
National Exposure Standards For Airborne Contaminants, Worksafe Australia

EA411 Non-Newtonian Technology

4 hours per week (2 sems) • Assessment: laboratory work and examination

Objectives
To provide the student with a thorough understanding of Non-Newtonian flow and heat transfer.

Content
A review of Newtonian fluid flow, heat transfer and mixing (up to and including solutions to relevant equations of motion), precede the work on non-Newtonian flow, viscometry, heat transfer and mixing. The final aspect of the subject is the
application of this work to some practical situations such as heat sterilisation.

**Recommended reading**


**EE491 Biochemical Engineering**

4 hours per week (including practical work) (2 sems) • Hawthorn • Assessment: by examination

**Objectives**

To give students a grounding in the theory and practice of biological processes used in engineering.

**Content**

Requirements for growth in biological material; variations in micro-organisms; fermentation pathways. Enzyme reaction kinetics and absolute reaction rate theory; continuous fermentation, aeration and agitation; Mass transfer theories; Bubble and mechanical aeration; scale up; operational and control; Biological water treatment — BOD, COD. Mathematical modelling for the design of activated sludge plants, trickling filter and sludge digesters. RRA’s, autotrophics and anaerobic modelling.

**Recommended reading**


**EE182 Electronics and Instrumentation**

10 credit points • 4.5 hours per week (1 sem) • Hawthorn • Prerequisites: None, but must satisfy course entry requirements • Corequisites: all • Assessment: assignments/ laboratory/ examination

A first year subject in all disciplines of the Bachelor of Engineering and the Bachelor of Applied Science (Multimedia Technology and Computing and Advanced Technology) and (Medical Biophysics and Instrumentation)

**Objectives**

- To develop insights into the theoretical concepts and skills of electrical and electronic engineering using real engineering themes and a problem solving framework;
- To gain a broad understanding of the principles of electrical circuit analysis and to achieve some proficiency in the solution of problems;
- To understand the use of modelling techniques in energy and information systems;
- To investigate the application of analog and digital electronics to measurements and information transfer;
- To gain a broad understanding of Energy Conversion applications to electrical machines.

**Content**

Systems of units, d.c. circuits and analysis, measurements, instrumentation. Digital electronic computers including number systems, logic gates, Boolean algebra and Karnaugh maps. Alternating quantity measurement and circuit analysis. RMS values and phasor notation. Transducers used to measure physical quantities such as displacement, strain, temperature and pressure. Power systems and energy conversion, magnetic fields, transformers. Operation of d.c. and a.c. motors and generators. Solar energy. Communications: radio and TV principles, telephony, facsimile, integrated services. Digital Network: Cellular mobile telephone network, satellite services.

**Recommended reading**


**EE300 Industrial Experience**

50 credit points • Hawthorn • Prerequisites: nil • Assessment: report

A third year industrial based learning subject of the degree of Bachelor of Engineering (Electrical). A six month period of work experience occurring as part of the third year of the course leading to the degree of Bachelor of Engineering (Electrical).

Students are supervised by a member of the academic staff and are required to submit a report to their employer and supervisor.

**EE400 Industrial Experience**

50 credit points • Hawthorn • Prerequisites: EE300 • Assessment: report

A fourth year industrial based learning subject of the degree of Bachelor of Engineering (Electrical). A six month period of work experience occurring as part of the fourth year of the course leading to the degree of Bachelor of Engineering (Electrical).

Students are supervised by a member of the academic staff and are required to submit a report to their employer and supervisor.

**EE502 Management Practice 1**

6 credit points • 3 hours per week • Hawthorn • Prerequisites: EE402 • Assessment: examination, assignments, class participation

A final year subject in all streams of the degree of Bachelor of Engineering (Electrical)

**Objectives**

- Business strategy and plans;
- managing communications;
- planning, leading and controlling;
- ethics, professionalism and the engineering manager;
- organisation theory;
- Industrial relations and enterprise bargaining;
- total quality management;
- achieving a quality culture;
- using quality as a competitive strategy;
- supervision and leadership;
- project teams and task forces.

**Recommended reading**


Additional references will be provided by the lecturers for their topics

**EE530 Analogue Electronic Instrumentation and Techniques**

12.5 credit points • 4 hours per week • Hawthorn • Prerequisites: EE182 • Assessment: practical work, assignments and examination

A subject in the Masters of Engineering by Course Work (Computer Systems Engineering) and (Biomedical Engineering)

**Objectives**

- The student should be familiar with the basic digital building blocks (such as gates, flip-flops, counters etc.);
- Be capable of analysing and synthesising digital circuits of moderate complexity;
- Develop an understanding of the basic analog building blocks (such as amplifiers, filters, non-linear circuits, etc.);
- To analyse and synthesise analog circuits using operational amplifiers;
- and have a basic understanding of discrete-electronic components (such as diodes and transistors).

**Content**

Digital Electronics: Combinational logic: Review of Boolean algebra and simplification, Kmaps; SSI and MSI Building Blocks: Adders, Subtractors, ALU’s, Multiplexers, Demultiplexers, Encoders, Decoders; Sequential Logic: Latches and Flip-flops; MSI building blocks (counters, registers, shift registers); State Machines; Logic Devices and Family Characteristics: Fan out, loading, propagation delays, power dissipation; Logic levels and compatibility; Three-state and open collector outputs; Programmable Devices: ROMs, PLAs, PALs.


Linear Op-Amp Applications: Clipping and Clamping Circuits, Precision Diode, Peak Detector; Comparators.
Recommended reading

EE544 Electronic Communication Systems
7 credit points • 3 hours per week • Hawthorn Prerequisites: EE588, EE482 Assessment: laboratory, examination, assignment
A final year subject in the communications and electronics stream of the degree of Bachelor of Engineering (Electrical)

Objectives
• Understand and use common mobile communications terminology.
• Explain the behaviour of mobile communications systems and techniques.
• Analyze and critically evaluate performance of systems.
• Design systems to specified parameters, using analytical and empirical rules.

Content
Mobile and Personal Communications Systems: Introduction to mobile radio communications: Cellular concepts, system operation, handover for analogue cellular (AMPS), Mobile radio signal propagation, Small scale fading and multipath; Modulation: Cellular systems standards: AMPS, USDC, GSM and CDMA, and capacity comparisons; Wireless networking and PCS.

Recommended reading
IEEE Personal Communications, IEEE, N.Y.
IEEE Transactions on Vehicular Technology, IEEE, N.Y.

EE545 Electronics
3 credit points • 4 hours per week • Hawthorn Prerequisites: EE483 Assessment: examination, assignment
A final year subject in the communications and electronics stream of the degree of Bachelor of Engineering (Electrical)

Objectives
To introduce students to algorithmic state machine, the design and synthesis of modern integrated digital systems including VHDL design rules and performance estimation.

Content
VHDL and High Level Synthesis: High level synthesis, functional models, HDL, VHDL design entity declarations, architectural body, behavioural modelling, transport and inertial delays, signal assignments, drivers, data structures, block statements, guarded assignments, structural description, overloading, chip level and finite state machine modelling, system synthesis from behavioural models, algorithmic level design, data flow design, algorithmic synthesis.

VLSI: Overview of processes used in IC fabrication, theory of MOS technologies, models of MOS transistors, MOS logic structures and device sizing, pass transistor logic, layout and design rules, extraction of parameters from layout, circuit characterisation and performance estimation, clocking schemes and various design rules, system design, the IC design flow.

Recommended reading
IEEE Design and Test of Computer Magazine
IEEE Transaction on Computer-Aided Design
School, J., Performance and Fault Modeling with VHDL, Prentice Hall

EE548 Communications
13 credit points • 8 hours per week • Hawthorn Prerequisites: EE482 Assessment: examination/assignment/laboratory
A final year subject in the communications and electronics stream of the degree of Bachelor of Engineering (Electrical)

Objectives
• To gain insight into the behaviour of telecommunication and computer network.
• To understand and use common communications network terminology.
• Calculate and critically evaluate performance measures for networks.

Content
Introduction to classes of telecommunication networks; Foundations of probability for use in telecommunications; Foundations of statistics; Loss (circuit-switched) systems; Delay (queueing) systems; Traffic measurements and traffic forecasting; Traffic routing; Token ring and random access protocols and performance; Network simulation and network management; Special networks - mobile, intelligent, broadband, self-healing; Teletraffic current and future research.

Recommended reading

EE556 Project
10 credit points • 4 hours per week • Hawthorn Prerequisites: EE456, EE458, EE589 Assessment: project and seminar

Objectives
• Planning a complete project where time, availability of hardware, and money are realistic restraints. This includes planning a project with other students in the case of joint projects.
• Constructing and testing hardware and/or writing and commissioning software.
• Planning and delivering a short technical lecture.
• Writing a comprehensive thesis to detail all initial research, literature survey and the work performed.
• The personal rewards in completing a complex engineering task.

Content
Each student is required to perform an individual or group design or investigation and present a thesis embodying results of the project. These projects may be hardware and/or software based.

The project may be selected on by: Making reference to the list of projects already issued; Suggesting your own project and negotiating its suitability with a staff member whose academic interests are consistent with the project.

Recommended reading
No prescribed texts.

EE559 Electrical Machine Drives
11 credit points • 5 hours per week • Hawthorn Prerequisites: EE475, EE476, EE489, SM494 Assessment: examination/assignment
A final year subject in the power and control engineering stream of the degree of Bachelor of Engineering (Electrical and Electronic)

Objectives
• To study the design of electrical machine drives currently used in industry.
• To study the control strategies available and to evaluate the impact of machine drives on the power system.
• To study the transient behaviour and methods of modelling electric machines and their performance in the presence of supply harmonics.

Content
Speed Control of Direct Current Machines: State Models of the DC Machines, Control Strategies, Torque and Speed Feedback Loops, Transducers: Solid State Control using controlled converters and choppers, power factor correction; Four quadrant operation and regenerative braking; Starting methods; Harmonic distortion; Advanced applications-digital control.

Swinburne University of Technology | 1998 Handbook
AC Machine Transients: Space phasor description of machines; The synchronous contributions and brushless d.c. motor.

This is a subject in the Bachelor of Engineering (Computer Systems Engineering) terminal voltage, pole changing, slip energy recovery; Variable frequency operation of

Recommended reading
- Leonard, Control of Electrical Drives, Springer-Verlag, 1985
- Mahan, Udeland, Robbins, Power Electronics, USA, John Wiley & Sons, 1989
- Savory, M.G., Alternating Current Machines, 5th Edn, Longmans, 1963
- Sin, R.C., Thyatir DC Drives, Wiley 1981

EE561 Computer Systems Engineering
13 credit points • 6 hours per week • Hawthorn • Prerequisites: EE465, EE474 • Assessment: labs, reports, examination
This is a subject in the Bachelor of Engineering (Computer Systems Engineering)

Objectives
- To study elements of computer systems engineering covering operating systems, computer architectures and software engineering.

Content
- Fundamentals of computer design
- Instruction set design and its consequences on architecture
- Examples of RISC and CISC architectures
- Overview of pipelining
- Memory-Hierarchy Design
- Interconnection Networks
- Multiprocessors
- Vector Processors
- Future directions in computer architecture
- Networking computers and instruments together
- Principles and applications of optical instruments
- Optical instrumentation and imagery

Textbooks

EE562 Computer Electronics
5 credit points • 4 hours per week • Hawthorn • Prerequisites: EE459 • Assessment: examination, assignment
A final year subject in the computer systems engineering stream of the degree of Bachelor of Engineering (Electrical)

Objectives
- To provide a grounding in digital system design with programmable logic, and CMOS VLSI design at the system level.

Content
- VHDL and High-Level Synthesis: High level synthesis, functional models, HDL, VHDL design entity declarations, architectural body, behavioural modelling, transport and internal delays, signal assignments, drivers, data structures, block statements, guarded assignments, structural description, overloading, chip level and finite state machine modelling, system synthesis from behavioural models, algorithmic level design, data flow design, algorithmic synthesis.
- VLSI: overview of processes used in IC fabrication, theory of MOS technologies, models of MOS transistors, MOS logic devices and structure size, pass transistor logic, layout and design rules, extraction of parameters from layout, circuit characterization and performance estimation, checking schemes and various design rules, system design, the IC design flow.

Recommended reading
- Bhasker, J., A VHDL Primer, Prentice Hall, 1992
- Douglas, P., VHDL, McGraw-Hill
- IEEE Design and Test of Computer Magazine
- IEEE Transaction on Computer-Aided Design
- School, J. Performance and Fault Modeling with VHDL, Prentice Hall

EE563 Advanced Computer Techniques
7 credit points • 3 hours per week • Hawthorn • Prerequisites: EE467 • Assessment: assignment, computer laboratory
A final year subject in the computer systems engineering stream of the degree of Bachelor of Engineering (Electrical)

Students do the elective from a choice of subjects from the School of Information Technology.

EE576 Electronics
7 credit points • 3 hours per week • Hawthorn • Prerequisite: EE476 • Assessment: examination, assignment, laboratory
A final year subject in the power and control engineering stream of the degree of Bachelor of Engineering (Electrical)

Objectives
- To extend the principles learned in earlier years of microcontroller power electronics and opto-electronics, with applications in the power areas.

Content
- Part A — Microcontrollers
  - The application of single chip microcontrollers to electrical engineering, A/D and D/A conversion. Data communications and interfacing.
- Part B — Power electronics

Recommended reading
- Haisall, E., Data Communications, Computer Networks and OSI, 2nd edn, Addison-Wesley, 1999
- Intel Immeded Microcontrollers and Processors, Intel Corporation, Santa Clara, CA, 1993
- Peatman, J.B., Design with Microcontrollers, McGraw-Hill, 1988
- Phillips CD8, CD25: Based 8-bit Microcontrollers: Williams, B.W., Power Electronics: Macmillan, 1987

EE597 Electrical Power Systems
11 credit points • 5 hours per week • Hawthorn • Prerequisites: EE475 • Corequisite: nil • Assessment: examination, assignments, laboratory
A final year subject in the power and control engineering stream of the degree of Bachelor of Engineering (Electrical)

Objectives
- To continue the study of power systems and in particular the topics of stability, protection and circuit interruption.

Content
- Power Systems
  - Symmetrical components, unsymmetrical fault calculations, travelling waves and surges, high voltage direct current systems, transmission line economics.
- Power Systems Stability
- Power System Control
  - Automatic voltage regulator and governor functions, digital computer techniques
- Protection Systems

Recommended reading
To introduce:
The fundamental concepts of computing and to gain proficiency in the use of network simulation as a design and evaluation methodology.

EE732 Computer Architecture and Hardware

Objectives
To consolidate the work on systems and control in earlier years by introducing sampled and discrete data in feedback systems, the principles of process control and techniques of computer-based control including interfacing and data acquisition.

Content
Design of control systems to meet a set of specifications. Classical methods of lead-lag network design to meet root locus and frequency domain approach. Commercial packages and PLCs. Algorithms suitable for compensation using computer-based control systems. State variable feedback and design of continuous and discrete time multivariable control systems to meet a set of specifications. Advanced topics of adaptive control and optimisation.

Recommended reading
* Chase, F. Diagram Sets in Process Control and Computer Interfacing, 1989

EE730 Engineering Software

Objectives
To introduce the fundamental concepts of computing and to gain proficiency in the application of the C programming language for constructing solutions to engineering problems. To develop a sound understanding of data structures, algorithms for their manipulation and implementation of these algorithms.

Content
- Historical context of computing;
- fundamental development of algorithms amenable to programmatic implementation;
- basics for structured programming;
- program control structures, fundamental and derived types in C;
- implementation of algorithms in C;
- pointer types and alternatives;
- lists, stacks, queues, trees, and algorithms for the manipulation of these structures;
- efficiency of algorithms;
- file types and organisation.

Recommended reading
* Paige, K., All on C Scott, Foreman and Company, 1988

EE740 Project Management and Research Methods

Objectives
By the end of the subject, the students will be able to:
- understand how to approach a research and development problem at philosophical and practical levels, with emphasis on planning, budgeting, scheduling and monitoring;
- know how to use standard statistical methods and computer packages relevant to their research and development needs;
- critically review representative research in their respective fields, and;
- write research and development reports that satisfy all referencing, organisation and presentation standards for publication, using available document preparation computer packages.

Content
The emphasis is on learning to design and manage a research or development project. Project management, experimental design, research methods, literature analysis, report writing, use of Internet resources, and statistical and mathematical underpinnings are covered, with practical, academic rigour.

Recommended reading
* Statistical Methods in Research, Prentice Hall, 1986
* Corzine, W.C., Computer Organisation, CPU, memory, busses, I/O;
* computer architecture including representative microprocessor architectures (M68000, 8086);
* programmer's model (register set, memory structure and addressing modes);
* instruction set overview;
* suitability of a machine architecture to support high level languages;
* output/input including interrupts and asynchronous I/O processing;
* physical implementation of computers.

Programming will emphasise the use of high-level languages as a first choice with an introduction to selective use of assembly language for time-critical program regions.

Recommended reading
* Corzine, W.C., Computer Organisation, CPU, memory, busses, I/O;
* computer architecture including representative microprocessor architectures (M68000, 8086);
* programmer's model (register set, memory structure and addressing modes);
* instruction set overview;
* suitability of a machine architecture to support high level languages;
* output/input including interrupts and asynchronous I/O processing;
* physical implementation of computers.

EE741 Telecommunications Networks: Design and Management

Objectives
To develop an understanding of the engineering of telecommunications networks, and proficiency in the use of network simulation as a design and evaluation methodology.

Content
- PSTN analogue switched network, FDM, long haul links;
- digital transmission basics: sampling, quantising, companding, PCM, framing, TDM, transmission hierarchies, synchronisation;
- circuit switching. Setting up and clearing calls;
- telematic theory, traffic carrying capacity, GoS, dimensioning of networks;
- the use of high level languages for input/output intensive applications;
- the relation of high level languages to assembly language.

Recommended reading
* Corzine, W.C., Computer Organisation, CPU, memory, busses, I/O;
* computer architecture including representative microprocessor architectures (M68000, 8086);
* programmer's model (register set, memory structure and addressing modes);
* instruction set overview;
* suitability of a machine architecture to support high level languages;
* output/input including interrupts and asynchronous I/O processing;
* physical implementation of computers.

Programming will emphasise the use of high-level languages as a first choice with an introduction to selective use of assembly language for time-critical program regions.
EE752 Digital Communications

12.5 credit points • 4 hours per week average • Hawthorn • Prerequisites: must have completed 1st-/2nd- year requirements • Assessment: exam, assignment and laboratory work.

A subject in the Master of Engineering by coursework (Telecommunications and Computer Systems Engineering)

Objectives

To develop an understanding of the concepts of Integrated Services Digital Networks (ISDN) and Broadband ISDN.

Content

- Baseband and Passband modulation and demodulation, and error recovery due to noise and data transmission error protecting codes;
- digital traffic control;
- network transmission planning;
- signalling, CCITT No. 7.

Recommended reading


EE750 Research Project A

25 credit points • 8 hours per week • Hawthorn • Prerequisites: EE740 & other prerequisite(s) may apply to particular projects • Assessment: verbal and written report; demonstrated implementation performance.

An subject in the Masters of Engineering by coursework (Telecommunications and Computer Systems Engineering)

Objectives

To develop the student's ability to comprehend an analysis and specification, and to design, implement and evaluate a particular assigned implementation task to meet the specifications. Students should develop personal, time and resource management skills.

Content

The student chooses a particular implementation project from a number of tasks specified by the lecturer. This project will be relevant to the student's chosen discipline focus, and is often associated with the student's current or intended employment responsibilities.

The student is instructed in methodical approaches to the implementation of software solutions to that task, and then embarks on the implementation, evaluation and reporting of the completed project. The student consults regularly with the project supervisor and produces a formal project report.

A maximum of two such Minor Projects can be undertaken in the course.

EE760 Research Project B

25 credit points • 8 hours per week • Hawthorn • Prerequisites: EE740, EE760 other prerequisite(s) may apply to particular projects • Assessment: verbal and written report; demonstrated implementation performance.

A subject in the Masters of Engineering by coursework (Telecommunications, Computer Systems Engineering)

Objectives

To develop the student’s ability to comprehend an analysis and specification, and to design, implement and evaluate a particular assigned implementation task to meet the specifications. Students should develop personal, time and resource management skills.

Content

This subject is a continuation of EE760 Research Project A from the previous semester.
The student is instructed in methodical approaches to the researching, analysis, working prototype.

embarks on the research, analysis, specification, implementation, evaluation and reporting of the project solution. The student consults regularly with the project supervisor, and produces a formal project report.

EE781 Computer-Aided Design and High Level Synthesis

12.5 credit points • 4 hours per week average • Hawthorn • Prerequisites: nil • Assessment: exam, assignment and laboratory

A subject in the Masters of Engineering by coursework (Telecommunications, Computer Systems Engineering)

Objectives

To provide students with an understanding of the current trends in High Level Synthesis using Hardware Description Languages (HDL) and the methodologies involved in the design and integration of complex systems using Computer-Aided Design tools.

Content

• Issues involved in High Level Synthesis;
• Architectural Models in Synthesis;
• Hardware Description Language (HDL);
• Quality measures including relationship between structural and physical designs, area and performance;
• Partitioning in High-Level Synthesis;
• Scheduling formulation and allocation;
• Design methodology for High-Level Synthesis;
• Performance and fault modeling using VHDL.

Recommended reading


IEEE Design and Test of Computer Magazine

IEEE Transaction on Computer-Aided Design

Perry, D., VHDL. McGraw-Hill, 1991

Savenko, J., Performance and Fault Modeling with VHDL. Prentice Hall, 1992

EE783 Digital Signal Processing Systems Engineering

12.5 credit points • 4 hours per week average • Hawthorn • Prerequisites: nil • Assessment: exam, assignment and laboratory

A subject in the Masters of Engineering by coursework (Telecommunications, Computer Systems Engineering)

Objectives

To present the principles of power spectrum estimation, adaptive filtering, array processing and discuss their applications in geophysics and oil exploration, biomimicry, speech, echo cancellation and equalization of telephone channels.

Content

• Definition of power spectrum, conventional spectrum estimation methods;
• Maximum likelihood method of Capon, maximum entropy method;
• AR and ARMA spectrum estimation, harmonic demodulation;
• Adaptive linear combiner;
• Adaptation with stationary signals, gradient estimation;
• Adaptive algorithms and structures;
• Adaptive modeling, system identification, deconvolution, equalization, adaptive interference cancelling;
• Array processing.

Recommended reading

IEEE Transaction on Information Technology

IEEE Transaction on Signal Processing


EE786 Advanced Image Processing

12.5 credit points • 4 hours per week average • Hawthorn • Prerequisites: must satisfy course entry requirements • Assessment: test, laboratory, written report, oral presentation

A subject in the Masters of Engineering by coursework (Telecommunications, Computer Systems Engineering)

Objectives

To introduce the historical context, basic theory and practical use of image processing techniques, and to teach the elements of costing and specification of image processing applications.

Content

• Operations on a single image and multiple images;
• Hardware, image characterisation, image transmission, array processing;
• Multimedia, hypermedia, artificial reality;
• Applications in biophysical and biomedical engineering, computer systems engineering and communications engineering;
• CAD and CAM image systems, artistic and perceptual applications;
• Costing of image processing applications, analysis of the image processing industry.

Recommended reading


Class notes, and user manuals for the hardware and software used.

EE787 Advanced Computer Architectures

12.5 credit points • 4 hours per week average • Hawthorn • Prerequisites: EE732 • Assessment: exam, assignment and laboratory

A subject in the Master of Engineering by coursework (Telecommunications and Computer Systems Engineering)

Objectives

To develop a sound understanding of the available computer architectures and their application areas.

Content

• Historical perspective;
• Taxonomy;
• MIMD and single instruction,
• memory organisations;
• Communication networks.

Recommended reading

ACM Transactions on Computer Architecture


IEEE Transaction on Parallel and Distributed Systems


EF101 Professional Skills

10 credit points • 4 hours per week for one semester • Prerequisites: nil • Assessment: assignment and examination

A first year subject for all degree courses in engineering.

Objectives

To provide an introduction to the roles and communication skills of engineers in the workplace and community.

Content

The subject is taught as two components:

(a) Professional engineering - in which students explore ideas and improve their understanding of engineering and communication skills through oral presentations and written reports. Students experience working as part of an engineering team by undertaking a design project in which they create and communicate a design solution.

(b) Graphical communications - in which students learn to communicate and present ideas through graphical means using engineering standards and conventions.

The two components of the subject will be integrated through the completion of an engineering design project.

EF615 Introduction to Finance and Accounting

12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: 2 x Written Assignments, 1 x Examination

This is a subject in the Graduate Certificate and Graduate Diploma of Management.

Objectives

Students who have passed this subject should possess:
demonstrable mastery of basic principles of accounting and double entry bookkeeping
the ability to apply these principles and complete a set of accounts through to trial balance
the ability to complete profit and loss statement, balance sheets and funds statements
demonstrable mastery of fundamental financial mathematics, basic practical financial modeling techniques and sufficient financial theory for competent financial analysis, planning and management of a new venture investment
sufficient grounding in financial theory and its applications to pursue and acquire further specific knowledge in areas not covered by the course.

Content
An introductory course giving mastery of basic principles of accounting and double entry bookkeeping to obtain trial balances and produce profit and loss statements, balance sheets and funds statements; understanding of financial mathematics and ability to apply spreadsheets to financial modeling, forecasting financial requirements and evaluating investments and businesses.

Textbooks
Gaffikin, Michael, Principles of Accounting (Current Edn), Harcourt Brace Jovanich, Publishers, Marrickville, NSW.

EF616 Management Fundamentals
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: Nil
Assessment: Teamwork, Personal Written, Personal Oral, Examination • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Graduate Certificate and Graduate Diploma of Management.

Objectives
To provide an introduction to management generally and a base from which the other courses in the program will be developed.

Content
This course introduces fundamental human, organisational and functional aspects of enterprise management and associated management theories and concepts. Areas addressed include foundations of behaviour, motivation, perception and decision making, understanding groups and teams, communication and interpersonal skills including conflict management and interpersonal skills, leadership and management, organisation design and culture, functions of management, human resource management and the obligations of EEO and OH&S legislation.

Textbooks
Robbins S., Bergman R. & Stagg I., Management, Prentice Hall (Current Edn)

EF617 Project and Asset Management
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: Nil
Assessment: Written Assignment, Presentation, Seminar, Examination • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Graduate Certificate and Graduate Diploma of Management.

Objectives
To introduce the basic tools available to the manager through project management and asset management processes
To extend and apply basic concepts addressed in EF616 Management Fundamentals to such processes

Content
This course addresses the requirements of project, life cycle and asset management. Considerations include: project initiation, implementation and termination; financial and legal requirements; life cycle costing, plant procurement, operation, reliability, maintenance, update and disposal.

Textbooks

Recommended reading
P.C. Dinamara, Human Factors in Project Management, Amscom (Current Edn).

EF618 Management Practices
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: Nil
Assessment: Presentation, Assignments, Participation, Examination • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Graduate Certificate and Graduate Diploma of Management.

Objectives
The aim of this course is to develop student understanding of the management roles and functions within an enterprise and current practices.

Content
This course addresses the requirements of management through the development of business strategies (including innovation and entrepreneurial aspects), and their application on marketing, human, quality, operational, legal and ethical financial aspects of an enterprise and its operations.

Textbooks
Guilford J., Howell A. & Clarke G. Business Planning - The Key To Success, MacMillan (Current Edn)

Recommended reading
Robbins S., Bergman R. & Stagg I., Management, Prentice Hall (Current Edn)
Terry A., & Giangri S., Business / Society and the Law, Harcourt Brace (Current Edn)

EF620 Human Aspects
1 hour per week • Hawthorn • Prerequisite: Nil • Assessment: a combination of personal assignments, group assignments, class participation and/or exam.
A compulsory subject in the Graduate Diploma in Management and the Graduate Certificate and Graduate Diploma in Management (Manufacturing).

Objectives and content
This subject is designed to build upon the work of the introductory work in the first semester and treat the material with more depth and practicality.
Topics covered include: theoretical base interpersonal relationship and individual development; individual differences, personality theory, value and value systems, group dynamics, role theory, leadership strategies, competition, interpersonal communication, perception, thinking processes and memory, Business politics.
Human resources management: recruitment, selection and training. Aptitude testing.
Management development and personal appraisal systems. Wage and salary structures, benefits and financial reward schemes.
Performance factors motivation, job satisfaction, morale, management of conflict, organisation structures and their effects on behaviour, effecting change in the organisation.
Industrial relations practical industrial relations for supervisors and managers.

Recommended reading

EF623 Marketing
3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: a combination of personal assignments, group assignments, class participation and/or exam.
A compulsory subject in the Graduate Diploma in Management and Graduate Diploma in Management (Manufacturing).

Objectives and content
Develops the skills necessary to meet the marketing needs of new and high growth venture. During this intensive subject students gain a thorough grounding in marketing principles and apply them in marketing plans based on live opportunities in the market place. A blend of theory, analysis and practicality, the subject provides the opportunity to gain hands-on experience in understanding market needs. Topics covered include marketing principles, marketing research, consumer behaviour, diffusion of innovation, organisational culture, technology and services.
At the completion of the subject successful candidates will be able to develop a practical and realistic marketing plan to support the launch of new products or services, align the core competence of their organisation with emerging needs of the marketplace, drive technology push as well as market pull strategies, determine steps for market research and analysis, market entry and long term business development.

Recommended reading

EF644 Introduction to The Business Plan
1 hour per week equivalent • Hawthorn • Prerequisite: Nil • Assessment: a combination of personal assignments, group assignments, class participation and/or exam.
A compulsory subject in the Graduate Diploma in Management.

Objectives and content
An integrating course which establishes the requirements for a successful business plan prior to participants commencing EF623 and EF625 within the program. The elements of, and input requirements to, the business plan are identified, with participants working in self-selected teams to define the subject of their proposed business plan.
Recommended reading

EF645 New Venture Accounting and Finance
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: EF618
Assessment: Teamwork, Individual Assignments, Examination • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Master of Management.

Objectives
• To understand the differences between accounting for merchandising entities and manufacturing entities
• To understand partnership accounting, company and cost accounting and reporting
• To apply both accounting and financial management skills to produce a comprehensive financial plan for a new venture embodying an accurate and credible set of projected financial statements suitable for inclusion in a business plan for that venture.

Content
An integrating course to launch students into the production of a complete business plan for a new venture by initiative by an established firm and the discussion of contemporary business problems. Extending accounting and financial skills are addressed to permit understanding of differences between accounting for merchandising entities and manufacturing entities; partnership accounting, company accounting, financial and external reporting; cost accounting; the business financial environment; the mechanics of financial management and planning.

Textbooks
Mayes T., & Shank T. Financial Analysis with Microsoft Excel, Harcourt Brace [Current Edn]

EF650 Marketing Management
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: EF618 • Assessment: Teamwork, Individual Assignments, Presentations, Examination • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Master of Management.

Objectives
• To analyse a given marketing case by applying a process or series of logical steps
• To select and apply appropriate elements of the marketing mix to marketing situations
• To construct a practical marketing plan for an innovative product (goods or services).

Content
This course transfers the skills necessary to evaluate the broad marketing needs and vulnerabilities of new and high growth ventures. Students acquire a thorough grounding in marketing principles combined with a proven ability to apply these principles to the development of practical marketing and business plans. Students concentrate on the area of developing and improving plans for the marketing of new products (goods or services) and supporting the implementation of these plans.

Textbooks

Recommended reading
Hindle, K, What is a Marketing Case Study and How Do You Solve it? Innovation and Entrepreneurship Research Monographs (Number 81-08-01, SRIT Press, Hawthorn, Victoria, 1981)
Reed, Peter, Marketing Planning and Strategy, Harcourt Brace - Joyanovich, Australia, 1987

EF651 Leadership, Team Building and Change Management
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: EF618, EF617, EF619 • Assessment: Teamwork, Assignments, Presentation • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Master of Management.

Objectives
To develop leadership, team building and change management skills of the course participants.

Content
This subject focuses on the requirements of effective leadership, team building and change management. The five facets of leadership (coaching, sponsoring, educating, counselling and confronting) are explored along with the hidden face of leadership (charisma) for application to team situations and the requirements of effective team building. Students' interpersonal skills are developed in key areas including: self awareness, listening, goal setting, providing feedback, appreciating performance, disciplining, delegating,erral persuasion, politicalising, running group meetings, resolving conflicts and integration. Students' skills are developed in key areas of change management.

Textbooks

Recommended reading
Peters T. A Passion for Excellence: The Leadership Difference, Collins, [Current Edn]

EF652 Strategic Intent in Enterprise Management
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: EF618, EF623, EF655 • Assessment: Examination, Assignments, Presentations • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Master of Management.

Objectives
• To develop a framework within which to evaluate corporate strategy and exploit an organisation's core competencies for competitive advantage
• To evaluate strategy implementation impact on leadership, structure, systems, culture and power within the context of the entrepreneurial, innovative, mature professional and/or global organisation

Content
This course addresses the role of strategy formulation and implementation to achieve competitive advantage in the corporate, national and global arena. A demanding case study load is used to build on the linkages between theory and practice. A strong emphasis is placed on each participant's ability to sell their point of view (ie. to research, articulate and argue both verbally, and in print, their considered position).

Textbooks
Theocharis and Strickland, Strategic Management Concepts and Cases, Irwin [Current Edn]
Porter, The Competitive Advantage of Nations, MacMillan [Current Edn]

Recommended reading
Yip G.S., Global Strategy, Prentice Hall [Current Edn]

EF653 Research Project
12.5 Credit Points • 4 hours per week • Hawthorn • Prerequisite: EF617, EF654, plus others as may be relevant to area of research • Assessment: Verbal Report, Written Report, Demonstrated Implementation Performance • Recognition of Prior Study: Nil
This is a subject in the Master of Management.

Objectives
The aim of this subject is to develop the student's ability to comprehend a task requirement, analyse that requirement, conduct appropriate research to develop an analysis and specification of a solution. Students should develop personal time and resource management skills.

Content
The student chooses a particular management active learning research project from a selection offered by the lecturer. This project will be relevant to the student's management focus and can be associated with the student's current or intended employment responsibilities. Alternatively the student can select a suitable project that is employment sponsored provided it satisfies the research requirements of this subject.

The student is instructed in approaches to the research, analysis, specification and solution implementation and then embarks on the research, analysis, specification, implementation, evaluation and reporting of the management research project solution. The student consults regularly with the project supervisor and produces a formal management report.
EF654 The Business Plan
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: EF623, EF645, EF655 • Assessment: Teamwork, Individual Assignment, Presentation • Recognition of Prior Study: Nil
This is a subject in the Master of Management.

Objectives
- To understand the role, function, need for and preparation of a business plan.
- To avoid the common pitfalls associated with business planning.
- To direct the development of a business plan, including carrying out opportunity screening and the preparation of a working business plan, assigning tasks within a team and developing an appropriate set of action steps.
- To analyse a business plan written by entrepreneurs to raise venture capital and indicate its strengths, weaknesses and probable appeal to venture capitalists.

Content
The elements of, and input requirements to, the business plan are identified, with examples of successful business plans are provided and case studies are discussed. Students work in self-selected teams under the supervision of a member of staff of the School to compile a real-world business plan. Each team prepares a complete business plan, including opportunity, marketing, financial, investment and organisational sections. The plan addresses an entrepreneur initiative identified by the team: this may be the commercialisation of an invention or the creation of a completely new business.

Textbooks
Timmons, JA, Textbooks

EF655 Strategic Service Management
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: EF617, EF618, EF623 • Assessment: Examination, Assignments, Seminar • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Master of Management.

Objectives
- To provide practical techniques for service enterprise management address customer needs and their satisfaction.
- To develop a service strategy.
- To address product liability issues.
- To evaluate leadership issues in service enterprises.
- To identify conflict management and negotiation strategies within a service environment.

Content
This course addresses the management needs of service organisations. Key issues of service management are developed including: service organisations, technical and non-technical services, customer demand, customer satisfaction, development of a service strategy, service obligation and legal liability, service teams and team building, organising service as a profit centre, pricing strategies for profit, service quality and accreditation requirements.

Textbooks

EF656 Risk Management
12.5 Credit Points - three hours per week - Hawthorn - Prerequisite: EF617, EF618. Assessment: Examination, Assignments, Seminar • Recognition of Prior Study: Equivalent subjects recognised
This is a subject in the Master of Management.

Objectives
- To address skills required to identify and manage perceived risks to an enterprise.
- To address contemporary issues of risk in society and emerging issues in risk management, understand processes and techniques in risk management and appraise risk management practices.

Content
This course addresses the evolution of risk management, risk management within an organisation, concepts and types of risks, risk decision making tools and techniques, obligation for hazard identification and risk assessment, managing the pre-conditions of potential risk events, risk inventories, managing the risk event occurrence and consequences, assessing the cost benefit of risk management initiatives.

Textbooks

Recommended reading
Extensive Selected Bibliography of Books, Papers, Legislation and Regulations.

EF657 Strategic Human Resource Management 2000 and beyond
12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: Examination, Assignments, Seminar • Recognition of Prior Study: Nil
This is a subject in the Master of Management.

Objectives
- To introduce students to the concept of viewing Human Resources as a major asset base of a business.
- To understand how the company can fully utilise the human resource asset base in all facets of the business. To understand the processes required when using those human resources strategically to enhance the competitive position of an organisation.
- To introduce the concept of strategically linking the company’s overall objectives to the human resource function.
- To enable managers to recognise how they can best manage, develop and train the human resources of their company in order to enhance the overall wellbeing of employees and the overall success of their business.

Content
An elective course which focuses on the role of Human Resources as a strategic determinant of competitiveness. The process of strategically linking the human resources function of the company is reviewed as an integral part of enhancing the company’s competitive position, and is assessed in the context of its attractiveness as a management concept. The presentation of the course provides strong links between established theory and practice.

Textbooks

EF658 Employee Relations
13.8 Credit Points • 3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: Examination, Assignments, Seminar • Recognition of Prior Study: Nil
This is a subject in the Master of Management.

Objectives
- To introduce the concept of Enterprise Bargaining in Australian Workplace Agreements in both the private and public sectors of business and to understand the importance of successful Employee Relations in both productivity levels and the competitive position of an organisation.
- To demonstrate familiarity with a framework for analysing and understanding the enterprise bargaining process. To identify the phases involved in that process and appreciate the appropriate timing for each. To identify the key stakeholders and understand their roles and interests in the process.
- To compare and contrast traditional, adversarial bargaining with co-operative, problem-solving negotiation and appreciate a preferred process approach.
- To develop a step-by-step, problem-solving model for negotiating an enterprise agreement.

Contact
An elective course that focuses on employee relations and workplace bargaining. Both domestic and complex phenomena, which are continually evolving as legislation changes and as employees become more involved in the decision making processes required in today's fluid organisation structures. The ability of organisations to successfully manage these changes against a background of complex factors is critical to their competitive position and to their management of employee relations. This course aims to equip students with a fundamental understanding of how to manage this difficult process and how to successfully negotiate a workplace agreement or an enterprise agreement.

Textbooks
**EF661 Leadership and Team Building**

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: a combination of personal assignments, group assignments, class participation and/or exam

An elective subject in the Graduate Diploma in Management and the Graduate Diploma in Management (Manufacturing).

**Objectives and Content**

A course focusing on the requirements of effective leadership and team building. The five faces of leadership (coaching, sponsoring, educating, counselling and confronting) are explored along with the hidden face of leadership (charisma) for appreciation to team situations and the requirements of effective team building. Students’ interpersonal skills are developed in key areas including: self-awareness, listening, goal setting, providing feedback, appraising performance, disciplining, delegating, and persuasion, politicking, running group meetings, resolving conflicts and integration.

**Recommended reading**


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**EF662 Total Quality Management**

12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: nil • Assessment: Examination, Assignments, Seminar • Recognition of Prior Study: Nil

This is a subject in the Master of Management.

**Objectives**

• To introduce the concept of quality as a prime dimension of competitiveness through ‘Total Quality Management’.

• To understand quality assurance standards, such as ISO 9000 fit into the framework of Total Quality Management.

• To recognise the concept of Quality Prognostication.

• To outline the implementation of Total Quality Management in an Australian Context.

**Content**

An elective course that focuses on the role of quality as a strategic determinant of competitiveness. Quality is viewed as the core component of the management concept. Presentations throughout the course are designed to establish the strong linkage between established theory and that of practice. Specifically, the course complements a focused case study approach to quality and its progression within Total Quality Management.

**Recommended reading**


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**EF663 Service Management**

2 hours per week • Hawthorn • Prerequisite: nil

An elective subject in the Graduate Diploma in Management and the Graduate Diploma in Management (Manufacturing).

**Objectives and Content**

A course addressing the management needs of service organisations. Key issues of service management are developed including: service organisation, technical and non-technical services, customer demand, customer satisfaction, development of a service strategy, service obligation and legal liability, service teams and team building, organising service as a profit centre, pricing strategies for profit, service quality accreditation requirements.

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**EF664 Manufacturing Management**

12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: nil • Assessment: Examination, Assignments, Seminar • Recognition of Prior Study: Nil

This is a subject in the Master of Management.

**Objectives**

• To understand manufacturing management, manufacturing strategy, operations management and strategy within an organisation.

• To recognise the basis of competitiveness in the context of quality, productivity, flexibility, responsiveness and dependency.

• To understand the broad conceptual components in an Australian context and

• To design key performance indicators linked to the organisation’s strategy for success.

**Content**

An elective course addressing integrated manufacturing systems, the manufacturing management function (product line, production planning and control, maintenance, quality control, etc.) and its relationships to other organisational functions. The course focuses on the role of competitiveness of the manufacturing function in an organisation to achieve operation advantage. The presentation of the course provides a strong linkage with established theory and practice.

**Recommended reading**


Brown, J., Hayes, Shiven, Production Management Systems, Addison, Wesley, [Current Edn].


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**EF665 Logistics Management**

12.5 Credit Points • 3 three hours per week • Hawthorn • Prerequisite: nil • Assessment: Examination, Assignments, Seminar • Recognition of Prior Study: Nil

This is a subject in the Master of Management.

**Objectives**

The aim of this course is to address contemporary issues of logistics management in both service and manufacturing industries and the challenge of integrating logistics functions.

**Content**

This course addresses key issues of logistics management confronting the business enterprise including concepts of logistics management, logistics and quality, customer service, supply and distribution, logistics activities, logistics for strategic advantage and the management control of integrated logistics.

**Recommended reading**


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**EF666 Engineering Management**

12.5 Credit Points • 3 hours per week • Hawthorn • Prerequisite: nil • Assessment: Examination, Assignments, Seminar • Recognition of Prior Study: Nil

This is a subject in the Master of Management.

**Objectives**

• To address the issues involved in the integrated management of engineering and technical effort to transform requirements into operational systems, and

• To extend and apply the basic management tools introduced in other courses within the program.

**Content**

An elective course addressing issues associated with effective engineering management. Considerations include: executive interfaces, engineering teams and team building, new directions for engineering management, engineering for profit and engineering project management.

**Textbooks**


**Recommended reading**


Peters, T., Liberation Management, Maxwell, Lonwín, [Current Edn].

Kelly A., Maintenance and Its Management, Conference Communications, [Current Edn].

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**EF667 Information Management**

2 hours per week • Hawthorn • Prerequisite: nil • Assessment: a combination of personal assignments, group assignments, class participation and/or exam

An elective subject in the Graduate Diploma in Management and the Graduate Diploma in Management (Manufacturing).

**Objectives and Content**

A course addressing the requirements for effective management of information within an enterprise. Considerations include: corporate communications, requirements, networks, cost minimisation and auditing, business/ computer business applications and systems, finance and accounting, administration and database management, office automation, electronic office and decision support packages available.
**Recommended reading**


**EF713 The Entrepreneurial Organisation**

12.5 credit points • 38 hours • Hawthorn • Prerequisite: nil.

A first year subject in the Innovation and Enterprise suite of programs.

**Objectives**

The underlying ideal of the subject is to simulate the experience of entrepreneurs with the personnel aspects of organisations as they go about their business of making something happen to achieve a profitable and satisfying result. Particular reference is given to the relationship between these traits and managing the family owned business. This ideal will be approached by the use of lectures, case studies and situational evaluations through which relevant principles will be reviewed. The emphasis of the subject is on the integration of all topics to facilitate understanding of the process of managing the behaviour of people in a successful new venture.

**Content**

- Introduction and overview
- Entrepreneurship - what is it?
- Introduction to Organisation Behaviour Terminology and an Organisational Behaviour Model
- Determinants of individual behaviour and group behaviour
- Organisational Behaviour as a Management Tool
- Methods for analysing and solving case studies and practical problems
- Organisational Behaviour
- Motivation theories
- Motivational practices in entrepreneurial organisations
- Leadership and problems
- Power
- Using Organisational Behaviour principles to change organisations
- When things go wrong
- The principles of Organisational Development
- The structure of organisations

**Textbooks**


**Additional Reference**


**Journals**

- *Journal of Business Venturing*, Elsevier, Snider Entrepreneurial Centre, University of Pennsylvania and Centre for Entrepreneurial Studies, New York University, 1986 onwards

**EF721 Operating the Family Business Internationally**

12.5 credit points • 38 hours • Prerequisite: nil.

A first year subject in the Innovation and Enterprise suite of programs.

**Objectives**

In an environment of increasing globalisation of business, national boundaries no longer prescribe markets for a family firm’s business or its operations. Even small organisations will become increasingly called upon to understand and operate successfully within the global context. The objective of this subject is to enable students to develop an understanding of the various operating methods from which family businesses may choose to conduct business in foreign markets.

On completion of this subject students will understand:

- the increasing diversity of forms of international business operation
- the main modes of operation - licensing, franchising, exporting and direct investment
- issues of collaboration and control in foreign operations
- how to choose among operational methods
- how to develop a practical and realistic marketing plan to support the launch of new products or services onto the international marketplace.

**Content**

- Business and marketing in the international context
- Operating mode 1: Export/Import
- Operating Mode 2: Franchising
- Operating Mode 3: Licensing
- Operating Mode 5: Management Contracts and Projects
- Operating Mode 6: Contract Manufacturing and Subcontracting
- Operating Mode 7: Direct Investment
- What about Services - are they different?
- Cooperative Strategies
- Diversification
- Issues in Organisation and Control
- Choosing and Operating Model

The subject is not content driven, rather it is conceptual and will focus on seminar style discussion. The main format is the interactive discussion of assigned readings and case studies in class sessions. There are no absolute ‘correct’ or ‘right’ answers to case studies, but rather learning will be developed through the focussed discussion of the concepts covered in the subject.

**Textbooks**


**EF722 Strategic Management of the Family Business**

12.5 credit points • 38 hours • Prerequisite: nil.

A first year subject in the Innovation and Enterprise suite of programs.

**Objectives**

This is a core subject, viewing the family business and its environment from the perspective of the Chief Executive and drawing together the management skills already suited to analyse the firm’s competitive and innovation performance and focus the firm’s resources to achieve long-run success. It requires an integration of the various functional skills such as finance and marketing to enable an analysis of the competitive environment in which the family business must operate. This includes identification and evaluation of the organisation’s competitive position, its markets, government policies, social issues, emerging trends and key factors, such as innovation in the company, which are critical for the business’s success in its environment. Final steps include the crafting of appropriate strategy and ensuring that implementation of the strategy is appropriately supported by an innovation-style culture, structure, controls and rewards.

On completion of the subject students will understand:

- the dynamic nature of business and the strategic management processes employed to gain sustainable competitive advantage and develop an innovative culture
- how to plan the future of the family business in a competitive environment from the viewpoint of the Chief Executive
- the analytical skills necessary for developing and implementing innovative strategies that will enable the family business to achieve competitive advantage
- how to apply and integrate the skills and knowledge acquired in other management subjects to strategic problem solving.

**Content**

The subject is structured in four topics:

- Understanding the company and its competitive environment
- Financial Analysis
- Financial Analysis
- Developing a Strategy
- Diversification
- Portfolio Analysis
- Implementing the Strategy
- Structure and Controls
- Culture and Leadership
- Consolidation of experience

The subject is not content driven, rather it is conceptual and analytical. The main format is the interactive discussion of case studies in class sessions. There are no absolute ‘correct’ or ‘right’ answers to case studies, but rather recommendations or conclusions that are developed from a factual basis through the logical application of the concepts and techniques learned in the subject.

**Textbooks**

EF810 New Venture Marketing
3 hours per week equivalent · Hawthorn · Prerequisites: nil · Assessment: a combination of personal assignments, group assignments, class participation and/or exam
A subject in the first year of the Innovation and Entrepreneurship suite of programs.

Objectives and content
Develop the skills necessary to meet the marketing needs of new and high growth venture. During this intensive subject students gain a thorough grounding in marketing principles and apply them in marketing plans based on live opportunities in the marketplace. A blend of theory and practicality, the subject provides the opportunity to gain hands-on experience in understanding market needs. Topics covered include marketing principles, marketing research, consumer behaviour, diffusion of innovation, organisational culture, technology and services.

At the completion of the subject successful candidates will be able to develop a practical and realistic marketing plan to support the launch of new products or services, align the core competence of their organisation with aligning needs of the marketplace, drive technology push as well as market pull strategies, determine steps for market research and analysis, market entry and long-term business development.

Recommended reading

EF811 New Venture Financial Planning
3 hours per week equivalent · Hawthorn · Prerequisite: EF810 Opportunity Evaluation Techniques · Assessment: a combination of personal assignments, group assignments, class participation and/or exam
A subject in the second year of the Innovation and Entrepreneurship suite of programs.

Objectives and content
Students who have passed this subject should possess demonstrable mastery of financial mathematics of the basic financial principles required for competent financial analysis, planning and management of a start-up venture. Students apply those skills by producing a comprehensive financial plan for a new venture embodied in an accurate and credible set of projected financial statements suitable for inclusion in a business plan. Students also acquire the skills and acumen necessary to evaluate new venture financial projections from the point of view of a prospective investor. Finally, the subject provides a broad knowledge of new venture financing in Australia and a history of venture capital and the basics of entrepreneurial finance and management plans. The core of this subject is the ability to apply strategic concepts to the production of a comprehensive business plan which integrates all knowledge gained in all seven previous subjects. The business plan goes well beyond basic assessment of commercial feasibility (which is the hallmark of the Graduate Certificate program). The plan addresses an entrepreneurial initiative identified by the team: this may be the commercialisation of an invention by an established business or the creation of a completely new business. Real-world planning disciplines are enforced by involving professional investment consultants in the plan evaluations. During the semester, students are given the opportunity to learn from and meet a number of successful entrepreneurs in a series of lecture and discussion seminars.

Recommended reading

EF820 Planning of Training Programs
36 hours over 4 x 1-day block modules (8 hours per day) · normally held at AIM, 131 Fitzroy St., St Kilda · Prerequisites: nil · Assessment: a combination of personal assignments, group assignments, class participation and/or exam
A subject in the Graduate Certificate in Training Management.

Objectives and content
Course participants are provided with the necessary knowledge, skills and resources to design and deliver training programs to meet specific outcomes.

Recommended reading

EF821 Program Design
36 hours over 4 x 1-day block modules (8 hours per day) · normally held at AIM, 131 Fitzroy St., St Kilda · Prerequisites: nil · Assessment: a combination of personal assignments, group assignments, class participation and/or exam
A subject in the Graduate Certificate in Training Management.

Objectives and content
Course participants are provided with the necessary knowledge, skills and resources to design and deliver training programs to meet specific outcomes.

Recommended reading

EF822 Training Innovation and Evaluation
36 hours over 4 x 1-day block modules (8 hours per day) · normally held at AIM, 131 Fitzroy St., St Kilda · Prerequisites: nil · Assessment: a combination of personal assignments, group assignments, class participation and/or exam
A subject in the Graduate Certificate in Training Management.

Objectives and content
Course participants are instructed in the identified knowledge, skills, competencies and work requirements of training program evaluation. The prime focus of this subject is to enable students to apply the generic theory of training program design to their own organisational environment in an innovative and systematic manner.

Recommended reading

EF823 Administration of Training
36 hours over 4 x 1-day block modules (8 hours per day) · normally held at AIM, 131 Fitzroy St., St Kilda · Prerequisites: nil · Assessment: a combination of personal assignments, group assignments, class participation and/or exam
A subject in the Graduate Certificate in Training Management.
Objectives and content
Course participants are provided with the identified knowledge, skills of on-the-job practical management of the training program administration. The principal aim of the course is to enable participants to manage the organisational pressure, demands and resources of program administration in an innovative and systematic manner.

Topics include Training Guarantee Act Legislation, compliance with legislation, book-keeping, computer applications, The National Training Board, competency standards, organisational HR functions, theory of organisational behaviour, budgeting, resource administration, professional development.

Recommended reading
Material in this course is based on Davies, A., Pepper, A.D., A.D., A.G., Managing the Training and Development Function, 2nd edn, Aldershot, Hants, Brookfield, Gower, 1992, but has been adapted to Australian conditions by course lecturers.

EF920 Managing the Growing Business
12.5 Credit Points • Block Mode, 8 days x 8 hours • Hawthorn • Prerequisites: completion of MBA core units or equivalent • Assessment: individual contribution to case study and debate, group report on case study, individual assignment, ‘open book’ exam

This is a subject in the Master of Business Administration and the Innovation and Enterprise suite of programs.

Objectives
To identify the stages of business growth and problems and opportunities to be managed; to recognise the increasing complexities of the growing enterprise; to describe the functional, planning and control needs of each stage; to identify the tools and techniques available to manage and sustain growth; and to identify the practices by which business maintains innovation; plans for business harvest; to describe and apply key principles and theories of organisational behaviour in new ventures; to use appropriate personnel practices in developing a new business; and to apply the entrepreneurial process to development of opportunities in corporations.

Content
As a business moves into a growth stage, the management and development of people becomes a major concern. There is an exponential increase in requirements for communication, organisation, direction, supervision and coordination of the expanding human resources. This course draws on theories and principles of organisational behaviour and uses them to solve human resource cases and problems (Australian and international) in growth situations. The emphasis is on managing growth through all stages of business development.

Textbooks

Recommended reading

EF923 Growth Venture Evaluation
12.5 Credit Points • one semester, four hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: Individual presentation, Major presentation

This is a subject in the Master of Business Administration and the Innovation and Enterprise suite of programs.

Objectives
To define the differences between an idea and an opportunity; to identify business opportunities; to analyse the risk attached to grasping opportunities; to utilise criteria for successfully screening opportunities; to demonstrate mastery in fundamental management systems; to recognise differences in accounting for merchandising and manufacturing entities; and to acquire basic understanding of cost and management accounting.

Content
What is feasible opportunity? Many individuals and companies fail to realise that available opportunities are only made feasible by systematic application of appropriate methods, skills and resources. This course takes students through a ‘screening guide’ developed from international and Australian models. How does an entrepreneur recognise the quality aspects of a successful venture, the team, the market, the financial issues, competitor response and tactics? Are there any fatal flaws, strengths, weaknesses, threats and opportunities for the proposed venture. Students also learn some important distinction between accounting for merchandising and manufacturing entities; partnership and company accounting; external and internal reporting. It is from a systematic analysis of these issues that an entrepreneur can determine whether or not it is worth investing the effort required for development of a business plan.

Textbooks

Recommended reading

Recommended reading

Recommended reading

Recommended reading

Recommended reading

Recommended reading

Recommended reading

Recommended reading

Recommended reading

Recommended reading

Recommended reading

Recommended reading
EF938 Commercializing Innovation
12.5 Credit points • 3 hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: Feasibility analysis, individual contribution, Major Presentation
This is a subject in the Master of Business Administration and the Innovation and Enterprise suite of programs.

Objectives
Develop a comprehensive appreciation of product life cycles; to relate an exploitable international perspective on converting a good idea/opportunity into a productive reaction, barriers to market entry, intellectual property protection, and an analysis.

Content
Objectives and Content

Textbooks

Recommended reading

EF940 Innovation Creativity and Leadership
3 hours per week equivalent • Hawthorn • Prerequisite: nil • Assessment: a combination of personal assignments, group assignments, class participation and/or exam
A second year subject in the Innovation and Enterprise suite of programs.

Objectives and Content

Recommended reading

EF943 Strategic Intent and Corporations
4 hours per week equivalent • Hawthorn • Prerequisite: All Year 2 M3 subjects • Assessment: a combination of personal assignments, group assignments, class participation and/or exam
A third year subject in the Master of Enterprise Innovation

Objectives and Content
This subject focuses on the role of entrepreneurship, the nurturing of innovation and successful management of innovation in established and generally large corporations. These activities are often referred to as intrapreneurship. The presentation of this subject is designed to provide a strong linkage between established theory and that of practice. In particular, the subject complements a strong case study approach to management education with research and practice trends in management processes, and with particular emphasis on the relationship between effective strategy formulation and entrepreneurial management. The emphasis is on formulating and implementing strategic intent—the identification of desired corporate positioning and the means of getting there.

Recommended reading

ES100 Object-Oriented Software Development
10 credit points • 5 hours per week • Hawthorn • Prerequisites: nil • Instruction: Lectures and laboratory sessions • Assessment: assignments and final examination
A first year subject in the Bachelor of Applied Science and Bachelor of Software Engineering.

Objectives
To introduce basic concepts of object-oriented analysis and design, to introduce object-oriented programming using Java, to study the main features of the software development process in an object-oriented framework.

Content
Objectives and Content

Recommended reading

ES104 Professional Skills for Software Engineers
10 credit points • 32 hours per semester • Hawthorn • Prerequisites: nil • Instruction: lectures, workshops • Assessment: assignments, class participation, lecturer and student self participation and/or exam
A first year subject in the Bachelor of Applied Science and Bachelor of Software Engineering.

Objectives
To enable students to develop communicative competencies and improve analytical skills; to provide students with an awareness of the need for clear and coherent communication in industry, to equip students with communication skills current in industry which have immediate application in their degree course.

Content
Objectives and Content

Recommended reading

ES107 Computer Systems 1
10 credit points • 3 hours per week • Hawthorn • Prerequisites: nil • Instruction: lectures and laboratory sessions • Assessment: assessed laboratory exercises, assignments and final examination
A first year subject in the Bachelor of Applied Science and Bachelor of Software Engineering.

Objectives
To introduce the fundamental concepts of computer systems; to introduce the DOS, Windows and UNIX operating systems.

Content
Objectives and Content

Recommended reading

Swinburne University of Technology | 1998 Handbook
ES200 Object-Oriented Software Development 2

Recommended reading

ES204 Software Engineering I

Recommended reading

ES205 Database

Recommended reading

ES207 Computer Systems 2

Recommended reading

ES300 Object-Oriented Software Development 3

Recommended reading

ES304 Software Engineering 2

Recommended reading

ES305 Database

Recommended reading
of the user interface; to introduce the basic underlying theory of interaction.

Content
What is HCI and why is it needed; Human user; performance, behaviour, cognition and social action; interface technology, devices, styles and applications; development paradigms, formal, cognitive, participative and usability approaches; up stream usability engineering, task, user and situation analysis; downstream usability engineering, experimental, interpretative and predictive evaluation; guidelines, standards and metrics; tools, user interface management systems (UI/MS); Groupware and Computer Supported Cooperative Work (CSCW); organisational issues.

Recommended reading

ES400 Object-Oriented Software Development 4
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES300  • Instruction: lectures and laboratory sessions  • Assessment: assignments and final examination
A second year subject in the Bachelor of Applied Science and Bachelor of Software Engineering

Objectives
To present the implementation of standard data structures, to study the fundamentals of design patterns and software architecture.

Content
Algorithm complexity, stacks and queues, table implementations, trees, heaps and priority queues, graphs, generic and standard container classes, using container classes in implementation, OOD design patterns, O0 frameworks.

Recommended reading

ES401 Concurrent Programming in Ada
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES200  • Instruction: lectures and laboratory sessions  • Assessment: assignments, final examination
A second year subject in the Bachelor of Applied Science and a third year subject in the Bachelor of Software Engineering

Objectives
To introduce Ada, i.e. a procedural language with strong typing, an industrial language other than C++, to introduce concurrent programming in a high level language.

Content
Ada type concepts and packages; control structures; exception handling; tasks; rendezvous; protected objects; semaphores; classic concurrent problems.

Recommended reading

ES402 Systems Programming
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES107, ES100  • Instruction: lectures and laboratory sessions  • Assessment: assignments and final examination
A second year subject in the Bachelor of Applied Science and the Bachelor of Software Engineering

Objectives
To study the implementation of the UNIX environment by a consideration of a selection of the system calls; to study the development of network-aware software.

Content
Low level I/O: file system access and manipulation; time under UNIX, process control; accessing user information: signals and interrupts; interprocess communication and networking; remote procedure calls (RPC) and distributed computing environment (DCE) services; I/O to terminals and device control.

Recommended reading

ES403 Software Development Project
10 credit points • Equivalent to 3 hours per week • Hawthorn • Prerequisite: ES304  • Instruction: lectures and project team development activities  • Assessment: assignments
A second year subject in the Bachelor of Applied Science and the Bachelor of Software Engineering.

Objectives
To apply the software engineering and management skills acquired in the previous semesters of the course to a substantial software development project in a team environment; to give project teams experience in the management of time and resources and the preparation of the full range of project and software documentation.

Content
Project teams will be expected to liaise with a client to establish user needs and to transform these needs into a software solution; each project team will be required to prepare a suite of deliverables: project plan, requirements specification, design specification, source code, and user manual; deliverables shall be prepared in accordance with the software documentation standards; the final product shall be presented to the client for evaluation and acceptance.

Recommended reading

ES407 Data Communications
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES100  • Instruction: lectures and laboratory sessions  • Assessment: assignments and final examination
A second year subject in the Bachelor of Applied Science and the Bachelor of Software Engineering

Objectives
To introduce the fundamental concepts and components involved in data communications; to develop an understanding of communication protocols and computer networks.

Content
Historical evolution of computer communications, standards, codes, introduction to the ISO reference model; basic communication theories and technologies; transmission media; signal types; interface standards; protocol basics; error control methods; flow control; link management; terminal based networks; statistical multiplexers, concentrators, front-end processors and terminal network protocols; local area networks: topologies and access methods, LAN management; public data networks, ISDN, standards, wide area networks: OSI, the seven layer model, layer interaction, comparison of architectures, message handling systems; standards, examples.

Recommended reading

ES409 Introduction to Artificial Intelligence
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES100  • Instruction: lectures, tutorials and laboratory sessions  • Assessment: assignments and final examination
A second year subject in the Bachelor of Applied Science and a third year subject in the Bachelor of Software Engineering.

Objectives
To give students an appreciation of the difficulties involved in encoding knowledge, even in restricted domains, in such a fashion that ‘intelligent behaviour’ can be elicited; to contrast the symbol-based and non-symbol-based paradigms.

Content
Problem solving and search; symbolic knowledge representation; artificial neural networks; evolutionary programming; machine learning; natural language processing; machine vision.

Recommended reading
ES500 Compiler Design
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES300 • Instruction: lectures and tutorials • Assessment: assignments and final examination.
A final year elective subject in the Bachelor of Applied Science and the Bachelor of Software Engineering.
Objectives
To introduce formal language theory; to investigate the major methods of compiler design; to develop a new language and its compiler.

Content
Introduction to compiler theory and practice; introduction to formal language theory; grammars, finite state machines and regular expressions; backtracking; top-down parsing; non-deterministic push-down automata; recursive descent parsing; conditions for predictive parsing: left recursion; implementation of non-recursive predictive parser; LL(1) grammar; FIRST and FOLLOW sets; the algorithm of a parser; introduction to bottom-up parsing; code generation; quadruples; a practical solution of typical problems of code generation; putting the compiler together.

Recommended reading

ES501 Real-Time Systems
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES301 • Instruction: lecture and laboratory sessions • Assessment: assignments and final examination.
A final year subject in the Bachelor of Software Engineering and a final year elective in the Bachelor of Applied Science.
Objectives
To study the design and implementation of hard real-time systems

Content
Characteristics of real-time systems; safety, reliability and fault tolerance; ressource management and deadlock prevention; co-ops and deadlines; low-level programming, interrupt handling; pre-emptive scheduling; real-time kernels; real-time aspects of distributed systems; analysis of real-time systems; introduction to real-time methodologies.

Recommended reading

ES503 Software Engineering Project
30 credit points over two semesters • 4 hours per week in Sem 1, 1 hour per week in Sem 2 • Hawthorn • Prerequisite: ES500, ES504 • Instruction: lecture, contact with supervisor and project team session • Assessment: assignments.
A final year subject in the Bachelor of Applied Science and the Bachelor of Software Engineering.
Objectives
To develop a software system in a large team (10 or more members); to apply the range of knowledge and skills gained throughout the course, especially in Software Engineering, Programming, Data Communications, Database and Multi-User/Multi-Platform Technologies.

Content
Initiation, specification, design, implementation, testing and initial maintenance of a large software system development, requiring students to function as members of a sizable team (Where possible these projects will be relevant to identifiable industry needs); theoretical material will encompass the tools that will be required for the software development.

Recommended reading

ES504 Advanced Software Engineering 1
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES504 • Instruction: lecture and tutorial • Assessment: assignments and final examination.
A third year subject in the Bachelor of Software Engineering and an elective subject in the Bachelor of Applied Science.

Objectives
To demonstrate proficiency in current approaches and techniques in Process Modelling, Software Architecture and Software Validation and Verification.

Content

Recommended reading
Gomaa, E. et al., Design Patterns: Elements of Reusable Object-Oriented Software, Addison-Wesley, Reading MA, 1995.

ES506 Advanced HCI 1
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES404 • Instruction: lecture and tutorial • Assessment: assignments and final examination.
An elective subject in the Bachelor of Software Engineering and the Bachelor of Applied Science.
Objectives
To develop ability in selecting techniques for user centered system design; to introduce the philosophy and techniques of cooperative user interface development; to introduce the philosophies and techniques of cognitive user interface development.

Content
Designing the design process; the effect of context on method selection; participatory approaches, the cooperative paradigm, participative design methods, contextual inquiry, sociotechnical design, participative evaluation, ethnomethodology, the technology of participatory design; formal modelling-based approaches, function and task modeling, user modeling, situation modeling, activity modeling.

Recommended reading

ES507 Local Area Networks
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES407 • Instruction: lecture and laboratory sessions • Assessment: assignments and final examination.
A final year elective subject in the Bachelor of Software Engineering and the Bachelor of Applied Science.
Objectives
To study the operation of common LAN topologies and protocols; to study the functionality of LAN components such as repeaters, bridges and routers; to study some representative network operating systems.

Content
Data communication networks and open system standards; protocol basics; ethernet, token ring and token bus networks; high speed and bridged LANs; internetworking: transport protocols, application specific protocols: DNS, NIS, NFS, network operating systems: Novell's Netware, Windows NT, network management: SNMP; security aspects.

Recommended reading

ES508 Multimedia Technology
10 credit points • 3 hours per week • Hawthorn • Prerequisite: nil • Instruction: lectures and laboratory sessions • Assessment: assignments and final examination.
A final year elective subject in the Bachelor of Software Engineering and the Bachelor of Applied Science.
Objectives
To introduce the technologies, concepts and techniques associated with the development of multimedia systems.

Content
Introduction, definition, fundamental concepts, media types and application areas: media: type: text, graphics, images, audio, animation, video, digital representation, formats, standards, capturing hardware, processing software, compression.
methods, binary image compression schemes, color, grey scale and still-image compression; video image compression; audio compression; multimedia hardware and software, components of a multimedia system, optical storage; input and output technologies, authoring software; processing software; multimedia documents databases and hyper-text; multimedia user interfaces and design fundamentals - general design issues and approaches, navigation issues; methodologies; multimedia communication systems; multimedia servers; high speed LANs, distributed multimedia databases, video conferencing and collaborative work environments; evaluation of multimedia systems - evaluation techniques and methods; current research and future directions.

Recommended reading

ES509 Knowledge-Based Systems Engineering
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES409 • Instruction: lecture and laboratory sessions • Assessment: assignments and final examination.

A final year elective subject in the Bachelor of Software Engineering and the Bachelor of Applied Science.

Objectives
To introduce the techniques and theories of knowledge acquisition and building knowledge-based systems.

Content
Manual knowledge acquisition techniques; automated knowledge acquisition techniques; knowledge representation in knowledge-based systems; inferences, problem solving and architecture in knowledge-based systems; inconsistent, multiple and distributed knowledge sources; management; building knowledge-based systems with multimedia interfaces.

Recommended reading

ES514 Formal Methods
10 credit points • 3 hours per week • Hawthorn • Prerequisites: ES304, ES300, SM111 • Instruction: lecture and tutorial • Assessment: assignments, test and final examination.

A third year subject in the Bachelor of Software Engineering and an elective subject in the Bachelor of Applied Science.

Objectives
To introduce the concepts underlying formal systems development; to consider in detail the Object Z specification language; to study the role of formal methods in the software development process; to develop skills in reading and writing formal system specifications; to consider formal development methods.

Content
Review of fundamentals of discrete mathematics relevant to formal systems development; to consider in detail the Object Z specification language; integration of formal methods into software processes; the FOMM approach; specification techniques for real-time systems; formal verification techniques; formal development methods; formal methods in practice - a case study.

Recommended reading
Duke, R. et al., Object Z, to be published.

ES518 Computer Graphics and Virtual Reality
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES200 • Instruction: lecture and tutorial • Assessment: assignments and final examination.

A final year elective subject in the Bachelor of Software Engineering and the Bachelor of Applied Science.

Objectives
To introduce computer graphics principles; to introduce concepts of virtual reality.

Content
What is computer graphics; graphics hardware; point, line, circle and polygon drawing; 2D transformations; windowing and clipping; data structures for computer graphics; 3D transformations; 3D viewing and representations; colour in computer graphics; object rendering; tracing; virtual reality.

Recommended reading

ES524 Professional Issues in Software Engineering
10 credit points • 3 hours per week • Hawthorn • Prerequisite: nil • Instruction: lecture and tutorial, workshop • Assessment: assignments and final examination.

A final year subject in the Bachelor of Software Engineering and the Bachelor of Applied Science.

Objectives
To introduce and review of the Code of Ethics and Code of Conduct governing the behaviour of software engineering professionals; to provide a broad understanding of the impact of information technology on various human activities; to explore the importance of knowing one's belief system and values when reasoning confronting issues at the work place.

Content
A variety of topics involving social, legal and ethical aspects of computing in the human context; values (including religious values) and cultural influences; computing in a global community; ethical behaviour in the work place; a personal framework for ethical behaviour.

Recommended reading

ES600 Programming Paradigms
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES2004, ES200, SM111 • Instruction: lecture and laboratory sessions • Assessment: assignments and final examination.

A final year elective subject in the Bachelor of Software Engineering and the Bachelor of Applied Science.

Objectives
To introduce the concepts underlying programming languages; to investigate the major programming paradigms.

Content
Short introduction to formal languages theory, syntax and grammars, semantics; elements of programming languages; data abstraction; data types; functions and recursion; dynamic structures; parallel processing; classification and characteristics of programming languages; imperative programming paradigm, object oriented programming paradigm, functional programming paradigm, logic programming paradigm; examples of implementation of the major programming paradigms (this may include languages: C++, Miranda, Prolog, Lisp, Java and others).

Recommended reading
ES603 Software Team Project

10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES204 • Instruction: lecture and contact with project supervisor • Assessment: assignment A final year subject in the Bachelor of Applied Science.

Objectives
To apply software engineering principles to the development and successful implementation of a major piece of software which satisfies user needs; to learn how to work effectively and efficiently in a team.

Content
Students work as a team (typically 4-6 individuals) to develop a software product for a nominated client. Where possible, clients are external to the University. Each group is supervised closely by a member of staff who acts as project manager. Three milestones must be satisfied. Teams are required to produce a formal Management Plan and Software Requirements document that are in accordance with currently accepted software engineering principles and practice. These requirements involve an analysis of project requirements, project design and development. The final milestone involves a formal oral presentation at which the completed software and user manual are demonstrated.

Recommended reading

ES604 Advanced Software Engineering 2

10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES504 • Instruction: lecture and tutorial • Assessment: assignments and final examination A third year subject in the Bachelor of Software Engineering and an elective subject in the Bachelor of Applied Science.

Objectives
To present an in-depth study of some of the current, critical issues in Software Engineering.

Content
A number of Swinburne visiting lecturers will present a selection of advanced, topical issues related to Software Engineering. It is envisaged that these topics will be presented, in depth, in a semester. Indicative topics include: Object-Oriented Metrics; Software Engineering Environments; Software Process Assessment; Software Re-engineering; Safety-Critical Systems

Recommended reading

ES605 Advanced Database

10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES305 • Instruction: lecture and laboratory sessions • Assessment: assignments and final examination A final year elective subject in the Bachelor of Applied Science and the Bachelor of Software Engineering.

Objectives
To provide students with sufficient theory and experience in the areas of transaction management, client-server architectures, distributed databases and object databases to give a solid foundation for practical usefulness in client-server development in industry.

Content
Transaction management; security and privacy; distributed databases; object databases; client-server technology.

Recommended reading

ES606 Advanced HCI 2

10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES506 • Instruction: lecture and tutorial • Assessment: assignments and final examination A final year elective subject in the Bachelor of Applied Science and the Bachelor of Software Engineering.

Objectives
To allow lessons learned so far in the HCI stream to be particularised within real world projects and contexts.

Content
Applications areas will be drawn from: biomedical issues and HCI, physiological monitoring systems in hospitals, clinical informion systems (hospital records, orders, etc); HCI and large complex systems, geographical information systems in use, multi-function keyboards in aviation systems, traffic control, ground transportation control (traffic, trains, taxis, etc.); power plant process control; software psychology; novel display design; HCI issues in multimedia, multimedia 'walk-up-and-use' kiosks in public use, tv studio switching systems for technical direction; HCI and groupwork and CSCW.

Recommended reading

ES608 Multimedia Development

10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES508 • Instruction: lecture and tutorial • Assessment: assignments and final examination A final year elective subject in the Bachelor of Applied Science and the Bachelor of Software Engineering.

Objectives
To design and develop a multimedia application operating in a team environment; to evaluate multimedia systems.

Content
The multimedia project - the development team, project planning, project management, media management, design models and methodologies - design paradigms, navigation metaphors, hypertext models (Dexter, Trellis, Amsterdam), document models (SGML, HyperText) analysis and design methodologies: multimedia interface design; evaluation of multimedia systems; societal issues - information superhighway, patents and copyright, censorship.

Recommended reading

ES609 Soft Computing

10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES409 • Instruction: lecture and laboratory sessions • Assessment: assignments, laboratory reports and final examination A final year elective subject in the Bachelor of Applied Science and the Bachelor of Software Engineering.

Objectives
To introduce and investigate non-deterministic computational methods and their application to complex problem domains.

Content
Methods of inference and approximate reasoning; artificial neural networks for supervised learning; artificial neural networks for unsupervised learning; evolutionary computing; fuzzy systems; hybrid systems.

Recommended reading

ES614 The Personal Software Process

10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES500, ES304 • Instruction: lecture and laboratory sessions • Assessment: assignments and reports A third year subject in the Bachelor of Software Engineering and an elective subject in the Bachelor of Applied Science.

Objectives
To establish the need for discipline in software engineering, to guide students to discover the methods of software development which make them personally most effective (e.g. time and defect recording, coding standards, size measurement, size estimating, task planning, schedule planning, design reviews, design templates, code reviews) to provide students with the knowledge base required to manage their own personal software process and to come to believe that the methods are of benefit to them.
ES706 Introduction to Human-Computer Interaction

10 credit points • 4 hours per week • Hawthorn • Prerequisites: nil • Instruction: lectures, tutorials and laboratory sessions • Assessment: assignments, laboratory tests and final examination

A subject in the Graduate Diploma of Applied Science (Computer Science).

Objectives
To introduce the process of user centred system design, the technology of the user interface and the basic underling theory of interaction.

Content
What is HCI and why is it needed? human user: performance, behaviour, cognition and social action, interface technology: devices, styles and applications, development paradigms: formal, cognitive, participative and usability approaches, up-stream usability engineering: task, user and situation analysis, down-stream usability engineering: experimental, interpretive, and predictive evaluation, guidelines, standards and metrics, tools, user-interface management systems (UIMS), Groupware and Computer Supported Cooperative Work (CSCW), organisational issues.

Recommended reading

ES707 Computer Systems 1

10 credit points • 4 hours per week for full-time students, a short course intensive over eight evenings in February for part-time students • Hawthorn • Prerequisites: nil • Instruction: lectures, tutorials and laboratory sessions • Assessment: assignments, laboratory tests and final examination

A subject in the Graduate Diploma of Applied Science (Computer Science).

Objectives
To introduce the fundamental concepts of computer systems, to introduce the DOS, Windows™ and UNIX™ operating systems.

Content
Functions and components of computer; history of computing; data representation; computer hardware; operating systems; DOS and Windows™; introduction to UNIX™ operating system; UNIX™ file management; commands & filters; shell programming; data communications; computer software; security, privacy and ethics; emerging technology; the Internet.

Recommended reading

ES710 Object-Oriented Software Development 3

10 credit points • 4 hours per week for part-time students, a short course intensive, eight hours per day for six days in December for full-time students • Hawthorn • Prerequisites: ES750 • Instruction: lectures and laboratory sessions • Assessment: assignments and final examination

A subject in the Graduate Diploma of Applied Science (Computer Science).

Objectives
To present the C++ language, and its differences from Java, to increase skills in OOA and OOD.

Content
C++ language fundamentals, intrinsic types, control flow, classes, pointers and
refers to inheritance and polymorphism, programming with functions, I/O with streams, exception handling, pre-compiler directives, and multiple compilation.

Comparison with Java’s ‘extends’, implementation of a design in C++ and consideration of heuristics to evaluate designs.

Recommended reading

ES713 Software Development Project
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES700 • Instruction: lectures and laboratory sessions • Assessment: assignments and final examination

A subject in the Graduate Diploma of Applied Science (Computer Science)

Objectives
To introduce techniques and strategies for the management of software project utilizing development technologies that allow the realisation of management objectives; to give project teams experience in the management of time and resources and the preparation of the full range of project and software documentation and deliverables.

Content
A selection of topics relating to project management theory and practice: introduction to software development projects; project concept and software life cycle; project team structure, roles and responsibilities; project cost/benefit analysis; project risk management; software documentation standards; project planning and estimation; project monitoring and control; project politics; Project Team practice - requiring analysis, design and implementation; full documentation, of a software product. This must be conducted in a 4-6 person teams, and it is expected that the project will exercise technical skills covered elsewhere in the course.

Recommended reading

ES750 Object-Oriented Software Development 2
10 credit points • 4 hours per week • Hawthorn • Prerequisite: ES750 • Instruction: lectures and laboratory sessions • Assessment: assignments and final examination

A subject in the Graduate Diploma of Applied Science (Computer Science)

Objectives
To present advanced concepts of object-oriented analysis and design, to present intermediate-level programming techniques.

Content
Advanced object modelling (including inheritance), task scripts and use cases, the dynamic model, interaction diagrams, inheritance and run-time polymorphism, techniques to implement relationships, introduction to algorithmic complexity, implementing linear data structures.

Recommended reading

ES754 Software Engineering 1
10 credit points • 3 hours per week • Hawthorn • Prerequisite: nil. However students who have not passed ES700 must study that subject concurrently with ES754 • Instruction: lectures and tutorials • Assessment: assignments and final examination

A subject in the Graduate Diploma of Applied Science (Computer Science)

Objectives
To introduce the basic problems which are encountered in the development and maintenance of software in a small team environment; to examine the current technologies and tools which are used by industry to address the above problems; to allow students to experience the development of management, analysis, design and end-user documentation, working as a member of a small (eg 2-4 person) software project team.

Content
Software lifecycle models; human factors (incl. personality, group working); planning tasks and resource allocation; software specification; software design; software implementation techniques and tools; software validation; software maintenance; user documentation.

Recommended reading

ES756 Multimedia Technology
10 credit points • 3 hours per week • Hawthorn • Prerequisite: nil • Instruction: lectures and laboratory sessions • Assessment: assignments and final examination

A subject in the Graduate Diploma of Applied Science (Computer Science)

Objectives
To present a range of technologies, concepts and techniques used in the development of multimedia systems.

Content
Introduction, definition, fundamental concepts, media types and application areas; media types, text, graphics, images, audio, animation, video, digital representation, formats, standards, capturing hardware, processing software; compression methods, binary image compression scheme, color, grey scale and still-image compression, video image compression, audio compression; multimedia hardware and software, components of a multimedia system, optical storage, input and output technologies, authoring software, processing software; multimedia documents, databases and hypertext, multimedia, SGML, HTML, OpenDoc, MIME; multimedia user interfaces and design fundamentals - general design issues and approaches, navigation issues, methodologies, multimedia communication systems - multimedia servers, high-speed LANs, distributed multimedia databases, video conferencing and collaborative work environments; evaluation of multimedia systems - evaluation techniques and methods; current research and future directions.

Recommended reading

ES757 Data Communications
10 credit points • 3 hours per week • Hawthorn • Prerequisite: ES700 • Instruction: lectures and laboratory sessions • Assessment: assignments and final examination

A subject in the Graduate Diploma of Applied Science (Computer Science)

Objectives
To introduce the fundamental concepts and components involved in data communications; to develop an understanding of communication protocols and computer networks.

Content
Historical evolution of computer communications, standards, codes, introduction to the ISO reference model; basic communication theories and technologies; transmission media, signal types, interface standards; protocol basics: error control methods, flow control, link management; terminal based networks; statistical multiplexers, concentrators, front-end processors and terminal network protocols; local area networks: topologies and access methods; LAN management; public data networks; ISDN, standards, wide area networks; OSI: the seven layer model, layer interaction, comparison of architectures; message handling systems: standards, examples.

Recommended reading

GD112 Design Studio 1
35 Credit Points • 7 hours per week, full year subject • Prathran • Assessment: progressive appraisal; Final examination at conclusion of second semester

A first year subject in the Bachelor of Design (Graphic Design)
Design Studio 1 consists of the study areas Design 1 and Design 2.
Design 1

Objectives
To introduce through the study of fundamental design elements and concepts, an understanding of the principles of design and communication within two dimensional and three dimensional space.

Content
Projects will explore the potential of point, line, plane, shape and form. Included within the content of these assignments will be the investigation of fundamental aspects of design.

Design 2

Objectives
Design 2 complements Design 1. The project base has been designed to introduce and develop an understanding of proportion and associated laws of spatial organisation, to encourage awareness and understanding of colour and to provide students with practical skills and knowledge which will enable them to fully actualise 2D and 3D project outcomes.

Content
The projects will introduce students to the application of principles of proportion, scale and form; the symbolism and psychology of colour, colour aesthetics, history of colour, personal colour harmony, the colour wheel and Itten’s colour contrast theories.

GD113 Image Making 1

25 Credit Points • 6 hours per week, full year subject • Prahran • Assessment: progressive appraisal. Final assessment at conclusion of second semester.

A first year subject in the Bachelor of Design (Graphic Design)

Image Making 1 consists of the study areas Drawing 1 and Photography 1.

Drawing 1

Objectives
To stimulate keen observation of all things in our surroundings. To afford experience which will help students toward a better understanding of their individual perceptions and to provide them with skills which will enable them to translate these perceptions into 2D drawing. To use drawing/mark-making as a means of expression and in the communication of ideas and as a process of graphic inquiry, thus providing a foundation for graphic problem-solving, visualisation and illustration.

Content
Projects will investigate format and spatial organisation, scale, mass and weight, structure, depth, tone, texture, pattern, movement, colour and a variety of media.

Photography 1

Objectives
To learn how to read images. To develop an understanding of the potential of photography as a creative and communicative tool. To learn to transform ideas into photographs which have conceptual, visual and emotional resonance. To develop photography as a creative and communicative tool. To learn to transform ideas into photographs which have conceptual, visual and emotional resonance.

Content
Semester 1 is based on colour slide film. Semester 2 is based on black and white and/or colour image making using negative film stock and xerographic printing techniques. Technical aspects: Camera operation, creative controls, film, filters etc. Formal aspects: Light, colour, design etc. Conceptual aspects: "The ideas behind the photograph". These will be considered via formal lectures and critical tutorial discussions.

GD115 Computing/Type Studies

10 Credit Points • 2 hours per week, full year subject • Prahran • Assessment: progressive appraisal. Final assessment at conclusion of second semester.

A first year subject in the Bachelor of Design (Graphic Design)

Objectives
To introduce students to the study of type as a quality. To develop observation and analytical skills, and an understanding and interest in the origins, development and application of type; develop a vocabulary and terminology specific to typography and computer studies; enable students to present proposals and rationalise their choices/decisions made; introduce students to the computing technology, concepts, processes, and techniques; be able to utilise the computer to apply typographic knowledge and skills developed.

Content
This course covers various aspects of the history of design, art and industry with the Industrial Revolution in the late 18th Century and following the development of Modernism and Modernisation to Streamline and Surrealism in the 1920s and 30s. It also introduces the issues of gender, class, national and cultural identity in design, art, film and the mass media. The influence of political and social theories on the directions and practices of design and art will be covered, and contemporary theoretical approaches to film and media will be canvassed.

GD130 Ideas, Culture & Communication

10 Credit Points • 1 hour per week, full year subject • Prahran • Assessment: progressive appraisal. Final assessment at conclusion of second semester.

A first year subject in the Bachelor of Design (Graphic Design)

This subject is available to fee paying students from other countries. Non fee paying students from non-English speaking backgrounds who wish to be considered for participation may make representation to the Head of School.

Objectives
To provide an environment where the main ideas from Design History and Critical Theory can be explored within a framework that allows for cross cultural differences.

Content
This course covers various aspects of the history of design, art and industry with the Industrial Revolution in the late 18th Century and following the development of Modernism and Modernisation to Streamline and Surrealism in the 1920s and 30s. It also introduces the issues of gender, class, national and cultural identity in design, art, film and the mass media. The influence of political and social theories on the directions and practices of design and art will be covered, and contemporary theoretical approaches to film and media will be canvassed.

Swinburne University of Technology | 1998 Handbook
GD212 Design Studio 2
35 credit points • 7 hours per week, full year subject • Prahran • Prerequisites: GD112, GD113, GD114, GD115, GD116 • Assessment: continuous.
A second year subject in the Bachelor of Design (Graphic Design).
Design Studio 2 consists of the study areas Design 1 and Design 2.

Design 1
Objectives
To enhance the skills and learning achieved in previous semesters. To assist in preparing students for entry into the professional environment (in the case of the IBL year) or alternatively for Year 3 where a student may investigate areas of individual interest.

Content
Areas of investigation and development will include: spatial distinctions and the manipulation of figure and ground phenomena; research, design methodologies and synthesis; ideation, brainstorming and lateral thinking; image generation; content, context and meaning; the relationships between words and images; communication design; information and visual hierarchies; three dimensional design and semiotics; professional aspects of design.

Design 2
Objectives
To enhance the skills and learning achieved in previous semesters. To assist in preparing students for entry into the professional environment (in the case of the IBL year) or alternatively for Year 3 where a student may investigate areas of individual interest.

Content
Areas of investigation and development will include: spatial distinctions and the manipulation of figure and ground phenomena; research, design methodologies and synthesis; ideation, brainstorming and lateral thinking; image generation; the relationships between words and images; communication design; information and visual hierarchies; three dimensional design and semiotics; professional aspects of design.

GD213 Image Making 2
26 credit points • 8 hours per week, full year subject • Prahran • Prerequisite: GD112, GD113, GD114, GD115, GD116 • Assessment: continuous.
A second year subject in the Bachelor of Design (Graphic Design).
Image Making 2 consists of the study areas Drawing 2 and Photography 2.

Drawing 2
Objectives
To build on the Year 1 experiences with further refinement of visual awareness leading to keen observation and perception. In-depth application of the ways in which these perceptions can be expressed and communicated. Students will seek to attain greater confidence and ease in communicating, visualising and graphic problem-solving through drawing/mark-making.

Content
Concentrating on further experience in the studio and "in the field", a broader study of essential drawing elements will be undertaken including visualising.

Photography 2
Objectives
To give students an understanding of photographic lighting and studio techniques. To further the students comprehension of photography methods and reinforce skills attained in previous semesters.

Content
Areas of investigation will include basic lighting techniques; use of props and various textures; creating moods and atmospheres; professional concepts relating to design and photography; creating depth in photography through placement; relationships between objects; multiple purposes of images. Teaching / learning method: Projects will be conducted in the studio environment and will be discussed during class.

GD214 Print Production 2
10 credit points • 2 hours per week, full year subject • Prahran • Prerequisite: GD112, GD113, GD114, GD115, GD116 • Assessment: continuous.
A second year subject in the Bachelor of Design (Graphic Design).

Objectives
To further develop the student's knowledge of print production and to introduce and further develop computer skills appropriate to the demands of the course and the design profession.

Content
Tutorial exercises will lead to the production of printed pieces created in collaboration with the design subject.

GD215 Computing Type Studies 2
10 credit points • 2 hours per week, full year subject • Prahran • Prerequisite: GD112, GD113, GD114, GD115, GD116 • Assessment: continuous.
A second year subject in the Bachelor of Design (Graphic Design).

Objectives
To introduce students to the use of the desktop computer as a tool of the professional graphic designer with particular emphasis on the manipulation of type.

Content
Tutorial exercises will lead to the completion of assignments some of which will involve print outcomes or the resolution of design projects in collaboration with other subjects.

GD216 Design History and Critical Theory 2
20 credit points • 2 hours per week, full year subject • Prahran • Prerequisite: GD112, GD113, GD114, GD115, GD116 • Assessment: continuous.
A second year subject in the Bachelor of Design (Graphic Design).

Objectives
To further develop the student's frameworks of reference through exploration of the developments in design, art and popular culture from World War 2 to Post Modernism. The aim is to introduce the student to the symbolic mechanisms of visual imagery and further stimulate his/her understanding of how art and design function as vehicles of cultural meaning.

Content
The program concentrates on developments in design, art and popular culture from Post World War 2 and International Modernism through to today and Post Modernism. Emphasis is placed on exploring the political, social and economic dimensions of design from within a framework of critical design theory; the aim being to encourage a critical discourse amongst students about design and its role in society.

GD303 IBL Placement
75 credit points • full year subject • Prahran • 2 semesters Industrial experience • Prerequisite: GD212, GD213, GD214, GD215, GD216 • Assessment: continuous.
A third year subject in the Bachelor of Design (Graphic Design)(Honours).

GD311 Design Studio 3
65 credit points • 14 hours per week, full year subject • Prahran • Prerequisite: GD212, GD213, GD214, GD215, GD216 • Assessment: continuous.
A third year subject in the Bachelor of Design (Graphic Design).

Objectives
To provide experience that supports the development of designers for placement in the design and visual communication industry. To further provide experiences necessary for students to develop an individual and diverse range of work within graphic design.

Content
The final year student is encouraged to produce solutions to complex communication problems through graphic design. Areas of investigation include: publication design, visual identity, packaging, multimedia, typography, image making and digital production. Projects are undertaken within parameters that consider market context.

GD322 Production Technology
10 credit points • 2 hours per week, full year subject • Prahran • Prerequisite: GD212, GD213, GD214, GD215, GD216 • Assessment: continuous.
A third year subject in the Bachelor of Design (Graphic Design) and Bachelor of Design (Graphic Design)(Honours).
Production Technology comprises the study areas of Print/Production and Software
Print/Production

Objectives
To provide an opportunity for students to advance their understanding of production concepts, processes and options available to designers. To establish dialogue and relationships with commercial service providers. To assist students in understanding the realities, parameters and considerations of producing professional design work.

Content
This study area provides a forum for presentations, demonstrations, and discussion sessions involving all year 3 students. The specific content will be determined by individual presenters, under the direction of SSOO staff, the proposed program will encompass printing processes and their suitability to particular projects, colour proofing systems, digital pre-press, paper/stock selection and considerations, ink and colour systems available, embellishment of printed projects, designers' presentations, through to considerations for working in "new media" such as the internet or CD-ROM multimedia presentations.

Software

Objectives
To build on computer skills gained earlier in the course, to provide technical skills necessary for the completion of specific projects in Design 1 and 2 and to develop computer skills appropriate to the needs of a professional graphic designer.

Content
Tutorial exercises will build skills in major software packages commonly used in the graphic design industry. Common desktop digital prepress, scanning and typographic techniques will also be covered. Tutorials will cover material that coincides with the technical demands of Design 1 and 2 briefs.

GD335 Design Culture
20 credit points • 3 hours per week, full year subject • Prahran • Prerequisite: GD112, GD113, GD114, GD115, GD116 • Assessment: continuous
A third year subject in the Bachelor of Design (Graphic Design) and Bachelor of Design (Graphic Design)(Honours).
NB It is expected that for students to satisfactorily complete this subject, additional time will be required to visit galleries, exhibitions and performances.

Objectives
To facilitate a first-hand experience of art and design culture and the place it occupies within the functioning of our society.

Content
Various levels of cultural experience, acquiring the personal and professional and the academic, will be explored. Regular outings to exhibitions, performances, films, seminars and public forums form a major component of the program.
As part of the assessment students will create an experiential diary consisting of a combination of written and visual elements.

GD410 Design Studio 4
20 credit points • 6 hours per week, full year subject • Prahran • Prerequisite: Credit level or above in all Year 3 subjects • Assessment: continuous, with final year folio assessment.
A fourth year subject in the Bachelor of Design (Graphic Design)(Honours). Assessment: continuous
NB Additional work required outside scheduled hours, including evenings and weekends.

Objectives
To enhance and develop the knowledge and professional experience gained during the previous year. To explore the relationship between education and practice. To further develop aspects of design leadership in strategy and visual communication.

Content
Working in a professional atmosphere, emphasis is given to developing the student's special capabilities through assigned professional projects, self-defined problems and regular design project assignments.

GD411 Design Research
25 credit points • 6 hours per week • Prahran • Prerequisites: all Year three subjects • Assessment: continuous
A fourth year subject in the Bachelor of Design (Graphic Design)(Honours)

Objectives
To develop a sophisticated research methodology which applies to the practice of design and postgraduate research.

Content
Students research and then produce a single project which demonstrates the student's special interest in visual communication. Through research and documentation the project responds to a program of enquiry that is of general importance to the discipline of graphic design. It is a synthesis of previous experience, realised by research and subsequent production of a project.

GD490 Design Management
10 Credit points • 2 hours per week • Prahran • Assessment: continuous
A fourth year subject in the Bachelor of Design (Graphic Design)(Honours)

Objectives
To give students a general understanding of the business environment with an emphasis on management in the visual communication industry.

Content
Time management; project management; working as part of a team; communication skills; briefing; proposals; written communication; personal presentation techniques; marketing; setting up a design consultancy.

ID111 Design Studio 1
40 Credit points • 8 hours per week • Prahran • Prerequisite: Nil • Assessment: continuous
A first year subject in the Bachelor of Design (Industrial Design)

Objectives
To introduce a range of design methodologies and sketching techniques used to produce creative solutions for design projects.

Content
The introduction of design methodologies will include product research, analysis and identification of the problem, methods for dealing with creative problem solving and clear thinking. Areas of interest will include lateral thinking, form follows function, functionalism, association, brainstorming and the development of sketching skills.

Recommended reading
De Sausmarez, M., Basic Design: The Dynamics of Visual Form, Van Nostrand Reinhold, 1984
Sparks, P., An Introduction to Design and Culture in the Twentieth Century, Unwin Hyman, 1989

ID112 Technology 1
20 Credit points • 6 hours per week • Prahran • Prerequisite: Nil • Assessment: continuous and test at semester end
A first year subject in the Bachelor of Design (Industrial Design)
The unit ID112 Technology consists of two study areas.

Design and Manufacturing 1
Workshop Practice: Students are required to pass each subject to achieve a pass in ID112.

Design and Manufacture 1
Objectives
Introduce to students the concepts of forces, levers and other mechanical tools used in designing products and structures. They will also explore strength and selection of materials and an overview of manufacturing techniques used by industrial designers. Students will investigate in more detail the machining, joining and fabrication of timber materials.

Content
• The classification, structure, strength and properties of engineering materials.
• Vectors, forces, levers and simple mechanics, beam and bending moments, ploughing.
• An overview of manufacturing processes, metal casting and forming, extrusion, plastic injection rotational and blow moulding.
• Cell structure and physical properties.
• Identification of soft woods and hard woods.
• Use and manufacture of MDF.
This unit will outline the basic theory and practice of model making. At the conclusion of this unit, students will have a basic and logical understanding of modelling, with regard to preparation, material selection and a safe work practice.

**Content**
This unit will explore the basic materials and techniques used in the production of design models and prototypes. Tutorial and workshop sessions will ensure the safe use of hand tools, machinery and the various materials used in design model making. The function of models and their role in the design process will also be discussed and demonstrated.

**Recommended reading**

**ID115 Design History and Critical Theory**
10 credit points • 3 hours per week • Prerequisite: Nil • Assessment: continuous
A first year subject in the Bachelor of Design (Industrial Design)

**Objectives**
To establish frames of reference, that is a broad cultural base for students, by the exploration of developments in art, design and industry in the Modernist period. To introduce students to the critical and aesthetic analysis of film and the media through the study of selected works. To bring students to an awareness of the role that design, art, film and the media play in the shaping of our social, political and cultural values. Tutorials and assignments are intended to introduce ways of analysing images and ideas, to develop research skills and academic rigour, to develop written and oral language skills and to stimulate debate, thought and experimentation.

**Content**
This course covers various aspects of the history of design, art and industry with the Industrial Revolution in the late 18th Century and following the development of modernism and modernisation to Streamline and Surrealism in the 1920s and 30s. It also introduces the issues of gender, class, national and cultural identity in design, art, film and the mass media. The influence of political and social theories on the directions and practices of design and art will be covered, and contemporary theoretical approaches to film and media will be canvassed.

**ID130 Ideas, Culture & Communication**
10 Credit points • 2 hours per week • Prerequisite: Nil
This subject is available to fee paying students from other countries. Non fee paying students from non-English speaking backgrounds who wish to be considered for participation may make representation to the Head of School.

**Objectives**
To provide an environment where the main ideas from Design History - Critical Theory I can be explored within a framework that allows for cross cultural understanding. The classes revolve around the content of the theory subject Design History and Critical Theory I using that content to develop advanced reading, research and essay writing skills.

**ID211 Design Studio 2**
44 Credit points • 8 hours per week • Prerequisite: ID111, ID112, ID113, ID114 • Assessment: continuous
A second year subject in the Bachelor of Design (Industrial Design)

**Objectives**
To build upon students' foundations of design principles and method and enable projects to be brought up to a realistic stage in a creative, logical and timely manner. Students will refine abilities to identify the problem, research and explore imaginative, multiple concepts which culminate in a comprehensive design proposal.

**Content**
Creative problem solving utilising knowledge gained in all areas of study will be encouraged. Students will be expected, in all activities, to emphasise the understanding of the design process and the appreciation of the constraints normally existing in design problems. Communication of ideas through both 2 and 3 dimensional presentations understanding the concept of producing more than one viable solution to problems, comprehension of appropriate manufacturing processes and the appreciation of form within functional constraints.
The following topics will be covered:

- **Process Management**: The subject of Process Management will be the analysis of the designer's role in taking a concept of a product through to manufacture and distribution.

- **Technical Writing**: To introduce the principles and practices of technical and business writing and communication skills as used by professional manufacturers and industrial designers. Completion of this study area will give students a sound understanding of written communication techniques in the industry.

- **Ergonomics**: Topics to be explored will include:
  - The evaluation and analysis of human performance.
  - Engineering psychology and human behavioural characteristics.
  - Ergonomic product and workplace design.
  - The environmental factors which affect human performance.
  - Human information processing characteristic.
  - The design of controls and displays for compatibility with human needs and expectations.
  - System design and task analysis.
  - Occupational health and safety, risk engineering, control and prevention.

**ID213 Communication Drawing 2**

Objectives

To give students a professional capability in the production of engineering drawings, in accordance with AS1100.

Content

This subject deals with the formal skills of engineering drawing of design layouts and engineering drawings of product assemblies and components using orthographic projection. The work includes advanced sectioning and auxiliary views, dimensioning and tolerances, geometric constructions of complex three dimensional shapes, details of common machine elements and their representation on engineering drawings, specification of welds and surface texture. Constant reference will be made to the Australian Standard AS1100 Technical Drawing.

**3D Drawing and Visualisation 2**

Objectives

To help establish the process of design as second nature through free hand sketch ideation. To develop the ability to communicate and present ideas with confidence, clarity and enthusiasm based upon learned techniques that with practice and experience come to express the individual designer.

Content

To encourage free ranging design investigation drawing and form study through exercises with accent on developing self expression.

**ID214 Computer Studies 2**

Objectives

Computer Studies will investigate the use of computer aided drafting as a means of 2D engineering communication and the creation of solids, wireframes, assembly drawings and illustrations.

Content

Topics to be explored will include:

- Data storage and retrieval.
- Command selection and tool bars.
- Basic commands of line, layer, trim, mirror, stretch, rotate.
- Use of layers, blocks and viabolks.
- Variables of dimensioning and annotations.
- Plotting.
- Use of poly lines.
- Creation of solids and sectioning.
- Assembly drawings.
- Basic digital illustration and lighting techniques.

**ID215 Design History and Critical Theory**

Objectives

To further develop the student’s frames of reference through exploration of the developments in art, design and popular culture from World War 2 to Post
Courses and Programs

The university offers a wide range of courses and programs designed to cater to various academic and professional needs. Here are some highlights:

1. **Design Studio 3**
   - **Content**: This course focuses on developing independent decision-making skills and fostering a holistic appreciation of design's role. It covers the application of new technologies to design projects and allows groups of students to work on complex issues.
   - **Objectives**: Students will be encouraged to expand their development of ideas, rendering, CAD, ergonomics, and prototyping/fabrication processes.

2. **Design Culture 1**
   - **Content**: This course provides an introduction to advanced manufacturing techniques and expands on previous practical and theoretical work. It aims to encourage a critical discourse among students about design and its role in society.
   - **Objectives**: Students will be introduced to critical design theory and the aims of introducing research and academic skills.

3. **Design Management**
   - **Content**: This course introduces students to time management, project management, working as part of a team, communication, marketing, setting up a design consultancy, and project management.

4. **Design Research**
   - **Objectives**: This course introduces students to a dissertation or an article for publication in a journal or magazine relevant to the subject of the research.

5. **Design Studio 4**
   - **Objectives**: This course provides an introduction to advanced manufacturing techniques and expands on previous practical and theoretical work. It allows groups of students to work on complex issues.

6. **Design Culture 2**
   - **Content**: This course provides an introduction to critical design theory and the aims of introducing research and academic skills.

7. **Design Management**
   - **Objectives**: This course introduces students to time management, project management, working as part of a team, communication, marketing, setting up a design consultancy, and project management.

These courses and programs are designed to provide a comprehensive understanding of design and its role in society, as well as practical skills in various design-related fields.
Subject Details

Content Activities within this study area focus on the acquisition of a knowledge and direct experience of the basic principles of two and three dimensional design. Specific studies will introduce students to a broad range of design concepts and will include an introduction to design elements, processes and methods, research, problem identification, idea generation, analysis and critique, typological and morphological investigations, media and materials, functionalism, presentation, production, technical skills and time management.

IED102 Technology 1

40 Credit points • 8 hours per week • Prahran • Prerequisite: Nil • Assessment: continuous
A first year subject in the Bachelor of Design (Interior/Exhibition Design)
The subject of Technology 1 comprises the study areas of Building Construction 1A/1B, Materials Science 1 & 2 and Workshop 1A and 1B.

Building Construction 1A/1B

Objectives To provide students with a knowledge of construction principles, standards and services commonly used in single storey/low-rise residential scale buildings.

Content The subject will provide knowledge in the following areas of the construction industry:

- The role of the various statutory authorities associated with the built environment.
- Interpret the various terminologies used in construction.
- To instil, through site investigation, an understanding of construction sequencing, and the principles, construction standards and practices of various aspects of this class of construction.

Materials Science 1 & 2

Objectives To provide students with the knowledge of the characteristics and quality standards of buildings materials commonly used in residential scale buildings.

Content Characteristics, standards, applications, maintenance, selection and identification of the following materials: Timber/timber products, concrete/concrete products, clay products, stone, mortars, plaster/plasterboard, metals, glass, coatings, plastics, sealants, adhesives, alternate materials and new products.

In terms of their conversion/ manufacture, availability and lead time, defects, testing, handling and storage degradation, preservation and maintenance, compatibility, environmental safety, fire effectiveness.

Recommended reading Notes on the Science of Building, CSIRO publications, Building materials manufacturers Timber, Steel and Concrete development associations.

Workshop 1A/1B

Objectives This unit will develop the basic theory and practices of model making principles. It will also develop skills and knowledge to enable the appropriate use of model making materials, techniques and finishes.

Content Workshop instruction will introduce students to the safe operation of machinery and correct workshop practices. This unit will introduce a wider range of materials and techniques. Demonstration and use of the workshop machinery while using a variety of materials such as plastic, timber, moulding materials, sheet metal, steel and aluminium will provide an opportunity to produce models for interior and exhibition design projects.

IED103 Communication Drawing 1

10 Credit points • 4 hours per week • Prahran • Prerequisite: Nil • Assessment: continuous
A first year subject in the Bachelor of Design (Interior/Exhibition Design)
The subject of Communication Drawing 1 comprises the study areas of Technical Drawing and 3D Drawing and Visualisation.

Technical Drawing

Objectives To provide students with a practical background in the skills and materials required to produce drawings in accordance with AS1100 drawing standards and to provide students with the skills and media understanding required to produce visual communication of ideas and concept sketches.

Content
- Drawing office systems
- Plans elevations and sections
- Schedules and part listings
- Drawing office equipment
- Advanced working drawings
- Regulation and codes relating to drawing practice

Recommended reading Dick Powell, Presentation Technique, Orbis, 1995
Other text as required from library resources.

3D Drawing and Concept/Visualisation

Objectives and Content
To assist students to acquire the skill and materials knowledge required for 3D visualisation.

To encourage students to relate and draw the body in its surrounding space and environment.

IED104 Computer Studies

10 Credit points • 2 hours per week • Prahran • Prerequisite: Nil • Assessment: continuous
A first year subject in the Bachelor of Design (Interior/Exhibition Design)
The subject of Computer Studies comprises the study areas of Business Computer Skills and CAD (Computer Aided Draughting) skills.

Basic Computer Skills

Objectives
- To introduce students to business computing and associated software.
- To develop keyboarding skills.

Content
- Word processing
- Spreadsheets/data base
- Project management
- Computer business systems
- Computer architecture
- Operating systems

CAD Skills

Objectives
- To familiarise students with computing and associated software.
- To further develop keyboarding skills.
- To develop basic skills in CAD required for the production of simple drawings.

Content
- Introduction to simple forms
- CAD construction
- Computer architecture
- Operating systems - data management, file storage and transfer
- Software applications

IED105 History of Arts 1

20 Credit points • 3 hours per week • Prahran • Prerequisite: Nil • Assessment: continuous
A first year subject in the Bachelor of Design (Interior/Exhibition Design)
The subject of History of Arts 1 is a broad cultural base for students, by the exploration of the developments in art and design in the Modernist period. The course aims to bring students to an awareness of the rule that art and design plays in the shaping of our social, political and cultural values. The aim is:
- to introduce ways of viewing, analysing and discussing ideas and images;
- to develop research skills and academic rigour;
- to develop written and oral language skills;
- to stimulate debate, thought and experimentation;
- to encourage and build confidence in the individual and her/his abilities.

Content This course covers development in design and art beginning with the Industrial Revolution and Neo-Classicism in the late 18th Century, following the development of...
Modernism, to Streamline and Surrealism in the 1920s and 30s. In addition to considering major movements and the work of individual designers and artists, cultural themes such as gender, class, imperialism and nationalism will be discussed. The influence of political and social theories on the directions and practices of art and design will also be canvassed.

IED201 Design Studio 2
25 Credit points • 9 hours per week, full year subject • Prahran • Prerequisite: IED101, IED102, IED103, IED104 • Assessment: continuous, with final year folio assessment.
A second year subject in the Bachelor of Design (Interior/Exhibition Design)
Objectives
To develop creative proposals to specific areas of interest and to increase involvement in the discourse of design.
A choice of studio topics will be offered.
Content
The design studio will set a series of preliminary problem solving and preparatory exercises. The main thrust of the design studio will be outlined at commencement by the studio leader.

IED202 Technology 2
20 Credit points • 4.5 hours per week, full year subject • Prahran • Prerequisite: IED102 • Assessment: continuous, with final year folio assessment.
A second year subject in the Bachelor of Design (Interior/Exhibition Design)
Content
This subject comprises three study areas: building Construction 2A/2B, Materials Science 2 & 3 and Building Services 1 & 2.

Building Construction 2A/2B
Objectives
To develop knowledge of the permanent and temporary constructed environment and of the manufacturing and supply process.

Materials Science 2 & 3
Objectives
To increase knowledge of the traditional and innovative materials used in the interior environment.

Building Services 1 & 2
Objectives
To increase knowledge of the constructed environment as an environment for occupation with a focus of services, lighting, HVAC, hydraulic, acoustic, electrical and IT.

IED203 Communications 2
10 Credit points • 2 hours per week, full year subject • Prahran • Prerequisite: IED103 • Assessment: continuous, with final year folio assessment.
A second year subject in the Bachelor of Design (Interior/Exhibition Design)
Objectives
To increase awareness of the variety of communication needs of the designer via photography, audio-visual, graphic, pictorial representation and model-making.
Content
A series of intense workshops covering each of the topic areas and linked to a specific design proposal.

IED204 CAD
10 Credit points • 3 hours per week, full year subject • Prahran • Prerequisite: IED103, IED104 • Assessment: continuous, with final year folio assessment.
A second year subject in the Bachelor of Design (Interior/Exhibition Design)
Objectives
To increase knowledge and understanding of the principles and possibilities of computer aided design and computer aided drawing.
Content
A series of lectures, workshops and tutorials dealing with the design applications and functions of computers.

IED205 Design History and Critical Theory
20 Credit points • 3 hours per week, full year subject • Prahran • Prerequisite: IED105 • Assessment: continuous, with final year folio assessment.
A second year subject in the Bachelor of Design (Interior/Exhibition Design)
Objectives
To increase awareness of the language and aesthetics of the built, art and design environment.
Content
A series of lectures, workshops and tutorials highlighting contemporary and historic design issues.

IT101 Computer Fundamentals
10 credit points • 3 hours per week • Hawthorn • Prerequisite: nil • Assessment: assignments, computer managed learning tests, exam
A first year subject in the Bachelor of Information Technology.
Objectives
• to introduce students to the hardware, software and functions of computer systems.
• to provide students with a practical understanding of the DOS, Unix and Windows environment.

Recommended reading

IT102 Introduction to Programming
10 credit points • 4 hours per week • Hawthorn • Prerequisite: None • Assessment: examination and assignments
A first year subject in the Bachelor of Information Technology.

Objective
To introduce students to programming in the language C, using modern structured programming techniques.

Textbooks
To be advised.

IT103 Business Applications & Systems 1
10 credit points • 4 hours per week • Hawthorn • Prerequisite: None • Assessment: Examination/Assignments
A first year subject in the Bachelor of Information Technology.
Objectives
- Introduce students to the component parts of common business systems such as inventory, accounts receivable and accounts payable.
- Give students skills in using personal computers particularly in productivity tools such as word processing, spreadsheets and graphics.
- Examine the use of computers in accounting information systems, other transaction processing systems, management information systems, decision support systems and office information systems.

Content
Introduction to information systems and accounting, the role of computers in information systems. Introduction to word processing and spreadsheets. Identification of components of systems. Files classification, recording, updating, and reporting to managerial decision makers concepts of management information systems. Introduction to word processing and spreadsheets.

Recommended reading

IT105  Behaviour and Communications in Organisations
10 credit points • 4 hours per week • Hawthorn • Assessment: oral presentations, research project, journal, class participation
A first year subject in the Bachelor of Information Technology.

Objectives
To provide students with:
- an understanding of the nature and importance of communication, interpersonal skills and group development to organisational management;
- to develop students' interpersonal skills and skills as team members;
- to allow students to experiment with various techniques, theories and approaches to communications and management through the use of experiential teaching techniques;
- to prepare students to appreciate the context of their role and their own roles as organisation members;
- to provide a foundation for subsequent studies.

Content
Interpersonal and group communication, report writing, oral presentations, team work, perception, conflict management and research skills.

Recommended reading
To be advised.

IT201  Decision Analysis
10 credit points • 4 hours per week • Hawthorn • Prerequisite: None • Assessment: examination/assignment
A first year subject in the Bachelor of Information Technology.

Objectives
To familiarise students with a range of statistical, financial and modelling methods commonly used in the decision support area.
- The application of techniques to solve business problems and to present the results using software packages such as LOTUS, Excel, SAS-JMP is emphasised.

Content
Exploratory Data Analysis.
Basic statistical ideas such as probability and the combination of probabilities, probability distributions and their applications, statistical measures (mean, variance), linear regression, introduction to simulation, estimation and hypothesis testing.
Statistical applications through the use of sources of data, data collection and manipulation with packages such as EXCEL. Forecasting and time series.

Recommended reading

Financial analysis, the concept of interest, present value methods, discounted cash flow, internal rates of return. Throughout the course, analysis and graphical presentations by using packages such as LOTUS is emphasised.

Recommended reading
To be advised.

IT202  COBOL Programming
10 credit points • 3½ hours per week • Hawthorn • Prerequisite: IT102 Introductory Programming • Assessment: assignments, test, examination
A first year subject in the Bachelor of Information Technology.

Objectives
To train students to be able to:
- read, understand, modify and debug COBOL programs;
- design, write, test and document attractive well-structured programs in COBOL using the main features of 1985 ANSI COBOL.

Content

Recommended reading
Grauer, R.T., Structured COBOL Programming, Prentice-Hall, 1985 [or later]
Juliff, R., Program Design, Prentice-Hall, 1986 [or later]

IT203  Business Applications & Systems 2
10 credit points • 4 hours per week • Hawthorn • Prerequisite: IT103 Business Applications & Systems 1 • Assessment: Examination/Assignments
A first year subject in the Bachelor of Information Technology.

Objectives
To train students to:
- develop a simple business application using a microcomputer package;
- specify the data inputs, file contents and information requirements for common production systems such as job cost and bill of materials;
- specify data that needs to be used to integrate common business applications and to be able to achieve this on the computer;
- explain how systems are justified, developed, implemented and maintained.

Content
Data base management concepts file concepts, report generation, report design, database management and database manipulation. Systems development concepts packages v. Tailored, systems life cycle, prototyping, professional development v. user development. Internal controls developing effective internal controls and audit trails. Justification and selection of systems. Production systems job cost, bill of materials. Systems implementation, operation and maintenance. Types of application systems transaction - general purpose and vertical market, decision support and expert systems - examination of the necessary hardware, software and people resources required. Data transportability through micro-mainframe links, PC to PC links, integrated software. Case study presentations.

Recommended reading

To provide students with:
- an understanding of the nature and importance of communication, interpersonal skills and group development to organisational management;
- to develop students' interpersonal skills and skills as team members;
- to allow students to experiment with various techniques, theories and approaches to communications and management through the use of experiential teaching techniques;
- to prepare students to appreciate the context of work and their own roles as organisation members;
- to provide a foundation for subsequent studies.

Content
Interpersonal and group communication, report writing, oral presentations, team work, perception, conflict management and research skills.

Recommended reading
To be advised.

IT201  Decision Analysis
10 credit points • 4 hours per week • Hawthorn • Prerequisite: None • Assessment: examination/assignment
A first year subject in the Bachelor of Information Technology.

Objectives
To familiarise students with a range of statistical, financial and modelling methods commonly used in the decision support area.
- The application of techniques to solve business problems and to present the results using software packages such as LOTUS, Excel, SAS-JMP is emphasised.

Content
Exploratory Data Analysis.
Basic statistical ideas such as probability and the combination of probabilities, probability distributions and their applications, statistical measures (mean, variance), linear regression, introduction to simulation, estimation and hypothesis testing.
Statistical applications through the use of sources of data, data collection and manipulation with packages such as EXCEL. Forecasting and time series.

Recommended reading
**IT223 Management Problem Solving**

4 hours per week • Assessment: assignment and examination • Prerequisite: nil

A first year elective subject in the Bachelor of Information Technology

**Objectives**
- To broaden students' understanding of different types of problems arising in business and industry.
- To provide students with necessary skills to formulate, solve, interpret and implement the solutions to those problems.

**Content**
- Matrices
- Matrix manipulation, inverse of a matrix, matrix solution of equations.
- Decision theory: classification of decision problems, decision trees and related topics.
- Multicriteria decision models.
- Forecasting: definitions, requirements, time series forecasting, moving averages, exponential smoothing and their applications.
- Markov process, definition of stochastic systems, transient and steady systems, first time package.
- Queuing theory: classification of queuing systems, basic queuing models, other queuing models.

**IT301 Systems Software 1**

16.5 credit points • 27 hours over 3 weeks • Hawthorn • Prerequisite: successful completion of segments one and two • Assessment: examination and assignment

A Bachelor of Information Technology subject studied at the end of 1st year, during the Summer Semester.

**Objectives**
- To develop an understanding of the fundamental principles of operating systems as to promote a more efficient use of the resources provided in the computing environment, and to prepare for more in-depth studies in later systems software subjects.
- To develop an understanding of how these principles apply to a specific general purpose operating system such as UNIX and IBM's MVS.

**Content**
- Operating system principles introduction, operating system services, file systems, process scheduling, memory management, virtual memory, storage system scheduling, deadlock, job and task management, protection.
- A user and structural overview of UNIX including process management and the file system. The main components of IBM's MVS, including the job entry subsystem, the supervisor, data facility product, virtual storage. Job control language is also practically covered.

**Recommended reading**
To be advised.

**IT302 Organisation Behaviour (OB)**

17 credit points • 18 hours over 3 weeks • Hawthorn • Prerequisite: IT105 Behaviour and Communication in Organisations • Assessment: Assignments, Group Project, Test

A Bachelor of Information Technology subject studied at the end of 1st year, during the Summer Semester.

**Objectives**
- To enable students to learn how to apply the theory and skills of organisation behaviour and to transfer that learning into information systems contexts.
- To enable students to develop a perspective which demonstrates the place of IS departments in the total organisation.
- To give an understanding of themselves, their impact on others and of the way others influence their behaviour.
- To allow students to experience the satisfactions and difficulties inherent in working in groups.
- To learn behavioural skills applicable to IS environments to be able to analyse and provide solutions for people/technology problems.
- To enable students to make sense of interdepartmental relations and suggest some ways of overcoming intergroup conflict.
- To apply OB knowledge to and further learn from industry based learning experiences.

**Content**
- Organisational socialisation; theories of managing people; motivation; personal growth; career development; group dynamics and team performance; managing multigroup work; leadership; organisation culture and change; power and influence; managing presentations.

**Recommended reading**
To be advised.

**IT303 Data Base Management Systems 1**

16.5 credit points • 27 hours over 3 weeks • Prerequisites: IT202 COBOL Programming and IT303 Business Applications and Systems 2 • Assessment: examination/assignment

A Bachelor of Information Technology subject studied at the end of 1st year, during the Summer Semester.

**Objectives**
- To equip students with a practical and theoretical knowledge of Database Management Systems so that they can work productively on projects involving database applications. The emphasis is on relational databases. Students will use a major commercial relational DBMS for their practical work.

**Content**
- SQL, DBMS terminology and concepts, including database object types, data dictionaries, data integrity, data independence, transaction management, concurrency control, recovery, triggers, stored procedures and cursors.
- Designing and programming on-line database transactions using a forms tool.
- Batch programming using SQL embedded in a 3GL.

**Recommended reading**

**IT401 Industry Based Learning**

50 credit points • 20 weeks full-time project work in industry • Hawthorn • Prerequisite: satisfactory completion of the subjects of the first three segments • Assessment: assignment

A second year subject in the Bachelor of Information Technology.

**Objectives**
- The objectives of the placement are threefold:
  - personal development;
  - learning first hand the environment and culture of business/industry;
  - development of information technology skills.
- Specific objectives are:
  - To gain first hand experience of the operation of the information technology environment.
  - To extend the learning of the preceding segments of the course.
  - To provide an opportunity for personal development and social maturation of the student.
  - To address issues which can better be learned from within the industrial environment, such as user liaison and systems security.
  - To allow the student to obtain an understanding of the ways in which business organisations function and the context in which they operate.
  - To provide a practical basis for further Information Technology and business related studies.

**Content**
- Students will work under the supervision of both an industrial supervisor and an Academic Manager.
- Projects and assignments and participation in the professional activities of sponsors in information systems and information technology environments are assessed by the student manager and industry supervisor.
- Students will be expected to gain experience in the following areas: Programming, user liaison, systems design; and to be closely involved with the application of some of the following: Data Base, Communications, User Support, Object-Oriented Techniques, Imaging.
IT501 Systems and Information Analysis 1
10 credit points · 4 hours per week · Hawthorn · Prerequisite: IT303 Data Base Management Systems 1 · Assessment: examination/assignment

A second year subject in the Bachelor of Information Technology. This subject provides students with the skills necessary to perform information analysis, process and data modelling for small systems applications as well as at the corporate level.

Objectives
By the end of the subject students should be able to:
• prepare a requirements specification for a small application, to be used for preparation of a structured design specification;
• analyse corporate information requirements and hence contribute to the preparation of a strategic data model for an organisation;
• select the systems analysis approach appropriate to a particular situation from a range of modelling techniques and tools.

Content

Recommended reading
Whitten, Bently and Barlow, Systems Analysis and Design Methods, 3rd edn, Irwin, 1994
Ravalli, G., Process Modelling, Swinburne Press

IT503 Data Base Management Systems 2
10 credit points · 4 hours per week · Hawthorn · Prerequisite: IT303 Data Base Management Systems 1 · Assessment: examination/assignment

A second year subject in the Bachelor of Information Technology.

Objective
To build upon the basic knowledge gained in IT303, by examining database design and performance issues in both local and distributed client server environments.

Content
After completing this unit successfully, students should:
• understand commonly used physical data structures
• understand physical design issues in both relational and non-relational systems
• be able to use database and transaction volume analysis as a basis for an efficient design
• be able to make use of optimiser plan information to check/improve performance
• be able to design and use views effectively to achieve data independence
• be able to apply the techniques above, in a distributed system.

Recommended reading

IT504 Data Communications 1
10 credit points · 3 hours per week · Hawthorn · Prerequisite: IT102 Programming in C · Assessment: assignments, exam

Objectives
• to introduce the fundamental concepts and components involved in data communications
• to develop an understanding of communication protocols and computer networks.

Content
Historical evolution of computer communications
Basic communication theories and terminologies: transmission media, signal types, interface standards.
Protocol basics: error control methods, flow control, link management.
Terminal based networks: statistical multiplexers, concentrators, front-end processors and terminal network protocols.
Local area networks: topologies and access methods, LAN management.
OSI: the seven layer model, layer interaction, comparison of architectures, Emerging Technologies.

Recommended reading
Hayt, F., Data Communications, Computer Networks and Open Systems, 4th edn, Addison Wesley, 1998

IT509 Software Engineering 1
10 credit points · 4 hours per week · Hawthorn · Prerequisite: None · Assessment: examination, assignment

A second year subject in the Bachelor of Information Technology. This subject complements IT501 Systems and Information Analysis 1 by concentrating on managing software development and on the latter stages of the software life cycle, particularly design.

Objectives
• To develop an understanding of the basic problems which are encountered in the development and maintenance of computer software and the current tools and techniques which are used by industry to overcome these problems.
• Students develop management and design documentation and experience working as a member of a software project team.

Content
The software life cycle, human factors, planning tasks, resource allocation, structured design, object oriented design, interface design and evaluation, implementation, testing and maintenance.

Recommended reading
Sammonville, I., Software Engineering, Wokingham, UK, Addison Wesley

IT601 Systems and Information Analysis 2
10 credit points · 4 hours per week · Hawthorn · Prerequisite: IT501 Systems and Information Analysis 1 · Assessment: research paper

A third year subject in the Bachelor of Information Technology.

It builds on the technical knowledge gained in earlier subjects and provides students with an understanding of the various ways in which the total corporate computing environment can be designed to meet corporate information needs and support corporate goals.

Objectives
At the end of the subject the student will be able to
• understand the way that managers think and work and the need for computer systems to improve their effectiveness in decision making;
• justify the need for careful analysis, risk assessment and control procedures suitable for different systems development approaches;
• describe the methodologies in use in organisations and to determine the correct development approach for different systems;
• understand the need for different approaches to computer systems development to ensure that corporate information needs are met and computing productivity is maximised.

Content
Information systems theory - information needs of management, impact of information systems on strategic corporate plans.
Traditional life cycle development.
Problems with traditional life cycle development. User driven computing - elimination of the functions of user and vendor, user abilities, quality assurance, private systems; resource requirements - hardware, software and support structures.
Life cycle variations - methodology and scope, variations in roles, controls framework.
Management Issues - management of maintenance, risk assessment and control review, security and privacy, human resource planning, use and misuse of methodologies.

Recommended reading
...
understanding to the development of modern software systems and become fully participating members of software project teams.

Content
Peopleware, software process models, software cost and schedule estimation, software risk management, software standards, software configuration management, software quality management, software metrics. Group project.

Recommended reading
Humphrey, W.S., Managing the Software Process. Reading, Massachusetts, Addison-Wesley

IT701 Industry Based Learning 2
50 credit points 20 weeks full-time project work in industry * Prerequisites: satisfactory completion of the first six segments of the course * Assessment: assignment

Objectives
The objectives of the placement are threefold:
- personal development;
- learning first hand the environment and culture of business/industry;
- development of information technology skills

Specific objectives are:
- To gain first hand experience of the operation of the information technology environment
- To extend the learning of the preceding segments of the course
- To provide an opportunity for personal development and social maturation of the student.

To address issues which can better be learned from within the industrial environment, such as user liaison and systems security.

To allow the student to obtain an understanding of the ways in which business organisations function and the context in which they operate.

To provide a practical basis for further Information Technology and business related studies.

Content
Students will work as members of the information systems environment to which they are assigned. Students will work under the supervision of both an Industrial Supervisor and an Academic Manager.

Projects and assignments participation in the professional activities of sponsors information systems and information technology environments are assessed by the student manager and industry supervisor. Students will be expected to gain experience in the following areas: Programming, User Liaison, Systems Design and to be closely involved with the application of some of the following: Data Base, Communications, User Support, Object-Oriented Techniques, Imaging.

IT903 Emerging Information Technologies
30 credit points 6 contact hours per week or equivalent. (Note: The subject may be delivered in intensive seminar style) * Hawthorn * Prerequisite satisfactory completion of segments one to seven * Assessment: Team Case Study, Team Projects

A Bachelor of Information Technology subject studied at the end of 3rd year, in Summer Semester.

Objectives
To introduce students to selected technologies which are deemed to be of emerging significance.

Content
A detailed treatment of selected technologies determined on a year-to-year basis, as a result of consultation with sponsor organisations.

Recommended reading
To be advised

IT804 Computing and the Human Context
20 credit points * 6 contact hours for 8 weeks or equivalent. (Note: The subject may be delivered in intensive seminar style) * Hawthorn * Prerequisite: satisfactory completion of segments one to seven * Assessment: Examination/Assignment

A Bachelor of Information Technology subject studied at the end of 3rd year, in Summer Semester.

Objectives
- To introduce students to selected technologies which are deemed to be of emerging significance.
- To guide students to analyse the effects of computers in society.
- To formulate and justify opinions on pertinent social, legal and ethical issues.

Content
- Social implications of computer applications in an organisation
- Impacts of information technology on workplace and organisations
- Human issues of standardisation
- The nature of values, leisure and technology
- Social issues within the computer industry
- Professionalism, codes of conduct, codes of practice
- The copyrights of software and hardware
- Surveys about computers, technological change and forecasting
- Privacy and security issues
- Computer crimes and fraud
- Societal issues and perspectives
- Information systems in economic development
- Deals in computer usage, motivating forces, computers in developing countries
- Computers and the arts
- Mind and machines
- User interaction strategies

Recommended reading
IT906 Human-Computer Interaction (HCI)
12.5 credit points • 2 hours per week • Hawthorn • Instruction: combination of
lectures, seminars and laboratory sessions • Assessment: two assignments and a
final examination
A subject in the Master of Information Technology.

Objectives
To appreciate the need for, and the role and characteristics of, human-computer
interaction.

Content
Introduction: points of view, scope and objectives of HCI, metamodels of HCI: HCI
technology: human-machine fit and adaptation, the user interface usability and its
components, input/output devices, interface objects, dialogue styles, genre,
arquitectura; HCI theory: modelling psychological foundations of user interfaces,
types of use, human information processing, language, communication and
interaction, formal models, cognitive models, social models, ergonomic models,
applications; HCI research methods: experiments and experimental design,
measurement in the behavioural sciences, data collection methods, data analysis
methods, usability evaluation; HCI application: organisational impact, HCI future
developments.

Textbooks
To be advised.

IT911 Software Process 2
12.5 credit points • 2 hours per week and occasional weekend workshops •
Hawthorn • Prerequisites: IT901 • Instruction: lectures and tutorials • Assessment:
assignments, reports and final examination
A subject in the Master of Information Technology.

Objectives
To expand upon the introduction to software process modelling and its place in the
improvement of software development practice, covered in Software Process 1, by
investigating the concept of a personal software development process. To discover
the methods of software development which make students personally most
effective (e.g., time and defect recording, coding standards, size measurement).
size estimating, task planning, schedule planning, personal quality
management (design reviews, code reviews) and introduces some of the ideas of
personal quality management (design templates) and cyclic personal process (cyclic
process improvement).

Recommended reading
Humphrey, Watts S., A Discipline for Software Engineers, Addison-Wesley, Reading,
Ma., 1995.

IT916 Programming the User Interface
12.5 credit points • 2 hours per week and occasional weekend workshops •
Hawthorn • Prerequisites: nil but familiarity with C programming and the UNIX operating
system strongly recommended • Instruction: lectures and tutorials and occasional
Saturday workshops • Assessment: assignment and final examination
A subject in the Master of Information Technology

Objectives
To introduce the concepts and techniques relevant to programming the user interface.

Content
The course will be structured around the event-based programming approach, within
a GUI environment, to programming user interfaces. Topics include: the event-based
programming paradigm; windowing systems; programming: object orientation; multi-
media development; intelligent agents; tools.

Recommended reading
Brown, J. and Cunningham, S. Programming the User Interface: principles and
effects, John Willey and Sons, 1989.
Bass, L and Coutaz, J. Developing Software for the User Interface, Addison-Wesley
Ed Myers, B. A. Languages for Developing User Interfaces, Jones and Bartlett, 1992.
The entire O'Reilly and Associates series entitled The Definitive Guides to the X
Window System, but in particular Vol 6
Heller, D. Object Programming with OCM, O'Reilly and Associates inc, 1991

IT921 Object Technology 1
12.5 credit points • 2 hours per week and occasional weekend workshops •
Hawthorn • Prerequisites: nil • Instruction: lectures and tutorials • Assessment:
mid semester test, group project and final examination
A subject in the Master of Information Technology.

Objectives
Introduction to Object-Oriented (00) software engineering with emphasis on analysis
and design techniques and project management.

Content
Introduction to Object-Oriented concepts, comparison of object oriented analysis and
design methods, detailed study of OPEN methodology, and techniques in OPEN.

Recommended reading

IT926 Interactive Systems Development
12.5 credit points • 2 hours per week • Hawthorn • Instruction: combination of
lectures, seminars and laboratory sessions • Assessment: two assignments and a
final examination
A subject in the Master of Information Technology.

Objectives
To introduce students to the concepts and methodologies relevant to the systematic
analysis and design of interactive technology.

Content
The role of HCI in systems development; HCI and systems methodologies;
approaches to user involvement in development; task requirements analysis;
principles, guidelines, standards and rules; specification techniques: design
prototyping, storyboarding, animation and video, rapid prototype implementation;
predictive modelling; user guidance integrated into user interfaces.

IT931 Object Technology 2
12.5 credit points • 2 hours per week and occasional weekend workshops •
Hawthorn • Prerequisites: IT921 • Instruction: lecture, laboratory and tutorials
• Assessment: assignment, project and final examination
A subject in the Master of Information Technology

Objectives
To provide a broad understanding of the object-oriented approach to software
development. To appreciate, within the context of object-oriented lifecycle models,
the major aspects of object-oriented design and programming. to be able to develop
systems using a major object-oriented language, such as Eiffel, C++ or Ada 95. To
develop an ability to evaluate critically proposed analysis, design and programs with
an object-oriented emphasis.

Content
Thinking objects: the object-oriented lifecycle; object-oriented analysis, transition to
design using an OOP language as a design vehicle; inheritance, design issues, assertions and
exceptions; programming as contracting, implications for design; design issues
related to object-oriented programming language; software engineering issues in
O0 language design, software reuse.

Recommended reading
Gamma et al, Patterns and Frameworks, Addison-Wesley, 1995.

IT993 Research Project
25 credit points per semester (total 50 credit points) • Hawthorn • 8 hours per week
for two semesters • Instruction: guided research • Assessment: by thesis.
However, performance of the students is monitored by regular progress reports on
the project to the supervisor. These reports may be written, oral or both.
A subject in the Master of Information Technology.

Objectives
To give students the opportunity to pursue in greater depth then in a cluster project
a topic of interest; to allow students to fully experience the design and
development of a major research project.
Content
The topic for the project will be selected by the student after consultation with staff.
Prior to commencing their project, students may be required to undertake a short
course of study in research concepts and methodologies. Students may be required to
present one or more seminars on the subject of their research and to attend other
seminars on related subjects.

IT96 HCI Project
12.5 credit points • Two hours per week • Hawthorn • Prerequisite: IT906 •
Instruction: guided research • Assessment: expected to take the form of a written
report of perhaps a total of 10,000 words, which may be varied if the problem
includes system implementation.
A subject in the Master of Information Technology.

Objectives
To give students the opportunity to pursue a topic of interest in detail to give students
experience in the design and development of research; to integrate material dealt
with in the taught components of the cluster.

Content
Generally the project shall be undertaken on an individual basis, and will be goal
directed. The project should require research into a specific problem area (eg. user
interface development standards, practices, methodologies, user interface
programming environments . . . ), requiring the gathering of information from and the
reading of relevant literature. Material gathered must be structured and analysed
with a view to forming and reporting conclusions of relevance to the specific
question posed.

LBC100 Accounting 1
12.5 credit points • 4 hours per week • Lilydale • Prerequisite: nil • Assessment:
examination, computer-based progressive assessment, assignment
A stage 1 subject in the Bachelor of Business which also may be taken in the
Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and
Enterprise Management.

Objectives and Content
A basic introduction to accounting concepts, financial accounting, management
accounting, and finance.
Accounting theory and practice are examined in an historical cost accounting system.
This subject includes the following topics: an introduction to accounting and financial
statements; revenue and expenses; cost classification; cost, flow, profit analysis;
planning and evaluating merchandising activities; internal performance evaluation;
working capital management; capital structure and leverage; cash flow statements.

Recommended reading
Kloet, L. and Sanders, E., Accounting, The Basis for Business Decisions. Sydney,
McGraw-Hill, 1996
LBC100 Learning Guide, Swinburne, 1996

LBC200 Computer Accounting Systems
12.5 credit points • 4 hours per week • Lilydale • Prerequisite: LBC100 • Assessment:
examination, computer-based progressive assessment, oral presentation, computerised practice
set
A stage 2 subject in the Bachelor of Business which also may be taken in the
Bachelor of Social Science and Bachelor of Applied Science.

Objectives and Content
The development of the accounting process as an information flow to provide the
basis from which management control and decision making stems.
The computerised processing of information is examined and an accounting package
for microcomputers is used to facilitate the same.
The accounting equation is re-examined in order to prepare the balance sheet and
profit and loss statement. The control of cash, debtors, stock and fixed assets are
included, as are balance day adjustments and bank reconciliation statements. The
internal control implications of aspects of accounting systems are also assessed.

Recommended reading
Kloet, L., Sanders, E., Accounting, The Basis for Business Decisions, 2nd edn.,
Sydney, McGraw-Hill, 1995
LBC200 Learning Guide, Swinburne, 1996
Hoggett, J., Edwards, L., Accounting in Australia, 2nd rev. edn, Brisbane, John Wiley
and Sons, 1992
Brace, Jovanovich, 1991
CDH Macquarie Dictionary of Accounting (Student version), CDH, 1991

LBC201 Corporate Accounting
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LBC200 •
Assessment: examination, assignment, test
A stage 2 subject in the Bachelor of Business which also may be taken in the
Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and
Enterprise Management.

Objectives
The overall objective of the subject is to develop in students an ability to think
through corporate accounting issues and specifically:
• to develop an awareness of the financial accounting function within a
corporation;
• to develop students' problem-solving abilities in the application of the principles
of corporate accounting to the solution of practical problems;
• to develop student awareness of the practice of financial accounting; by reference to actual situations where appropriate;
• to develop students' independent research skills by the assignment of research
areas within the course;
• to develop student awareness of the interrelationship between corporate
accounting and corporate law.

Content
The subject covers the following areas:
• share capital and other forms of financing;
• business combinations, including amalgamations, mergers and takeovers;
• group accounting; particular emphasis is placed on this topic. It includes the
preparation of consolidated accounts, equity accounting and joint ventures;
• availability of profits for distribution;
• presentation of financial reports including cash flow schedule and Accounting
Standards requirements;
• reconstruction and company liquidation.

Recommended reading
Australian Corporations and Securities Legislation, Accounting/Auditing Statements
1998
ASFA or ICAA BC227 Corporate Accounting Student Manual, Swinburne, University
Press, 1998
Jen, K.J., Hoggett, J. R., Corporate Accounting in Australia. 3rd edn, Brisbane, Wiley,
1993
Cigli, R.C., Sims, M.A., Corporate Accounting. 4th edn, New York, Prentice Hall, 1993
Jager, M.D., Taylor R.B, Irvine J.R., Company Accounting Procedures. 8th edn, Sydney,
Butterworths, 1994

LBC202 Management Accounting
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LBC100 •
Assessment: examination and assignment
A stage 2 subject in the Bachelor of Business which also may be taken in the
Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and
Enterprise Management.

Objectives
To introduce students to the role of accounting in the planning and decision-making
functions of the management process.

Content
Topics covered include:
• basic cost concepts, cost-volume-profit analysis, cost allocation issues,
budgeting, profitability analysis, and the analysis of costs for decision making.
Throughout the subject students will be encouraged to:
• utilise microcomputer based techniques for solving problems;
• focus on the relevance of accounting information to management information
needs, and;
• to critically evaluate traditional management accounting theory and practice
against the contemporary literature on activity-based costing and the new
technologies.

Recommended reading
Hansen, D.R., Misu, M.M., Cost Management. 4th edn, Cincinnati, Ohio, South
Western, 1995
Garrison, R.H., Noreen, E.W., Managerial Accounting Concepts for Planning, Control
and Decision-Making. 7th edn, Homewood, Illinois, Irwin, 1994
Wonnegier, C.T., Foster, G., Dyer, S.M., Cost Accounting A Managerial Emphasis. 8th
LBC203 Computer Cost Accounting Systems

12.5 credit points • 3 hours per week • Libydale • Prerequisite: LBC100 and LBC202
• Assessment: examination, assignment

A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
To understand the characteristics and purposes of the main types of cost systems and how they provide information for costing products and services, for measuring the performance of managers and business segments and for making strategic decisions.

Content
Topics covered include job order costing, overhead and activity based costing, process costing in the service industries, standard costing, product costing and performance measurement in Just in Time systems, performance evaluation of business units, transfer pricing and cost of quality programs.

Recommended reading

LBC204 Financial Management 1

12.5 credit points • 3 hours per week • Libydale • Prerequisite: completion of all core subjects and LBC100 • Assessment: examination/assignments

A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
The objectives of this subject are:
• to provide students with an understanding of the concepts of corporate finance;
• to develop in students the skills of analysis and evaluation needed to apply the concepts of corporate finance to financial management.

Content
The course is structured from the point of view of orienting the student to the fundamentals of managing the financing and investment aspects of a business and covers the following specific topics:
• concepts of valuation;
• evaluation and selection of investment projects;
• cost of capital;
• sources of finance and financial intermediaries;
• dividend policy;
• financing methods and impact on capital structure;

Recommended reading
Bish, P.R., Crupp, R.S., and Twite, G.J., Corporate Finance: 3rd edn. Sydney, Holt, Rinehart and Winston, 1989

LBC300 Accounting Theory

12.5 credit points • 3 hours per week • Libydale • Prerequisite: All second year subjects required for professional accounting recognition • Assessment: examination/essay/tutorial performance/test

A stage 3 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives and Content
The objectives of this subject are:
• to describe and critically analyse a framework of accounting concepts including assets, liabilities and income;
• to use the methodology and the framework developed in the subject to study specific issues in financial accounting including the development of accounting standards, agency theory, current cost accounting ethics and accounting for income tax, intangibles, mining and foreign currency translation;
• although the subject is concerned with theory, considerable use is made of practical problems in parts of the course, to illustrate the application of theory.

Recommended reading
Matthews, M., Parker, M., Accounting Theory & Development. 2nd edn. Melbourne, Nelson, 1993
and audit evidence; encompassing a review of internal control structures and the attendant control risk. Consideration is given to the impact of EDP auditing techniques and different sampling methodologies. Students are also introduced to the area of public sector auditing.

Recommended reading
Auditing Student Manual, Swinburne University of Technology, 1987
Current auditing readings as required

LBC303 Strategic Cost Management
12.5 credit points • 3 hours per week • Lydiard • Prerequisite: LBC202/LBC204 • Assessment: group case studies and individual research essay
A stage 3 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
This is a final year subject designed to develop and integrate, within a strategic framework, the planning, control and decision-making techniques and skills introduced in management accounting and financial management.

Content
The topics explored in this subject are developed within the framework of an analysis of competitive strategy and the role of strategic management accounting. Through the use of the business case method, traditional approaches to project planning, product costing, product and customer profitability analysis and performance evaluation are questioned and alternative contemporary approaches evaluated.

Contemporary developments in manufacturing technology and in the provision of services in the context of an increased focus on quality, customer service and world best practice in a global market place provide the context for a critical evaluation of management accounting responses to these challenges.

Recommended reading
Shank, J.K., Govindarajan, V. Strategic Cost Management. The Free Press 1993
Current journals, especially Journal of Cost Management and Management Accounting

LBC304 Financial Management 2
12.5 credit points • 3 hours per week • Lydiard • Prerequisite: nil but strongly recommended that students should have completed or be concurrently enrolled in LBC204 • Assessment: examination/assignments
A stage 3 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management which may be counted towards either an accounting major or minor or a finance minor.

Objectives and content
The purpose of this subject is to help participants learn how to manage their money and develop the skills to be better able to advise others in managing their investments. To achieve this purpose it is necessary to learn about the investment alternatives available today and more importantly, to develop a way of thinking about investments that will remain in the years ahead when new investment opportunities arise as a result of the inevitable changes to our financial system.

More specifically, the course objectives are:
• to acquaint participants with the various avenues for the investment of funds, including shares, fixed-interest securities and property;
• to review the impact of taxation on investment planning;
• to consider the fundamental principles of modern portfolio theory;
• to consider the process of portfolio selection and ongoing investment strategies;
• to review the characteristics of financial futures and options and how they may be used to modify the risk-return profile of investment portfolios.

Recommended reading
Haugen, R.A. Modern Investment Theory, 3rd edn, Prentice Hall, 1993

LBC305 Advanced Taxation
12.5 credit points • 3 hours per week • Lydiard • Prerequisite: LBC201 • Assessment: examination/assignments
A stage 3 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives and Content
This is a final year subject designed for students who require additional experience of taxation issues. The objective of the subject is to acquaint students with the areas of taxation of practical utility by concentrating on the taxation implications of various taxable entities, and/or taxpayers, in particular, companies, unincorporated entities, trusts, superannuation funds and primary producers. In addition the subject will address in detail the taxation of capital gains and fringe benefits tax as well as giving students an introduction to the area of indirect taxation. Students will be expected to develop a research-oriented problem-solving approach to the subject which includes the following specific topics:
• unincorporated entities
• primary producers
• trusts, beneficiaries
• superannuation funds
• companies and dividend imputation
• capital gains tax
• fringe benefits tax
• administrative provisions
• current developments in taxation
• tax planning
• part IVA and tax avoidance
• international taxation
• sales tax

Recommended reading
Income Tax Assessment Act (1936 as amended)
Lehman, G., Coleman, C., Taxation Law in Australia. 3rd edn, Sydney, Butterworths, 1994
Australian Mater Tax Guide. North Ryde, CCH Australia Ltd, 1996, or
Australian Tax Handbook 1996, North Ryde, Butterworths Ltd
Australian Federal Tax Reporter. North Ryde, CCH Australia Ltd
Australian Tax Cases, North Ryde CCH Australia Ltd.

LBE100 Microeconomics
12.5 credit points • 3 hours per week • Lydiard • Prerequisite: nil • Assessment: multiple choice tests, assessment, examination
A stage 1 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
To introduce key microeconomic concepts and to encourage and assist students to apply economic reasoning to issues facing business, government and consumers.

Content
This subject introduces students to microeconomic concepts and their application within the framework of the Australian economy. The course commences with an examination of the role of the market in allocating resources and distributing output. This is followed by an examination of the firm's production, costs and revenues. Business and government policy is emphasised throughout.

Recommended reading
Terry, C., Fente, K. Microeconomics An Introduction for Australian Students, 3rd edn, Sydney, Prentice Hall, 1992
LBE200 Macroeconomics
12.5 credit points • 3 hours per week • Lvl 1/Lvl 2 • Prerequisite: LBE100 or LCRI100
Assessment: assignments, tests, examination
A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.
Objectives
To provide business students with an understanding and appreciation of macroeconomic concepts, issues and policies pertaining to the Australian and global economy.
Content
This subject introduces students to the key macroeconomic concepts, issues and policies. Emphasis is on current issues and policies. To fully appreciate the current Australian economic and business environment, some theoretical background is necessary and this is provided in the course by the AD/AS model. This model is applied to issues such as inflation, unemployment and external imbalance and is used to demonstrate the impact of government macroeconomic policies (wage, fiscal and monetary) on Australian business and the economy. Within the course students are introduced to the financial markets, financial deregulation and Australia's international business environment.
Recommended reading
McTaggart, D. et al. Microeconomics, Aust. edn., Sydney, Addison-Wesley, 1992

LBE201 Managerial Economics
12.5 credit points • 3 hours per week • Lvl 1/Lvl 2 • Prerequisite: LBE100 or LBE200
Assessment: assignments, tests, examination
A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.
Objectives
To show the relevance of microeconomic concepts to business decision-making.
This subject deals with topics such as decision-making under conditions of uncertainty, demand analysis with emphasis on demand estimation, cost analysis and /or concepts for decision making. Pricing decisions in theory and practice and the goals of the firm and their influence on decision-making.
Recommended reading
Pappas, J.L., Hirshey, M., Managerial Economics, 5th edn., Dryden Press, 1993
Samuelson, W.F., Marks, S.G., Managerial Economics, 2nd edn., Fort Worth, Dryden Press, 1993

LBE203 Environmental Economics
12.5 credit points • 3 hours per week • Lvl 1/Lvl 2 • Prerequisite: LBE100
Assessment: examination/assignment
A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.
Objectives
The main objectives of the subject are to:
• Broaden students' understanding and appreciation of macroeconomic principles, current issues and policy;
• Provide students with the necessary skills to evaluate macroeconomic policies and related debate.
Specific topics include the measurement of macroeconomic performance, limitations of major aggregate indicators, sources of fluctuations in economic activity, major macroeconomic problems, macroeconomic management within an open economy.
Recommended reading

LBE300 Economic Policy in Society
12.5 credit points • 3 hours per week • Lvl 1/Lvl 2 • Prerequisite: LBE100 or LBE200
Assessment: examination/assignment, multiple choice test
A stage 3 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and the Bachelor of Tourism and Enterprise Management.
Objectives
To provide students with:
• an up-to-date view of Australian financial intermediaries; their nature and operation in a changing business environment;
• an appreciation and understanding of the application of monetary policy; its origins and current controversies.
Content
This course includes:
• a study of Australian financial intermediaries;
• the process of deregulation and its impacts on financial intermediaries and Reserve Bank policies;
• the role of the Reserve Bank as a prudential supervisor and as a regulator of economic instability;
• the development of monetary policy; current monetary policy controversies and the application and operation of monetary policy.
Recommended reading
Bruce, R. Handbook of Australian Corporate Finance. 4th edn., Sydney, Butterworths, 1991
The Reserve Bank Bulletin recent issues

LBE301 International Trade and Finance
12.5 credit points • 3 hours per week • Lvl 1/Lvl 2 • Prerequisite: LBE100 or LBE200
Assessment: examination, assignment, multiple choice test, essay
A stage 3 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.
Objectives and Content
The intention in this subject is to provide students with the theoretical and analytical skills necessary for the understanding and evaluation of international financial issues which are of importance to the Australian business community and government.
Topics covered include:
• the international financial environment;
• Australia's external position;
• exchange rate theories and systems;
• the operation of foreign exchange markets;
• the international financial system;
• international banking;
• international regulation.
This course is particularly relevant for students who may work in areas which have international financial or trade dealings.
Recommended reading
LBI200 Data Analysis and Design
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LCI100 •
Assessment: examination/assignment
A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
The subject database is the study of organisational and technical issues associated with the development of databases. This course teaches the solid foundation of relational data theory together with structured query language and practical aspects of developing databases.

Content
• introduction to databases processing
• components of a database system
• the entity-relationship model
• foundations of relational implementation
• structured query language (SQL)
• data administration and database administration
• database: state of the art

Recommended reading

LBI201 Business Computing
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LCI100 •
Assessment: examination/assignment
A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives and Content
The subject is specifically for students taking the business computing major or minor or non-computing majors. The objectives to enable students to understand the development process for business systems and to apply techniques to the development of end-user systems.

Objectives
• To introduce students to basic legal concepts;
• To develop an understanding of the nature and function of contract law.

Recommended reading
Knory, D. and Yamouni, Understanding Contract Law, Butterworths, 1996
Latimer, P., Australian Business Law, North Ryde, N.S.W. CDI Australia, 1996

LBI202 Business Computing Applications
12.5 credit points • 3.5 hours per week • Lilydale • Prerequisite: LBI201 •
Assessment: major group assignment, one final exam
A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives and Content
The subject builds on the knowledge and skills developed in Business Computing. The aim is to give students skills and understanding relevant to current business systems. Specifically, typical business systems such as marketing, manufacturing, finance, human resources systems are examined. High level software solutions to management problems are investigated.

Recommended reading
Recent references used

LBI300 Information Technology Strategies
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: any two Stage 2 Business Computing subjects • Assessment: examination/assignments
A stage 3 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives and Content
This subject examines the relationship between information technology and its organisational context. Students will study the ways in which information technology can be used for competitive advantage and planning methods which integrate information systems and business strategies. The role of an information system as part of an overall business plan will be examined and associated costs, benefits and risks will be considered.

At the end of the subject the student will be able to:
• understand the way that managers think and work and the need for computer systems to improve their effectiveness in decision making;
• justify the need for careful analysis, risk assessment and control procedures suitable for different system development approaches;
• understand the strategic role of information technology and the need to achieve alignment between IT and corporate strategy.

Topics covered:
• information systems theory;
• information systems issues for management;
• information systems planning network;
• the organizational role of end user computing;
• aligning IT with business strategy.

Recommended reading
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Subject Details

LBM100 Marketing Concept
12.5 credit points • 3 hours per week • Lillydale • Prerequisite: LBM100 Introduction to Commercial Law • Assessment: examination, assignments, presentation, class exercise
A stage 1 subject in the Bachelor of Business which may also be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives and Content
This subject explores the concepts of planning and strategy in marketing. The subject provides a strong philosophical foundation for the vocational study of marketing.

Objectives
- To give students an understanding of key concepts upon which to build a framework for the integration of marketing and marketing people;
- To provide a strong philosophical foundation for the vocational study of marketing;
- To develop a working understanding of various methods of marketing planning and the ability to apply them appropriately in developing and implementing marketing strategies that respond to the challenges of the environment.

Specific aims:
- To further build students' analytical and communication skills.

Textbooks
- To be advised.

Recommended reading

LBM201 Marketing Planning
12.5 credit points • 3 hours per week • Lillydale • Prerequisite: LBM100 and LBM200 • Assessment: examination, assignments, class presentations
A stage 2 subject in the Bachelor of Business which may also be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Marketing Planning is a mandatory subject in the marketing stream and an elective subject in other (e.g., accounting and computing) streams.

Objectives and Content
The objective of this subject is to examine the concepts of planning and strategy in marketing. The focus is on the role of marketing planning, the role of analysis, implementation and control, and the strategies of marketing planning.

Objectives
- To allow students to consolidate and develop upon the concepts developed in LBM100 and LBM200;
- To enhance students' capacity to critically analyse business situations from a marketing viewpoint;
- To give students a working understanding of the methods and concepts of strategy analysis and how these can be applied in practice;
- To expose students to a systematic approach to the development of marketing strategy and the program decisions needed to implement the overall marketing strategy;
- To further build students' analytical and communication skills.

Discussion of prescribed articles forms a major part of the course. The emphasis on business report writing is continued, with more complex reports required. The major assignment requires formulation of a marketing plan for an organisation.

Framework
- The structure and process of marketing planning;
- The external environment analysis the customer and the industry;
- The corporate appraisal;
- Analytical tools;
- Tools in marketing planning;
- Developing marketing objectives;
- Marketing programs;
- Product, promotion, distribution and price planning.

Textbooks
To be advised.

Recommended reading
Cravens, D.W., Strategic Marketing, 6th edn, Burr Ridge, Ill., Irwin, 1994

Kotler, P., Reed, P., Other supporting material will be prescribed when appropriate. It is expected that unedn, Englewood Cliffs, N.J., Prentice-Hall, 1994

Topics include:
This is not a course about how to create advertisements, rather it draws together the
A stage 2 subject which is a mandatory requirement for a major sequence in
LBM202 Marketing Communications

Objectives
This is not a course about how to create advertisements, rather it draws together the
the various strategies employed when communicating with customers; and
provides students with the necessary skills to develop and evaluate effective
communication strategies and plans.

Content
Topics include:
• the communication process;
• planning the communication budget;
• inside an advertising agency;
• advertising media issues;
• public relations and publicity;
• sales promotion;
• direct marketing;
• international advertising;
• evaluating the effectiveness of the communication strategy.

Recommended reading
Belch, G.E., Belch, M.A. Introduction to Advertising and Promotion: An Integrates Marketing Communications Perspective. 3rd edn, Chicago, Ill, Irwin, 1995

LBM300 Product Management
12.5 credit points • 3 hours per week • Lillydale • Prerequisite: LBM200

This subject is a mandatory requirement for a major sequence in marketing.
A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
Students enrolling in this subject come prepared with an understanding of basic marketing concepts from first year studies, that have in turn been enriched at second year level with the subjects Market Behaviour and Marketing Planning.

The objective of this subject is to enable students to apply their marketing knowledge to the specific area of product management. Within this broad subject objective, there are a number of specific objectives. These specific objectives address the subject from the management approach, that is to say, with a lesser emphasis on other approaches such as economic, technical or purely creative. These areas are not ignored but treated as contributory disciplines.

Content
• to explore the meaning, importance and function of the product management role in business today;
• to examine the impact of product management practices on the development of goods and services based products;
• to examine the range of concept-generating techniques used for new product development;
• to examine the means of developing new product ideas;
• to examine the preparation of a product, a product launch plan and its importance as a marketing control tool for new products, product maintenance and product 're-launches';
• to understand the importance of product positioning within the target market, marketing processes, branding, packaging;
• and the importance of successful working relationships with advertising, marketing, research, promotion agencies, etc. in the product management process;

• to explore the international aspects of product management;
• to understand the importance of successful working relations within the organisation, particularly with sales, production, supply and research and development, in the product development process.

Recommended reading

LBM301 Services Marketing and Management
12.5 credit points • 3 hours per week • Lillydale • Prerequisite: For marketing major: LBM201 and LBM200; For marketing minor: LBM201 • Assessment: examination, assignments; case study work • This subject is a mandatory requirement for a major sequence in marketing.
A stage 3 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
This subject explores the major differences between the marketing of services as distinct from product marketing, and aims at providing students with special skills required to develop and implement marketing strategies in service businesses.

Content
Topics include:
• distinctive aspects of service marketing;
• market research in service environment;
• communication and services;
• demand management;
• service quality;
• managing service culture;
• implementing the service strategy;
• international services and its future;
• investigating a service industry of your choice (e.g. financial services, hospital services, insurance industry, catering services, etc.).

Recommended reading
Bateson, John E.G., Managing Services Marketing, Dryden, Orlando, Fl., 1995

LBQ200 Survey Research Methods
12.5 credit points • 3 hours per week • Lillydale • Prerequisite: LBQ100 and LBQ200 • Corequisite: LBQ101 • Assessment: presentation, assignment, examination • This subject is a mandatory requirement for a major sequence in marketing.
A stage 2 subject in the Bachelor of Business which also may be taken in the Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives and Content
This subject introduces the theory and practice of research in a marketing environment. The main focus of the unit is the application of theory to the design and partial conduct of a major research assignment, and an evaluation of student experiences. Students will design and test a quantitative data collection instrument and develop the necessary skills to use SPSS for Windows software to analyse the data gathered.

Recommended reading

LCI100 Information Technology
12.5 credit points • 2.5 hours per week • Lillydale • Prerequisite: nil • Assessment: continuous/final examination
A stage 1 core subject in the Bachelor of Business and Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
• to instil in students the confidence to use information technology, particularly computers and interfaces to the information super highway;
• to give all students a broad understanding of information technology and its applications in today's world;
• to endow students with computer skills that will be of benefit to them in other discipline subjects, and in their later careers;
• to provide a firm basis for second and third level computing subjects.
Content
- The Windows environment;
- word processing;
- spreadsheets;
- databases;
- graphics and presentation graphics;
- research tools such as CD-ROM;
- using the Internet;
- the application of the above skills to problem-solving in a real-world environment;
- fundamentals of information technology;
- the capture, storage, retrieval, processing and communication of data using information technology;
- the application of information technology to business and social demands;
- computer privacy and security;

Recommended reading
Capron H.L., Perron J.D., Computers and Information Systems, Benjamin/Cummings, USA, 1993
Fuller F., Manning W., Computers and Information Processing, Boyland & Fraser, USA, 1994
Krol, E., The Whole Internet, O'Reilly & Assoc., USA, 1994
Morrow, C. (Managing Editor), The Internet, GAMS, USA, 1994
Rochester, J., Rochester J., Computers for People, Irwin, USA, 1991
Trainor N.T., Krasnewich D., Computers, McGraw-Hill, USA, 1994

LCL100 Learning and Communication Behaviour
12.5 credit points • 3 hours per week, plus independent study • Lilydale • Prerequisite: nil • Assessment: Group Presentation, Workshop write-ups, Hurdle tests, and Exam.

A stage 1 core subject in the Bachelor of Business, Bachelor of Social Science, Bachelor of Applied Science, and Bachelor of Tourism and Enterprise Management.

Objectives
On completion of this subject students will have increased competence in a range of skills such as concept mapping, time management, creative problem solving, team work, written and oral communication; presentation strategies, reading and notation techniques, critical thinking and analysis of arguments. They will use these skills to augment their studies in all disciplines, and be able to apply them to the workplace.

The subject provides students with opportunity for interdisciplinary study, drawing themes related to learning from psychology, sociology, philosophy, education and business. It is presented from a Liberal Arts perspective on education and learning, in keeping with the Vision Statement for the Lilydale Campus of Swinburne University.

By developing awareness of the nature of knowledge, and ways in which it is generated; the subject also aims to foster development of active and independent learning styles, as well as a positive orientation to lifelong learning. Students should gain an appreciation of the relevance of both their skills, and the substantive themes of the subject, to their participation in the community, the workplace and the international arena.

Content
- Liberal Education and Learning Communities
- Learning as an Individual and in a Group
- The Structure of Knowledge
- The Social Construction of Knowledge
- Values and Ethical Frameworks

Recommended reading
Learning Guide for LCL 100, with recommended readings included.
Subject Outline provided with information on additional relevant texts.

LCR100 Statistics and Research Methods
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: nil • Assessment: class work examination

A stage 1 core subject in the Bachelor of Business and Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
To introduce students to the research process, and to develop basic skills and appropriate methodology to collect, describe, analyse and present statistical data across a range of disciplines.

Content
- posing research questions;
- preparing a research plan;
- data collection;
- statistical methods;
- preparing a research report.

Recommended reading
Babbie, Earl., The Practice of Social Research, Wadsworth, California, 1992

LCS100 Computer Science 1
12.5 credit points • 5 hours per week • Lilydale • Prerequisite: nil • Assessment: assignments and a final examination

A first stage subject in the Bachelor of Applied Science [Computing] which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

Objectives
The aims of this subject are:
- to provide an introduction to Computer Science;
- to develop relevant problem solving skills;

Upon successful completion of this subject the student will be able:
- to apply the basic principles of the discipline to solve small but realistic Computer Science problems;
- to translate these solutions, where applicable, into well written and well documented C++ programs using the language at an elementary level.

LCS200 Computer Science 2
12.5 credit points • 5 hours per week • Lilydale • Prerequisite: LCS100 and LCS100
• Assessment: programming assignments and a final examination

A first stage subject in the Bachelor of Applied Science [Computing] which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

Objectives
The main objectives of this subject are:
- learn how to develop robust programs
- learn logic programs and correctness
- acquire broader knowledge of computing social and discipline context
- gain knowledge of C++ and programming skills in developing larger and more sophisticated programs

Content
- program robustness and testing
- logic and program correctness
- logic and computers
- programs and computers
- the social contest of computing
- computing as a discipline
- functions
- arrays
- structures
- pointers

Recommended reading
Deitel, H.M., Deitel, P.J., C++ How to Program, 1994

LCSC04 Formal Methods
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LCS100
• Assessment: assignments and a final examination

A subject in the Bachelor of Applied Science [Computing] which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

Objectives
This subject examines the scope, role and application of mathematics in contemporary software development. Particular emphasis is placed on the use of discrete mathematics for formal specification.

Swinburne University of Technology | 1998 Handbook
After completing LCS204, a student will be able to apply the discrete mathematics taught in the course to system modelling.

**Content**

Propositional Calculus: proof and argument; set theory; relations; functions; sequence; formal specification languages.

**Recommended reading**

To be advised.

**LCS300 Data Structures and Algorithms**

- **12.5 credit points** • 3 hours per week • Lilydale • Prerequisites: LCS100 and LCS200
- **Assessment: assignments and examination**

A second stage subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

**Objectives**

Data Structures and Algorithms: this subject pursues the goal of good programming (correctness, flexibility, adaptability, portability, utility, clarity) through the concepts of modularity and abstract data types.

**Recommended reading**


**LCS305 Database**

- **12.5 credit points** • 3 hours per week • Lilydale • Assessment: assignments and examination

A second stage subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

**Objectives**

The subject database is the study of organisational and technical issues associated with the development of databases. This course teaches the solid foundation of relational data theory together with structured query language and practical aspects of developing databases.

**Content**

- Introduction to database processing
- Components of a database system
- The entity-relationship model
- The relational implementation
- Structured query language (SQL)
- Transaction processing and data languages
- Data administration and database administration
- Client/server and related applications
- Database state of the art
- Introduction to object oriented databases

**Recommended reading**

To be advised.

**LCS306 Human-Computer Interaction**

- **12.5 credit points** • 3 hours per week • Lilydale • Prerequisites: nil • Assessment: two assignments and one exam

An elective subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

**Objectives**

To introduce students to the process of user interface design.

**Content**

Technology: usability of input/output devices and interaction styles.

Methodologies: formal, cognitive and usability approaches to developing appropriate human-computer interaction.

Theories: theoretical foundations of HCI.

**LCS404 Software Engineering/Systems Analysis**

- **12.5 credit points** • 3 hours per week • Lilydale • Prerequisite: LCS200 • Assessment: two assignments and a final examination

A second stage subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

**Content**

- The Product
- The Process
- Software Project Planning
- Software Quality Assurance
- Software Configuration Management
- Computer Systems Engineering
- Requirements
- Analysis
- Design Concepts and Principles
- Design
- Programming Languages and Coding
- Software Testing Techniques
- Software Testing Strategies
- Technical Metrics for Software
- Business Reengineering
- Computer-Aided Software Engineering

**Recommended reading**


**LCS407 Data Communications**

- **12.5 credit points** • 3 hours per week • Lilydale • Prerequisite: nil • Assessment: assignments and final examination

A second stage subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

**Objectives**

An introduction to the fundamental concepts in modern computer to computer communications. Topics covered include: physical aspects of data communications; data link control; terminal base networks; Telstra data communication services; OSI - Open Systems Interconnection.

**Content**

- 3 hours per week

**LCS409 Artificial Intelligence**

- **12.5 credit points** • 3 hours per week • Lilydale • Prerequisite: nil • Assessment: a combination of assignments and examination

An elective subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

**Objectives**

- To give students an introduction to some of the basic concepts and tools of symbol-based artificial intelligence research and their application in expert systems.
- To contrast the symbol-based AI paradigm with the more recently emergent non-symbolic artificial neural network research and applications.
- Upon completion of the course the students should have gained an appreciation of the difficulties involved in encoding knowledge, even in restricted domains, in such a fashion that "intelligent behaviour" can be elicited.

**Content**

Problem solving and search: depth first, breadth first, beam searching, hill climbing, A*, minmax.


**Recommended reading**

To be advised.

Swinburne University of Technology | 1998 Handbook
LCS412 Systems Programming
12.5 credit points • 3 hours per week • Lilleydale • Prerequisite: nil • Assessment: assignments and/or projects and a final examination
An elective subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.
Objectives
To introduce students to the UNIX operating system; to teach the use of shell scripts taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism
An elective subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.
Objectives
To introduce students to the UNIX operating system; to teach the use of shell scripts taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.

Recommended reading
To be advised.

Filters; electronic mail; structure of the operating system; tools - make, SCCS, lint and sdb; shell programming (differences between Bourne and C shell); systems programming (low level I/O, accessing the file system, creating and controlling processes, communication between processes, device control networks; system administration.

Content
Introduction to UNIX operating systems; UNIX file management; commands and processes, communication between processes, devise control networks; system administration.

LCS506 Computing in the Human Context
12.5 credit points • 3 hours per week • Lilleydale • Prerequisite: nil • Assessment: essay and examination
A stage three core subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.
Objectives
To provide students with a framework for the development of personal and corporate ethics appropriate for the information technology profession, and to allow students to explore the uses and implications for society of contemporary developments in computing.

Content
Ethical and legal issues in computing, and their relationship to the computing profession; a selection of other topics, exemplified by: philosophy and artificial intelligence; computers and the arts; futures.

LCS613 Computer Science Team
12.5 credit points • 1 hour per week plus project work • Lilleydale • Prerequisites: LCS300, LCS305 • Assessment: assignments
A stage three core subject in the Bachelor of Applied Science (Computing) which may also be taken in the Bachelor of Social Science, Bachelor of Business and Bachelor of Tourism and Enterprise Management.
Objectives
In this subject, students will apply the software engineering skills acquired throughout the degree, to a substantial group software development project. Student groups will choose from a range of projects and they will then have to analyze the projects requirements, design and then develop the system to the best of their ability in the time available. Subject to the approval of the lecturer, students may generate their own project.

LST100 Science, Technology and Society
12.5 credit points • 4 hours per week • Lilleydale • Prerequisite: nil • Assessment: continuous
A stage one core subject in the Bachelor of Business, Bachelor of Social Science, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.
Objectives
To introduce students to fundamental concepts about science, scientific and technological change in the context of our emerging electronic society. Applications of communications technology by students will complement the conceptual framework of the subject.

Content
- Science, and scientific method;
- science and technology in contemporary economies;
- technological innovation and transfer;
- historical modes of communication;
- changing modes of communication: electronic society
- power bases: whose information power?
- functional and institutional convergence: media, information technology and telecommunications;
- forces for globalisation;
- superhighways or superhighways?
- cultural impact of new communications technologies;
- changing communication process: VPs: visual, intellectual, personal;
- construction of society and new modes of communication: eg. Internet, virtual reality.
- threats: misuse of information, privacy, inequality.

Recommended reading
Bynum, W., Theological Framework of the Subject.

LST200 Popular Culture
12.5 credit points • 3 hours per week • Lilleydale • Prerequisite: LST100 • Assessment: Research Essay 3000 words, individual tutorial presentation, group exercises, class participation
A stage two subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.
Objectives
- To introduce students to issues and debates in an analysis of popular culture in Australia;
- to investigate the images, ideologies, meanings and practices which comprise popular culture;
- to familiarise students with the major theoretical understandings of the Frankfurt and Birmingham Schools, Feminism, Post Structuralism and Postmodernism;
- to encourage students towards a critical engagement of their culture.

Content
- The debates surrounding high culture versus popular culture;
- an introduction to Marxist and postmodern perspectives;
- the Frankfurt School: shopping, fashion industries and wearing jeans;
- traditional vs. postmodern feminism: debates around 'Sexist Advertising'; pornography and censorship;
- postmodern perspectives;
- film as a dysfunctional family on television: Birmingham School perspectives;
- seminar: guest lecturer - 'Junk Culture';
- sites of popular culture: the rise and rise of computer and video games, gambling, and popular culture, the rock music industry and sport: the true 20th century Australian religion.

Swinburne University of Technology | 1998 Handbook
A stage 2 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
To offer a theoretical and practical introduction to media writing skills. While the major focus is on writing for the print media – in particular newspapers and magazines – it also includes news writing for radio and television.

Content
• Editing skills – grammar and punctuation;
• news writing – hard news, human interest news;
• news features – writing leads, news story structure, attributions;
• news research skills;
• interviews;
• human interest stories;
• investigative reporting;
• magazine features;
• writing radio news;
• writing television news.

Recommended reading
Fiske, J. Understanding Popular Culture. Unwin Hyman, Boston 1989

LSM201 Writing for the Media
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LSM100 • Assessment: Class News Writing Exercises Newsletter/Feature Television/Radio News

A stage 2 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
To offer a theoretical and practical introduction to media writing skills. While the major focus is on writing for the print media – in particular newspapers and magazines – it also includes news writing for radio and television.

Content
• Editing skills – grammar and punctuation;
• news writing – hard news, human interest news;
• news features – writing leads, news story structure, attributions;
• news research skills;
• interviews;
• human interest stories;
• investigative reporting;
• magazine features;
• writing radio news;
• writing television news.

Recommended reading
Granata, L. Newspaper Feature Writing. Deakin University Press, Geelong, 1990
Hogan, L. Radio News Writing. ATRS, Sydney, 1985
Bell, P. and Van Leeuwen, T. The Media Interviews. UNSW Press, Sydney, 1994

LSM202 New Media: The Telecommunications Revolution
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LSM100 • Assessment: Publication in print of creative essay, Internet, publication, reflective review of a piece of one’s own writing

A stage 2 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives and Content
This subject examines the convergence of broadcasting and telecommunications in the context of political, economic and social change associated with new media. It is widely asserted that we are now living through an information revolution and that the effects of new communications technologies on content, diversity and social needs in Australia are canvassed. As well, the cultural implications of new choices of media, made possible by technological change, are examined for selected groups.

Recommended reading
Bart, T. Challenges and Change, Melbourne, Oxford University Press, 1987
Wheelerwright, E. and Buckley, K., (eds), Communications and the Media in Australia, Sydney, Allen & Unwin, 1987

LSM300 Cinema Studies
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LSM100 and two stage two subjects • Assessment: class presentation, class participation, short thesis (5-3000 words)

A stage 3 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
This subject is designed as an introduction to the practice of film criticism in the context of our ongoing concern with textual analysis.

Content
• Each year different groups of films, representatives of particular genres or embodiments of particular themes (science-fiction, screwball comedy, film noir, Hitchcock’s American thrillers, “art” movies, and so on), are selected for study. They are examined as individual texts, week by week, but the major function of our work on them is to be found in the way they provide a foundation for the introduction of broader issues to do with films as art works and as cultural artefacts and with critical practice as a set of specific cultural discourses.

Key issues to emerge will include:
• the play performed by structuralist methodologies in the overturning of the humanist discourse which dominates more traditional critical work;
• the ways in which ideology is inscribed into the works examined (as well as into the methods of examination);
• the ways in which particular kinds of relationships are created between films and their viewers;
• the place occupied by “the author” in relation to the formal and thematic organisation of the works which bear his/her name;
• the use of genre studies;
• the role of the star system;
• the rebuilt connections between the films, the industry and the cultures in which they exist.

Recommended reading
Brant, B.K. (ed.), Film Genre Reader. Austin University of Texas Press, 1986
CloseActionCine Papers, Film Comment, The Journal of Popular Film & Television, Screen.

LSM301 Electronic Writing
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LSM100 and two stage two subjects • Assessment: desktop publication, individual powerpoint class presentations, Internet publication and reading record

A stage 3 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
The purpose of this subject is to introduce students to the convergence of print with electronic publishing.

It will include consideration of the impact of what computer techniques offer, and then demand, from the reader/writer. It offers students the opportunity to consider the most advanced state, as far as the transformation of the world. It will enable the student to develop electronic writing skills including desktop publishing, hypermedia and writing and using the Internet. Students will have access to and be able to use an open page on the World Wide Web for this subject. They will be encouraged to undertake independent electronic excursions and publication.

Content
• Writing and electronic culture;
• desktop publishing;
• cruising the Internet: reading;
• cruising the Internet: writing;
• critiquing the relationship between reading and writing;
• cultural possibilities: construction and deconstruction in electronic technology;
• on-line writing activities using MUDs and MOOs;
• interactive fiction-writing using “Storyspace.”
• publishing with PageMaker
To examine the convergence of broadcasting, information technology and 320
Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and
Bolter, J.
Ulmer, G.
Objectives
associated with the notion of an information society.
A stage 3 subject in the Bachelor of Social Science which also may be taken in the
Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and
Enterprise Management.
Objectives
To examine the convergence of broadcasting, information technology and
telecommunications in the context of political economic and social changes
associated with the notion of an information society.
Content
• information society: conceptual paradigms;
• political economy of information society: control, competition and choice;
• Australian telecommunications: beyond the duopoly;
• globalisation: cultural imperialism revisited;
• privatisation: impact and effects;
• national information policies: Singapore, U.S.A., Australia;
• the broadband revolution: supply and demand;
• media and telecommunications policy in Asia;
• public broadcasting: crisis of identity;
• social agendas: privacy, equity, abuse;
• futures methodologies: media and telecommunications.

Recommended reading
Wark, M., Virtual Geography, Indiana University Press, 1994

LSS100 Introduction to Sociology
12.5 credit points • 3 hours per week, plus independent study • Lilydale • Prerequisite: nil • Assessment: Tutorial Contribution, Essays, Examination.
A stage 1 subject in the Bachelor of Social Science which may also be taken in the
Bachelor of Business, the Bachelor of Tourism and Enterprise Management, and the
Bachelor of Applied Science.
Objectives
The subject is an introduction to sociology and to some of the critical issues in
understanding social life. It considers a number of important sociological concepts
such as culture, identity, socialisation; it provides an overview of major theoretical
approaches in explaining society and the place of the individual within it and it
examines key methodological issues in the study of both the structures of society
and the behaviour of individuals and groups.
In addition, the subject explores the three dimensions of social inequality—class,
gender and ethnicity and examines a number of social institutions such as the family,
education, work and religion. The subject also offers an introduction to current
debates about the nature/nurture dichotomy as well as to postmodernism as a
controversial alternative paradigm in sociological inquiry.

Content
• Theories and Practice—Sociological Perspectives and Research Methods
• Culture and Identity
• Difference, Deviance and Control
• Dimensions of Inequality—Class, Gender and Ethnicity/Race
• Living, Working and Learning—Family, Education, Work and Religion

Recommended reading
Haralambos, M et al. Sociology, Themes and Perspectives—Australian Edition
Australia, Longman, 1998

LSS200 Difference, Deviance and Conformity
12.5 credit points • 3 hours per week, plus independent study • Lilydale • Prerequisite: LSS 100 or equivalent from another institution • Assessment: Tutorial Contribution, Presentation/Debate, Essays.
A stage 2 subject in the Bachelor of Social Science which may also be taken in the
Bachelor of Business, the Bachelor of Tourism and Enterprise Management, and the
Bachelor of Applied Science.
Objectives
The course introduces students to sociological approaches dealing with social
problems, deviance/crime and social control. It aims to enhance students
understanding of the ways in which individuals and their actions are defined as
socially unacceptable and the attempts to control and reform them.
The subject focuses on, and analyses in some detail the three major forms of social
control—the legal system, the medical system and the welfare system. In addition,
the course explores the ways in which sociological insights can inform policy
formulation and implementation in a number of 'social problem' areas such as
criminal offending, family violence, homelessness, anorexia and AIDS.

Content
• Definitions and Explanations of Deviance, Crime and Conformity
• Analysis of Sociological Perspectives of Deviance and Crime
• The Role of Institutional Social Control mechanisms— the Medical, Legal and
Welfare Systems
• Application of Sociological Insights to Policy Development and Social

Recommended reading
Arinsu, S. Deviance, Conformity and Control 2nd ed. Australia, Longman, 1995

LSS 201 Sociological Perspectives
3 hours per week, plus independent study • Lilydale • Prerequisite: LSS 100, or
equivalent from another institution • Assessment: Presentation, Essay, Class
Participation and Exam.
Objectives
No application of sociological techniques can be productive without understanding the
theoretical issues which inform sociological explanation. This subject will assist
students to consolidate and extend their knowledge of sociological theory. In
addition, it will enable students to explore ways in which a variety of sociological
perspectives may be used to address practical issues such as formulating social
policy, and conducting sociological research. Class discussions aim to encourage
students to identify links between theoretical debates and current social issues.

Content
• The role of the Enlightenment and the Counter-Enlightenment in the
development of nineteenth century sociological thought.
• The contributions of Classical sociological theorists, Marx, Durkheim and
Weber.
• Development of sociological perspectives in the twentieth century including
Interpretivist Theories, Feminism and Postmodernism.
• Analysis of perspectives including their core assumptions, ideological
foundations, and approaches to knowledge and explanation.

Recommended reading
Zeitlin, J., Ideology and Development of Sociological Theory, 6th edn, Prentice Hall,

LSS202 Ethnicity, Culture and Diversity
Management: Australia in the Global Context
12.5 credit points • 3 hours per week, plus independent study • Lilydale • Prerequisite: LSS 100 or equivalent from another institution • Assessment: Tutorial Contribution, Presentation/Debate, Essays.
A stage 2 subject in the Bachelor of Social Science which may also be taken in the
Bachelor of Business, the Bachelor of Tourism and Enterprise, and the Bachelor of
Applied Science.
Objectives
The subject explores how ethnic, racial, social and cultural factors have shaped, and
continue to shape the social, economic, and political development of Australian
society since 1788. It examines in some detail how immigration policies and patterns, as well as settlement practices have contributed to the creation and maintenance of Australia as a nation. The subject also provides an understanding of new patterns and influences in relation to Australia’s experience in contemporary global migration movements and the concomitant need to develop skills for managing an increasingly diverse workforce and population.

**Content**
- Historical and Contemporary Immigration Patterns in Australia
- Comparative Analysis of Settlement Practices—Australia, Germany and the USA
- Theories of Migration
- Perspectives on Ethnicity and Ethnic Relations
- International Migration in a Postmodern World
- Citizenship, National Identity and Human Rights

**Recommended reading**
Theophanous, A., Understanding Multiculturalism and Australian Identity, Melbourne, Ellis Books, 1995


**LSS300 Organisations and Society**

12.5 credit points • 3 hours per week, plus independent study • Lilydale
- Prerequisite: LSS100 or equivalent from another institution and two second year sociology units • Assessment: Tutorial Contribution, Presentation/Debate, Essay.

A stage 3 subject in the Bachelor of Social Science which may also be taken in the Bachelor of Business and the Bachelor of Applied Science

**Objectives**
The subject provides explanations for the emergence, growth and persistence of vast and extensive, multi-divisional, corporately owned and bureaucratically managed global empires. It employs sociological theoretical frameworks to explain various aspects of organisations such as structural arrangements, organisational culture, formal and informal power, gender patterns, managerialism and the impact of international migration. This sociologically informed analysis will be applied to public and private sector organisations as well as to not-for profit enterprises, ie. “third sector” organisations. The subject also considers forms of organisational restructuring, addresses the resurgence of small businesses and provides comparative analysis of Australian organisational approaches and patterns with those of other societies.

**Content**
- Historical Development of Large-Scale Organisations
- Uncertainty, Rationalism and Democracy
- Comparison of Public, Private and Third Sector Organisations
- Sociological Perspectives on Institutions
- Sociological Theories and Managerialism
- Modern and Post-Modern Organisations
- Gender and Organisational Power

**Recommended reading**


**LSS302 Methodology of Social Research**

12.5 credit points • 3 hours per week, plus independent study • Lilydale
- Prerequisite: LSS100 or equivalent from another institution and two second year sociology units • Assessment: Tutorial Contribution, Research Design Assignment, Research Project, Class Test.

A stage 3 subject in the Bachelor of Social Science which may also be taken in the Bachelor of Business, the Bachelor of Tourism and Enterprise Management, and the Bachelor of Applied Science

**Objectives**
The subject provides an understanding of underlying ideological assumptions and the relationship between sociological theories and a range of social research practices. It offers practical experience and skill acquisition in social research through the use of different methods and designs. Each student will undertake a small but substantial piece of independent research under staff supervision.

**Content**
- Theoretical Assumptions of Quantitative and Qualitative Research
- Methodologies
- Research Design
- Measurement
- Principles of Sampling
- Data Gathering Approaches
- Data Analysis, Interpretation and Presentation
- Research Ethics
- Report Writing

**Recommended reading**
Neuman, W.L., Social Research Methods: Qualitative and Quantitative Approaches, Boston, Allen and Bacon, 1994


**LSS303 Sociology and Social Policy**

12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LSS100 and two second year sociology subjects • Assessment: class exercises tutorial paper (1750 words) essay (2500 words)

A stage 3 subject in the Bachelor of Social Science which may also be taken in the Bachelor of Business, the Bachelor of Tourism and Enterprise Management, and the Bachelor of Applied Science.

**Objectives and Content**
The subject reviews major theoretical and ideological approaches to social policy and introduces students to key policy issues, such as problem identification, policy implementation, evaluation and monitoring. Particular attention is given to the analysis of health policy in a number of key areas such as women's health, mental illness ageing, medical technology, chronically and disability. The subject also seeks to compare Australian health policy to health policy developments in a number of other societies.

**Recommended reading**


Palmer, R., Short, S., Health Care and Public Policy, an Australian Analysis 2nd edn, South Melbourne, Macmillan, 1994

**LSY100 Psychology 100**

12.5 credit points • 3 hours per week • Lilydale • Prerequisite: nil • Corequisite: LCR100 • Assessment: practical exercises (including participation as a subject in research), a practical report and an examination

A stage 1 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

**Objectives and Content**
LSY100 and LSY101 are designed to introduce students to the content and method of psychology. Topics introduced in LSY100 include psychology as a science, ethics in research, biological foundations of behavior, sensation, perception and consciousness, emotion, learning and experimental design and analysis.

**Recommended reading**
Students wishing to familiarise themselves with concepts in psychology could read any recent introductory psychology text available from most regional libraries. Details will be provided in the first lecture in LSY100

**LSY101 Psychology 101**

12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LSY100, LCR100 • Assessment: essay, a practical report (including participation as a subject in research) and an examination

A stage 1 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

**Objectives and Content**
This subject concentrates on various aspects of cognition such as memory, information processing, intelligence and problem solving. Other topics covered include motivation, genetics, personality, sexuality, stress and coping and psychopathology. The design and analysis of experimental studies forms a major part of the teaching program.
LSY200 Cognition and Human Performance
12.5 credit points • 4 hours per week • Lilydale • Prerequisites: LSY100, LSY101, LSY102, LSY200 • Assessment: Examination, Report (3000 words)
A stage 2 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business, Bachelor of Applied Science and Bachelor of Tourism and Enterprise Management.

Objectives
The subject will provide a basis for the understanding of skills acquisition and examine the effects of motivation, overload and arousal levels on performance.

Content
The subject examines theories of cognitive functioning and the mechanisms and processes involved in memory, attention and human performance. After a general introduction to theory, contemporary issues are considered, including decision making, perceptual-motor performance and clinical and organizational applications.

Textbook

Recommended reading

LSY201 Developmental Psychological Development
12.5 credit points • 4 hours per week • Lilydale • Prerequisite: LSY100, LSY101 and LCR100 • Corequisite: LSG200 • Assessment: One laboratory report, final examination
A stage 2 subject in the Bachelor of Social Science which may also be taken in the Bachelor of Business, Bachelor of Tourism and Enterprise Management, and Bachelor of Applied Science.

Objectives
• To understand the processes of human growth and change;
• to examine the biological, psychological and environmental factors involved in growth and change.

Content
Topics may include: Theory and method in developmental psychology, prenatal and perinatal factors in development, perceptual development, physical development, children's play, attachment, cognitive development, language development, moral development, emotional development, gender differences, social development, identity and self awareness, socialisation within the family, socialisation outside the family.

Textbook
Berk, L.E. Child Development. 4th Edn, Allyn and Bacon, Boston, 1997

Recommended reading
Deafor, J.L. Learning Readings In Child Development. 2nd edn, Boston, Allyn and Bacon, 1994

LSY202 Social Psychology
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LCR100, LSY100, LSY101 and LSG200 • Assessment: one essay, one laboratory report, final examination
A stage 2 subject in the Bachelor of Social Science which may also be taken in the Bachelor of Business, Bachelor of Tourism and Enterprise Management, and Bachelor of Applied Science.

Objectives
To understand the processes of interaction between individuals and the society in which they live.

Content
Topics covered may include: Methodology and ethics in social psychology, attitudes and attitude change, social cognition, attribution, social influence, stereotypes and prejudices, social identity, group behaviour, interpersonal attraction and relationships, prosocial behaviour, aggression, gender roles, psychology and law, health psychology, cross cultural psychology.

Textbook

Recommended reading

LSY300 The Psychology of Personality
12.5 credit points • 3 hours per week • Lilydale • Prerequisites: LSY200, LSY201, LSY202, LSG200 • Corequisite: LSG200 • Assessment: one individual research project report (90%), one final examination (50%)
A stage 3 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business and Bachelor of Applied Science.

Objectives
To develop students' understanding of major perspectives on personality and contemporary issues in personality theory.

Content
• The concept of personality;
• four major perspectives of the psychology of personality;
• the contributions of S. Freud— psychoanalysis;
• recent developments in psychodynamic theory;
• dispositional accounts of personality;
• the contributions of Cattell and Eysenck;
• assessing personality dispositions—constructing self report inventories;
• the 'Big Five' model of personality;
• behavioural accounts—the contribution of Skinner;
• cognitive accounts of personality—the contributions of Bandura and Mishel;
• applications of cognitive concepts—Bandura;
• phenomenological accounts—the contributions of Rogers and Kelly;
• existential ideas in personality theory;
• assessment of personality.

Recommended reading

LSY301 Psychological Measurement
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LSY300, LSG200 • Assessment: 1 hour examination, 1 technical report
A stage 3 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business and Bachelor of Applied Science.

Objectives
To instruct students in the foundation principles of psychological assessment, including the bases of psychological tests.

Content
Topics covered may include: Concepts of psychological assessment and psychological tests; the legal and professional framework of psychological assessment and testing; test theory, the construction of assessment and testing procedures and instruments; the concept of reliability—methods of demonstrating reliability; the concept of validity—methods of demonstrating validity; comparative norms and their importance in assessment; score transformations; selected applications of assessment procedures—abilities, interests, personality; social issues and psychological assessment—equality, opportunity, discrimination.

Recommended reading

LSY302 Psychological Foundations of Counseling
12.5 credit points • 3 hours per week • Lilydale • Prerequisite: LSY300 • Assessment: final examination evaluation of interview
A stage 3 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business and Bachelor of Applied Science.

Objectives
• To introduce students to the basic theory of psychotherapeutic counselling;
• to practise basic helping interviewing skills.

Content
The nature of psychological counseling and its relationship to guidance, psychotherapy and other interview based helping activities will be considered. Emphasis will be given to the mainstream approaches to counselling and to their relevant implications and assumptions. Basic helping interview skills will be introduced as part of the experiential component of the subject. These skills will be drawn from the microskills model proposed by Ivey. Students will be expected to demonstrate interview skills as part of their classroom participation. Other models of
counselling will also be discussed, and consideration will be given to the
effectiveness of the counselling process.

Recommended reading
Egan, G., The Skilled Helper, Pacific Grove, California, USA, Brooks/Cole, 1990

LTE200 Organisations and Management
12.5 credit points • 3 hours per week for one semester • Lilydale • Prerequisites: LTE200
Assessment: Group projects and individual examination.
A stage 2 subject in the Bachelor of Tourism and Enterprise Management, which also
can be taken in the Bachelor of Business, Bachelor of Social Science, and Bachelor of
Applied Science.

Objectives
To provide students with a sound knowledge and personal understanding of the
impact of human behaviour on work in groups and organisations

Content
There is an increasing emphasis in organisations on creating self-managing work
teams, and students will be asked to systematically develop competencies in
working in group situations. Student experiences both in and out of the class will be
used as a starting point for this development. By reflecting on their experience
and applying their personal learning, students will gain insight into the behaviour of people
as individuals and group members within organisational settings. They will be
challenged to learn about their own behaviour and their impact on others.

Recommended reading
Bailey, J., et al., Managing Organisational Behaviour (2nd ed) Brisbane: Jacaranda
Dunford, R., Organisational Behaviour: An Organisational Analysis Perspective. North

LTE202 Organisational Behaviour
12.5 credit points • 3 hours per week for one semester • Lilydale • Prerequisites: LTE200
Assessment: Group projects and individual examination.
A stage 2 subject in the Bachelor of Tourism and Enterprise Management, which also
may be taken in the Bachelor of Business, Bachelor of Social Science, and Bachelor of
Applied Science.

Objectives
To provide students with an understanding of the theories, techniques and approaches to dealing with
people related problems and issues.

Content
• The nature and importance of human resources in achieving organisational
  effectiveness
• HR planning and staffing the organisation
• Basic interviewing and negotiating skills
• Training and developing employees
• Analyzing, evaluating and compensating work
• Establishing and maintaining effective employee relations

Textbook

Recommended reading
Clark, R., Australian Human Resources Management Framework & Practices (2nd ed.)
Nankervis, A.R., Compton, R.L., McCarthy, T.E. Strategic Human Resource Management,
Schuler, R.S., Dowling, P.J., Smart, J.P., Hibbert, V.L., Human Resource Management in

LTE300 Managing Diversity/Culture in the workplace
12.5 credit points • 3 hours per week for one semester • Lilydale • Prerequisites: LTE200, LTE201 and LTE202
Assessment: Group projects and individual examination.
A stage 3 subject in the Bachelor of Tourism and Enterprise Management, which also
may be taken in the Bachelor of Business, Bachelor of Social Science, and the Bachelor of
Applied Science.

Objectives
To introduce and sensitise students to the major dimensions of diversity
management, including gender and disability. A major focus will be the cultural
and ethnic/race diversity that is characteristic of Australian society and also increasingly
of international business, management and marketing.

Content
• Immigration/Multiculturalism (National and International)
• Culture, Ethnicity, Race
• Cross-Cultural awareness and communication
• The meaning and nature of work
• Professional Associations and Trade Unions
• Anti-Discrimination Legislation and Issues
• Authority and power - the effect of stereotyping
• Managing Diversity - recruitment, selection, training and promotion (National and
  International)

Recommended reading
Erasmiaws, E., Harris, F., Multicultural Management of New Skills for Global Success,
Texas, Gulf Publications, 1993
Henderson, G., Cultural Diversity in the Workplace - Issues and Strategies, Westport: Preger, 1994

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**LTE301 Strategic Planning and Project Management**
12.5 credit points • 3 hours per week for one semester • Lillydale • Prerequisites: LTE200, LTE201 and LTE202 • Assessment: Group and individual projects, and individual examination.
A stage 3 subject in the Bachelor of Tourism and Enterprise Management, which also may be taken in the Bachelor of Business, Bachelor of Social Science, and Bachelor of Applied Science.

**Objectives**
To introduce students to the concepts and practical issues associated with strategic planning and project management within an organisation.

**Content**
- Strategic planning
- The role of management in the planning process
- Planning for innovation
- Project management
- Project management software

**Recommended reading**

**LTE302 Managing Quality in Organisations**
12.5 credit points • 3 hours per week for one semester • Lillydale • Prerequisites: LTE200, LTE201 and LTE202 • Assessment: Group and individual projects and assignments.
A stage 3 subject in the Bachelor of Tourism and Enterprise Management, which also may be taken in the Bachelor of Business, Bachelor of Social Science, and Bachelor of Applied Science.

**Objectives**
To introduce students to the concepts of quality within a business environment. It is a ‘capstone’ subject which aims to integrate much of the material covered in the enterprise management major using quality as a focus. Students will be given the opportunity to plan, implement and manage a quality program.

**Content**
- The concept of quality in the current Australian context
- Local and international practices in the quality assurance and enhancement field
- The concepts of best practice and benchmarking

**Recommended reading**

**LTT200 Introduction to Tourism**
12.5 credit points • 3 hours per week for one semester • Lillydale • Prerequisite: Nil • Assessment: tests, assignments and a final examination
This is a Stage 2 subject in the Bachelor of Tourism and Enterprise Management

**Objectives**
- To develop understanding of the links between theory and practice in tourism.
- To provide an introduction to the historical, social and business factors which drive the tourism industry internationally, nationally and locally.

**Content**
- History of Tourism - pilgrimage to national pastime
- The Psychology of Tourism - personal motivations and needs
- The Sociology of Tourism - understanding tourists
- Macroeconomics and Tourism - organisational, management and marketing factors in the industry.
- Case Studies - enterprises involved with tourism.

**Textbooks**

**Recommended reading**

**LTT201 Tourist Destination Management**
12.5 credit points • 3 hours per week for one semester • Lillydale • Prerequisite: LTT200 (Introduction to Tourism) • Assessment: Assignments, final examination
This is a Stage 2 subject in the Bachelor of Tourism and Enterprise Management.

**Objectives**
- To identify the degree of interdependence in a region’s tourism industry.
- To study the roles and functions of destination tourism organisations.
- To examine the contribution of technological advancement to tourist destination management.
- To develop strategies for sustainability of a destination’s tourism industry.

**Content**
- Tourist Destination Areas - the regionalisation process, growth and development
- The Destination Environment - physical, sociocultural, economic
- Sustainability and management processes
- Destination marketing
- Tourism and the Community

**Textbooks**

**Recommended reading**

**LTT202 Tourism Enterprise Development**
12.5 credit points • 3 hours per week for one semester • Lillydale • Prerequisite: LTT200 (Introduction to Tourism) • Assessment: Assignments, final examination
This is a subject in the Bachelor of Tourism and Enterprise Management

**Objectives**
- To locate individual enterprises in the tourism system.
- To explain the processes involved in feasibility studies and attraction development.
- To critically analyse the management and marketing of existing attractions.
- To develop the ability to implement effective management plans.
- To facilitate informed predictions about the future of the attractions sector.

**Content**
- The Attractions Sector - an overview
- Attraction Project Development - preparing, designing, financing, managing.
- Managing Attractions - day-to-day operations and marketing.
- Managing for Sustainability - best-practice, proactive planning.

**Textbooks**

**Recommended reading**

**LTT300 Tourism Channels and Travel Management**
12.5 credit points • 3 hours per week for one semester • Lillydale • Prerequisite: LBIT100, LBIT200, LTT200 • Assessment: Assignments, final examination
This is a Stage 3 subject in the Bachelor of Tourism and Enterprise Management

**Objectives**
- To introduce the components of the value chain involved in the organisation of travel.

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MBA692 Project - Action Research Applied Project

25 Credit Points • A two semester unit spread over two, 13 week semesters • Hawthorn • Prerequisites: Assessment: Progress report; Final Report
This is a subject in the Master of Business Administration

Objectives
By the end of the project students will have:
• systematically approached an organisational issue, problem opportunity or issue (often within their own sphere of authority or discretion,) and studied the effects of their own reflection and action with respect to the issue;
• extended their capacities within the area;
• discovered ways of evaluating their own continuous (or blocked) learning;
• learned ways of reporting on their progress and the progress of the issues that they have approached;
• worked through an organisational issue/problem in real time and contributed to work with that issue/problem;
• understood more fully his or her contribution to the organisational issue/problem being studied;
• provided a report to the organisation on the corporate and personal learnings from the project, with recommendations for further action.

Content
The project will preferably be based in the student's place of work. The focus will be on 'learning by doing' through a systematic action learning approach. The action learning project has a focus on the learning of the student, in role. This learning occurs in relation to real organisational issues/problems, experienced in real time, and able to be affected by the student's decisions and actions in the reality of his or her role. The project preferably should be within the sphere of the student's real authority or discretion.

Students will be required to:
• undergo a process of identifying their own learning needs, within their organisational role/s;
• design a project that will work on these needs for self-development (sufficient to challenge their current capabilities and extend them);
• develop a learning contract which will identify: learning objectives; a means of achieving these objectives; timelines; action plans; reflection and review times; others who will need to be involved and means of involving them; and means of evaluating the project;
• negotiate with the lecturer and the organisation, re the project contract.
• use a diary method for recording tasks, actions, reflections, decisions and learning;
• on the project, modifying the contract when appropriate;
• engage as a member of a 'learning set' in classes and be prepared to collaborate with other students and the lecturer to ensure that the learning is maximised;
• design a project that will work on these needs for self-development (sufficient to challenge their current capabilities and extend them);
• learn ways of reporting on their progress and the progress of the issues that they have approached;
• negotiate with the lecturer and the organisation, re the project contract.
• provide a final report at the end of the second semester.

Recommended reading


MD101 Principles of Design for Electronic Media 1

10 credit points • 4 hours per week • Prahran • Assessment: continuous
A first year subject in the Bachelor of Applied Science (Multimedia Technology)

Objectives
To develop an understanding of basic design principles and visualisation techniques.

Content
Understanding and rehearsing the elementary use of the elements of design; line, shape, form, colour, tone, and texture, as well as primary extensions into pattern, repetition and combination in an electronic environment. Topography for electronic media. Use of appropriate design software e.g. Adobe Photoshop.

MD102 Principles of Design for Electronic Media 2
10 credit points • 4 hours per week • Prahran • Assessment: continuous • Prerequisite: MD101
A first year subject in the Bachelor of Applied Science (Multimedia Technology)

Objectives
To further develop an understanding of design principles and visualisation techniques, with the addition of movement and sound.

Content
Elementary integration of design elements into extended 3D environments. Basic storyboarding, script concepts and development. Animation and sequencing. Introduction of sound and audio principles. Use of appropriate design software such as Macromedia Director.

MD201 Design for Multimedia 1
10 credit points • 4 hours per week • Prahran • Assessment: continuous • Prerequisite: MD201
A first year subject in the Bachelor of Applied Science (Multimedia Technology)

Objectives
To develop an understanding of the principles of interactive media.

Content
Further development of the understanding and application of animation and sequencing within multimedia. The introduction of design within the 3D space utilizing appropriate software, i.e., Stratavision 3D Pro. The introduction to interactivity, utilizing flowcharts, pathways, images and sound interaction. Software scripting with appropriate software to maximise the effectiveness of interactivity and audio-visual presentation, i.e., Macromedia Director and SoundEdit 16.

MD202 Design for Multimedia 2
10 credit points • 4 hours per week • Prahran • Assessment: continuous • Prerequisite: MD201
A second year subject in the Bachelor of Applied Science (Multimedia Technology)

Objectives
To develop and extend an understanding of the principles of interactive media.

Content
Applied multimedia scripting.
Digital videos editing with appropriate software in Adobe Premiere, QuickTime. Basic principles of video camera work—panning, focusing, zoom time sequence lighting etc. Shooting of scenes, characters, use of tripod, hand-held techniques. Conversion of linear video system to digital system for editing purposes.

ME249 Environmental Engineering
10 credit points • 4 hours per week (1 sem) • Hawthorn • Assessment: practical work and examination
A second year subject in the Bachelor of Applied Science (Environmental Health)

Objectives
To provide students with an understanding of some engineering principles, and the ways in which these can be employed to control the environment.

Content
Part A Mechanical engineering plant
Principles and standards to be met by heating, ventilating, air-conditioning, refrigeration, thermal comfort and sick buildings. Recognition and analysis of problems, reports and recommendations, maintenance of records.

Part B Vibration/acoustics
Theory and practice of vibration and noise control applied to equipment and plant including ventilation systems and food processing plant. Codes of practice for noise emission and control.

Minimising the health risks associated with high levels of vibration and noise.

Recommended reading
Irwin, J., Geof, E. Industrial Noise and Vibration Control; Prentice Hall, 1979

ME729 Fluid Mechanics
3 hours per week • Hawthorn • Assessment: practical work and examination

Content
To provide a knowledge of fluid mechanics adequate for the graduate entering the process industry.

Kinematic and potential energy, the equivalence of pressure and head. Bernoulli equation and its application to Pitot tube, orifice plate and Venturi, and weir plates. Momentum and the momentum equation. Viscosity, its measurement and use. Criteria of similarity; dimensional analysis and its application to the derivation of the Stanton (Moody) chart. Equivalent length and diameter. Stanton and von Karman charts. The Hagen-Poiseuille equation.

Coeration and characteristics of centrifugal pumps and fans; means of output control. The virtual head equation, the dimensionless groups relating pump head, throughput, power consumption and efficiency with impeller diameter and speed. Specific speed, cavitation and NPSH; relationships between frictional head loss in pipework and head development of pumps or fans.

Application of the above concepts to the solution of problems. Positive-displacement pumps and blowers; valves — gate, globe, diaphragm, pinch, ball etc.

Recommended reading

ME731 Instrumentation and System Control
3 hours per week • Hawthorn

Content
General concepts. Overview of instrumentation in monitoring, control and experimental analysis.


Interrelation of plant and control systems, and interpretation of schematic control drawings.

Control devices and controllers. Broad understanding of pneumatic, electric and electronic control systems, relative merits. Overview of controller types and a practical understanding of system control.

DDC, building automation and monitoring.

System studies. Linking of the above elements into control systems for air-conditioning, refrigeration and heating and fire services.

Application of control systems within overall energy, management strategies — link with ME781.

Recommended reading

MF110 Flight Rules and Procedures 1
12.5 credit points • 3 hours per week (2 sem) • Moorabbin
A first year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to inform students of their obligations and responsibilities as a pilot and to correctly take into account factors affecting aircraft performance during all flight modes for safe operation. This covers the theory and practice for flight operations and flight standards up to a level often in excess of that required for a Commercial Pilot Licence.

Content
Flight rules and air law to CPL, radio communication to CPL, introduction to air traffic control to CPL, operation performance flight planning to CPL.

Recommended reading
Thom, T. Flight rules and air law Vol 4, Williamstown Aviation Theory Centre
CASA, regulations, orders, etc. with amendments
Operation performance flight planning

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MF120 Navigation and Meteorology 1
15 credit points • 3 hours per week (2 sems) • Moorabbin
A first year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with a knowledge of the dynamic atmosphere and its importance to flight operations. Students will gain knowledge and skills required to assess meteorological information and undertake practical navigation up to the level of Commercial Pilot Licence.

Content
• Navigation to CPL
• Navigation fundamentals, pilot navigation, radio navigation aids
• Meteorology to CPL
• Introduction to meteorology, climatology.

Recommended reading
CASA Aeronautical Information Publication, Civil Aviation Safety Authority
CASA Civil Aviation Orders, Civil Aviation Safety Authority
Dept. of Science and Technology (Bureau of Meteorology), Manual of Meteorology Parts 1 and 2, Australian Government Publishing Service, 1975/1987
Thom, T. Meteorology & Navigation, Vols 2, Williamstown, Aviation Theory Centre

MF131 Aircraft General Knowledge 1
15 credit points • 3 hours per week (2 sems) • Moorabbin
A first year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with a knowledge of aeronautics and aerodynamics sufficient to form a firm foundation for practical application in flight operations up to the level of Commercial Pilot Licence.

Content
Aircraft general knowledge to CPL
Aerodynamics to CPL
Aerodynamic principles of flight, flight controls, steady flight manoeuvres.

Recommended reading
Thom, T. Aerospace General Knowledge and Aerodynamics, Vol 1. Williamstown, Aviation Theory Centre

MF150 Occupational Health and Safety
10 credit points • 2 hours per week (2 sems) • Hawthorn
A first year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to acquaint students with the occupational health and safety requirements of modern aviation.

Content
Safety hazards, noise, vibration, combustion, handling of dangerous goods, accident prevention, aviation medicine, survival skills.

Recommended reading
Creighton, W.B. Understanding Occupational Health and Safety Law in Victoria. North Ryde, N.S.W., CCH Australia, 1986
Erwin, Supplement Australia, Civil Aviation Authority
Jensen, R.S. Aviation Psychology Giver, London, 1989
Merritt, A. A Guidebook to Australian Occupational Health and Safety Laws. 2nd edn, North Ryde, N.S.W., CCH Australia, 1986

MF160 Propulsion and Aircraft Systems
15 credit points • 2 hours per week (2 sems) • Hawthorn
A first year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with a knowledge of the operation of the principles behind the propulsion and aircraft systems up to the level of Private Pilot Licence.

Content
Thermodynamics, internal combustion engines, structures, mechanisms and linkages, electro-mechanical systems, motors and generators.

Recommended reading
Floyd, T.L. Electronics Fundamentals. 3rd edn, Prentice Hall, 1985

MF170 Aviation Mathematics and Computing
20 credit points • 4 hours per week (2 sems) • Hawthorn
A first year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to introduce students to mathematical principles as they relate to aircraft systems and aerodynamics.

Content
Applied mathematics, calculus, general computer skills, high level language programming, programming applications, simple data transfer, scientific packages.

Textbooks
Anton, H., Calculus with Analytic Geometry, 5th edn, Wiley, New York, 1993

Recommended reading
Amor, T and Peters, O.L., QuickBASIC Programming for Scientists and Engineers, CRC, 1993
Weatherburn, C.E. Elementary Vector Analysis, G. Bell and Sons, 1960

MF180 Aviation Electronics
5 credit points • 2 hours per week • Hawthorn
A first year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to develop and establish an understanding of the basic electrical and electronic knowledge required for the theoretical discussion of the principles of operation of equipment found in aircraft.

Content
Electrical quantities, electrical circuit components, electrical circuit analysis, power supplies and conversion from A.C. supply to D.C. supply, Communication concepts and interference.

Recommended reading
Edminister, Electric Circuits, Schaum
Emsin, Aircraft Electricity and Electronics. 5th edn, McGraw Hill 1994
Hughes, Electrical Technology, 7th edn, Longman, 1995

MF190 Communication Skills
7.5 credit points • 3 hours per week • Hawthorn
A first year subject in the Bachelor of Technology (Aviation)

Objectives
The aim of this subject is to develop basic skills and techniques in written and oral communication which is an essential part of the aviation industry. The importance of this area is emphasised by the fact that over eighty percent of aircraft accidents are directly attributable to a human factors breakdown, with communication playing a central role.
Content
The objectives of this subject are to study the importance of effective communication from a number of perspectives. Written, oral, and non-verbal communication and assertion training will be investigated. Report writing, referencing, research techniques, time management, goal setting and mind-mapping techniques will be addressed. Finally resume writing and interview techniques will be introduced.

Recommended reading
Reference material on communications and aviation human factors is available in the library.

Covey, S., The Seven Habits of Highly Effective People, Melbourne, Business Library, 1989
Lange, A., Responsible Assisitive Behaviour, Illesis, Research Press, 1976
Pears, A., Jacobovitz, P & Garner, A, Talk Language, Sydney, Free Training Corp, 1985

MF210 Flight Planning and Procedures 2
12.5 credit points • 2 hours per week (2 sems) • Moonabbin
A second year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with a knowledge of flight rules and procedures sufficient to cover various licence levels and operational situations often in excess of that required for an Air Transport Pilot Licence.

Content
• Aircraft operation performance and flight planning to ATPL;
• broad understanding of flight planning, erroute performance and methods of cruise control, choice of route and amount of reserve fuel, the use of aircraft performance data;
• flight rules and aviation law to ATPL;
• privileges and limitations, flight rules and conditions of flight application to ATPL.

Recommended reading
CASA, Regulations, Orders, etc. with amendments
CASA, ATPL student information Handbook
CASA, Boeing 727 Performance and operating Handbook (Abbreviated)
Thom, T, Airplane Performance, Planning and Loading for the Air Transport Pilot
Aviation Theory Centre, 1995

MF220 Navigation and Meteorology 2
10 credit points • 3 hours per week (2 sems) • Hawthorn
A second year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with an extensive understanding of the purpose, operation and limitations of some navigation methods and systems; and an ability to take into account the importance of the dynamic atmosphere to flight operations up to Airline Transport Pilot Licence standard.

Content
• Navigation to ATPL;
• air navigation, air navigation instruments;
• meteorology to ATPL;
• physical basis of meteorology, observations and measurement of meteorological elements, climatology, high altitude meteorology and forecasting.

Recommended reading
CASA, Aeronautical Information Publication, Civil Aviation: Safety Authority
James, James Aviation, 11th edn, London, James, 1992-93
Thom, T, Navigation Vols. 1 and 2, Williamstown, Aviation Theory Centre, 1995

MF231 Aircraft General Knowledge 2
12.5 credit points • 2 hours per week (2 sems) • Hawthorn
A second year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to reinforce and increase a student’s understanding of the aeronautical and aerodynamic factors influencing aircraft performance up to Airline Transport Licence standard; and to understand the uses of typical flight systems on modern jet transport aircraft.

Content
• Aircraft general knowledge to ATPL;
• engines and engine systems, Gas Turbine, aircraft engine operation and control;
• activating systems, airframe systems, electrical systems, flight instrumentation, warning and recording systems;
• aerodynamics to ATPL;
• design features, characteristics of airflow, the operation of controls, asymmetric flight.

Recommended reading
Aircraft Maintenance Text 4, Aerodynamics, Department of Transport and Communications.
The Jet Engine, Rolls Royce, 1986
Pallett, E.H.J. Aircraft Instruments Principles and Applications, 2nd edn, Harlow,
Peters, D. Basic Functional Devices and Systems, Cantebury, AGPS, 1989
Thom, T, ATPL Aircraft General Knowledge, Vol 2, Aviation Theory Centre, 1995

MF241 Theoretical Aerodynamics
10 credit points • 3 hours per week Sem 1 & 2 hours per week Sem 2 • Hawthorn
A second year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to develop an understanding by the student of the basic aerodynamic factors influencing the flight of an aircraft and to relate these to observed effects.

Content
Fluid properties, the standard atmosphere, ideal fluid flow, boundary layers, aerofoils, wings, force and moment coefficients, steady flight, aircraft performance, static stability.

Recommended reading

MF250 Human Factors and Performance
15 credit points • 3 hours (2 sems) • Hawthorn
A second year subject in the Bachelor of Technology (Aviation)

Objectives
The major aim of this subject is to introduce the field of aviation human factors and its importance in the operation of modern commercial aircraft. The importance of this area is emphasised by the fact that over eighty percent of aircraft accidents are directly attributable to a human factors breakdown.

Content
This subject builds on the work covered - MF190 Communication Skills and MF150 Occupational Health and Safety and studies how stress, human error, workload, personality, decision making, ergonomics and automation affect the pilot's performance. Systems theory, accident analysis, flight safety issues, and the importance of effective teamwork and communication will also be addressed.
Recommended reading
Johnston, N., McDonald, N. and Fuller, R. (Eds), Aviation Psychology in Practice, Aldershot, UK, Avebury, 1994
Weaver, E.L., and Nagel, P. Human Factors in Aviation, San Diego, Academic Press, 1988

**MF260 Advanced Propulsion and Aircraft Systems**

10 credit points • 2 hours per week (2 sem.) • Hawthorn

A second year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with an advanced understanding of the operation and maintenance of the propulsion and activating elements of the aircraft they will be using to the level of Airline Transport Pilot Licence.

Content
Gas turbines, operations, propulsion developments, inspection technology, engine balancing, engine bearings, engine condition, trend monitoring, managing the aging aircraft fleet.

Recommended reading
Basic Functional Devices and Systems. Department of Transport and Communications, Canberra, AGPS, 1988
FAA AC 65-12A Power Plant Handbok: Aviation Maintenance Foundation
Mc Cormick, B. Aerodynamics, Aeronautics and Flight Mechanics, New York, Willey, 1979
Robinson, T., Dept. of Transport and Communications, Gas Turbine Powerplants and Their Maintenance on Aircraft, Canberra, AGPS, 1987

**MF270 Aircraft Materials and Structures**

15 credit points • 3 hours per week (2 sem.) • Hawthorn

A second year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with an introduction to the strength of materials and their behaviour as loaded members in aircraft structures.

Content
Structural loading, stress, mechanics of materials, material properties, metal corrosion, fatigue.

Recommended reading

**MF280 Avionics and Electronics**

10 credit points • 2 hours per week (2 sem.) • Hawthorn

A second year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to establish an understanding of avionics and instrumentation systems found in light and commercial aircraft, including discussion of the integration of electronics systems from transceiver to display.

Content
Digital electronics based on sequential logic and Boolean algebra application. Computer systems and the integration of electronic systems within aircraft.

Recommended reading
Helfrick, Modern Aviation Electronics, 2nd edn, Prentice Hall, 1985
Hughes, Electrical Technology, 7th edn, Longmans, 1996
Eismin, Aircraft Electricity and Electronics, 5th edn, McGraw-Hill, 1994
Floyd, T. L. Electronic Devices, Merrill
Floyd, T. L. Digital Fundamentals, Merrill or
Tocci, Digital Systems, Prentice Hall

**MF290 Aviation Business Management**

5 credit points • 2 hours per week (1 sem.) • Hawthorn

A second year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with the knowledge of the functions of aviation business operations and the various roles within an organisation.

Content
Business management, flight administration, financial control.

Recommended reading
CAAs 80 and 83, 105-114 series. CASA
CAAs. CASA

**MF310 Instrument Rating Theory**

5 credit points • 2 hours per week (1 sem.) • Moorabbin

A third year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to give students an extensive knowledge of instrument and procedural theory applicable to the Command Instrument Rating.

Content
• Instrument flight rules
• Flight planning
• Airways procedures
• Operations
• Instrument departure
• Departure and approach procedures

Recommended reading
CASA, Regulations, AP, Orders etc., with amendments
Thom, T. The Instrument Rating Manual Vol. 1 and 2

**MF320 Principles of Instruction**

5 credit points • 2 hours (1 sem.) • Moorabbin

A third year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to give students an extensive understanding of the principles of instruction and to develop practical instructional techniques.

Content
Definition of learning, human behaviour, lesson planning and presentation.

Recommended reading
Aviation Instructor's Handbook. Department of Transportation, Oklahoma City, Okla., US, 1978

**MF330 Ground School**

7.5 credit points • 2 hours per week (1 sem.) • Hawthorn

A third year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with the experience of undergoing a regular ground school as used by airlines for the introduction of crew to a new type of aircraft. Actual training methods will be used where possible backed up by
This subject is designed to provide students with the opportunity to conduct a major private research exercise in the field of aviation and present the finding to a group forum for critical appraisal.

Content
This is a major project and should be of a practical nature, relating to the aviation industry, linking the aspects of the course with the specific task chosen by the student. The project may be selected from a list supplied by the supervising staff or by negotiation between the student and the supervising staff. The project may be carried out independently or in groups of two, provided the extent of each student's contribution is clear.

Recommended reading

MF370 Aircraft Design
16 credit points • 3 hours per week (2 sems) • Hawthorn
A third year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with a comprehensive understanding of the principles behind the design of aircraft.

Content
A selection of two topics taken from the following list will be offered in any one year. For example, airframe and component design, aerodynamic and performance design, environmental comfort, Noise Vibration Harshness (N.V.H.) design.

Recommended reading
Harris, C.M., Handbook of Noise Control. 2nd edn, New York, Airflow, 1979
Hoerner, S., Fluid Dynamic Drag. Midland Park, N.J. [The Author], 1965

MF380 Aircraft Navigation and Control Systems
12.5 credit points • 2 hours per week (2 sems) • Hawthorn
A third year subject in the Bachelor of Technology (Aviation)

Objectives
This subject is designed to provide students with a comprehensive understanding of control system theory and the operation of navigation systems and control systems on aircraft.

Content
Control system theory, block diagrams, transfer functions, feedback, stability. Application of electronic circuits and computers in the control of aircraft systems. Navigation systems, glass cockpits, information transfer, transducer, data acquisition.

Recommended reading
Aircraft Control Systems
Blacklock, J.H., Automatic Control of Aircraft and Missiles, Wiley
Franklin, G.F., Powell, D.J.D. Emani-Rees, A., Feedback Control of Dynamic Systems, 3rd Ed, Addison-Wesley 1984
Houghton and McCormick, Aerodynamics for Engineering Students
Svens, B.L., Lewis F.L., Aircraft Control and Simulation, Wiley

Aircraft Navigation Systems
This subject is designed to provide students with an understanding of the requirements for managing aviation facilities.

Content
Human resource management, industrial relations, computer management systems, airworthiness requirements, maintenance management, current issues, airport management, security and safety, ETOPS/EROPS, Flight simulation, Aviation fuel issues, Emergency planning and management, Management responsibilities, public law and workplace law.

Recommended reading
CASA, Regulations, Order, etc. with amendments
Creighton, W.B. Understanding Occupational Health and Safety Law in Victoria. North Ryde, N.S.W., CCH Australia, 1986
Merritt, A. Guidebook to Australian Occupational Health and Safety Laws. 2nd edn, North Ryde, N.S.W., CCH Australia, 1986

MF600 Introductory Human Factors
12.5 credit points • 4 hours per week (distance learning 2½ days in house seminar) • Assessment: Examination and Assignments

This is a subject in Graduate Certificate and Graduate Diploma in Human Factor

Objectives
This subject is designed to be presented in a distance education format.
To recognise and apply appropriately the principles of human factors to situations in which the relationship between the operator and the task are incompatible. The topics to be examined will include aircraft automation, systems theory, systems design and integration, attention and workload.

Content
The subjects studied in detail in this subject will be drawn from the following:
- Introduction to human factors
- Human factors in aircraft accident investigation
- Systems analysis
- Ergonomic principles in aviation
- Aviation displays
- Cockpit automation
- Software interfaces
- Cockpit crew systems design integration
- Cabin safety
- Flight training and simulation
- Pilot attention
- Pilot workload

Recommended reading
To be advised.

MF601 Air Transportation Management and Facilitation
12.5 credit points • 4 hours per week (distance learning 2½ days in house seminar) • Assessment: Examination and Assignments

This is a subject in Graduate Certificate and Graduate Diploma in Human Factor

Objectives
This subject is designed to be presented in a distance education format.
At the end of this subject, students should have a basic understanding of the way in which many management issues associated with the aviation industry and aviation companies impinge on the human factors training and decisions.

Content
The subjects studied in detail in this subject will be drawn from the following:

Textbook

Recommended reading
To be advised.

MF602 Crew Resource Management/Leadership
12.5 credit points • 4 hours per week (distance learning 2½ days in house seminar) • Assessment: Examination and Assignments

This is a subject in Graduate Certificate and Graduate Diploma in Human Factor

Objectives
This subject is designed to be presented in a distance education format.
To provide students with a theoretical knowledge base to design and evaluate Crew Resource Management programs. To provide students with an advanced understanding of leadership and teamwork by course work coupled with a program of practical team exercises.

Content
The subjects studied in detail in this subject will be drawn from the following:
- Crew resource management
  - Managing risk; intervention strategies; the development of CRM programs; cross cultural perspectives; CRM research and evaluation; CRM course design; LOS and LOFT design principles.
  - Leadership
    - How different personality types contribute to team formation; leadership and management comparisons; the qualities, situational, and functional approaches to leadership; motivation and the needs hierarchy; personal satisfaction; brainstorming; the role of the leader.

Recommended reading
University of Surrey, Leadership Teamwork and Communication Course, 1994.

MF603 Organisational Change in Aviation
12.5 credit points • 4 hours per week (distance learning 2½ days in house seminar) • Assessment: Examination and Assignments

This is a subject in Graduate Certificate and Graduate Diploma in Human Factor

Objectives
This subject is designed to be presented in a distance education format.
Changes occurring within the aviation industry reflect transitions occurring throughout societies worldwide. Globalisation, technological change and organisational change impact on all forms of work, but particularly so in industries involving high technology. What goes on in either the flight deck, the cabin, the aircraft maintenance area or the tower is dependent on the wide organisational context. This unit will examine:
- The changing aviation context
- Impacts of technological change on the organisation of work
- Computer-supported co-operative work
- Developing organisational systems that support learning
- Organisational culture and organisational change.

Content
The subjects studied in detail in this subject will be drawn from the following:
- Summarise and review policy developments of national and international aviation authorities and the implications for human factors applications.
- Consider a range of frameworks for analysing activity within organisations (sociotechnical systems; chaos theory, ecological systems), particularly high

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reliability organisations and the implications for human factors issues.

- Demonstrate understanding of resistance to change in planning and implementing human factors change programs.
- Describe organisational cultures and their impact on facilitating or resisting change.
- Critique their own organisational cultures.
- Analyse the impact of technological change in aviation and in similar organisations with a specific reference to the human factors impact of technological change on communication, collaboration and learning in work.

**Recommended reading**


ICAO, Human Factors in CNS/ATM Systems, Human Factors Digest, No. 11, International Civil Aviation Organization, Montreal.


**MF604 Advanced Human Factors**

12.5 credit points • 4 hours per week (distance learning: 2½ days in house seminar) • Assessment: Examination and Assignments

This is a subject in Graduate Certificate and Graduate Diploma in Human Factor

**Objectives**

The subject is designed to be presented in a distance education format.

The subject is designed to develop amongst participants, an advanced understanding of the impact of human factors on pilot performance within the operational environment. In particular, participants will examine the political and organisational factors which influence pilot performance and develop the skills necessary to recognise these and respond appropriately.

**Content**

The subjects studied in detail in this subject will be drawn from the following:
- Human factors course development
- Organisational safety culture
- Politics and air safety
- Safety - maintenance
- Safety - ground handling
- Advanced accident investigation
- Behaviour analysis in aviation
- Cognitive task analysis
- Aeronautical decisions - the future
- Disaster management

**Recommended reading**

To be advised.

**MF605 Research Design and Methodology**

12.5 credit points • 4 hours per week (distance learning: 2½ days in house seminar) • Assessment: Examination and Assignments

This is a subject in Graduate Certificate and Graduate Diploma in Human Factor

**Objectives**

This subject is designed to be presented in a distance education format. At the end of this subject, students should be able to:
- Plan a research project
- Undertake a literature review
- Apply relevant research methodologies
- Carry out statistical analysis of results

**Content**

The subjects studied in detail in this subject will be drawn from the following:
- Build a scientific model
- Write a research report
- Write a journal article
- Use computer software to assist these tasks

**Recommended reading**

To be advised.

**MF607 Research Project (Minor)**

12.5 credit points • 4 hours per week (distance learning: 2½ days in house seminar) • Assessment: Project written report, participation and poster paper presentation

This is a subject in Graduate Certificate and Graduate Diploma in Human Factor

**Objectives**

This subject is designed to be presented in a distance education format.

To apply the skills developed in the subject MF xxx Research Design and Methodology to a practical project task.

**Content**

Students are expected to select a project from a list prepared by academic staff or students may suggest their own topic based on individual interest or arising out of their prior or current employment.

Students are expected to carry out the project utilizing the methods and procedures developed in the subject “MF xxx Research Design and Methodology” to conduct literature surveys, investigate probable solutions, prepare designs if applicable, analyse and where appropriate, implement and test hypothesis, design processes and...
The subject aims to develop a broad understanding of the principles from which materials derive their properties, their failure modes, and hence develop a sound basis for material selection and application.

**Content**

**Technology and Application**

Liquid and solid processing techniques and their application to materials classes. (metals, plastics and ceramics).

**Material Properties**

Mechanical properties, particularly strength and toughness, and their relationship to the atomic and molecular microstructures of the different material classes. Electronic properties, electrical, magnetic, optical, thermal, and their relationship to the various bonding regimes of the material classes.

**Environmental Deterioration and Failures**

Studies of the mechanical, chemical and electrical aspects and their interaction with the atomic and molecular structures present in the material classes.

**Case Studies in Materials Selection**

These are from a variety of applications from aerospace to medicine. The course is supported by four practical sessions of two hours duration each, introducing the students to the concepts of strength, toughness, and environmental deterioration.

**Recommended reading**

Callister, W.D., Materials Science and Engineering, 3rd edn, Wiley, 1994


**MM130 Engineering Materials**

10 credit points • 4.5 hours per week average • Hawthorn • Assessment: practical and examination

**Objectives**

The subject aims to develop a broad understanding of the principles from which materials derive their properties, their failure modes, and hence develop a sound basis for material selection and application.

**MM140 Energy Systems**

10 credit points • 4.5 hours per week average • Hawthorn • Assessment: practical and examination

**Objectives**

- a broad understanding of the principles of energy conversion and transmission derived from as much problem based learning as possible;
- a clear understanding of the concepts of: heat, work, power, conservation of mass, conservation of energy;
- proficiency in conceptualising and solving problems;
- an awareness of the environmental aspects of energy systems.

**Content**


**MM169 Services**

7 credit points in semester 1 and 5 credit points in semester 2 • 3 hours per week (sem 1), 2 hours (sem 2) • Hawthorn • Instruction: lectures, tutorials, field excursions and laboratory tests • Assessment: examinations 80%, assessed work 20%

A first year subject in the Bachelor of Technology (Building Surveying)

**Content**

This subject is intended to provide students with an understanding of services such as water (domestic hot water and cold), electrical, space heating, sewerage, as required in domestic dwellings, together with the scientific basis of such service systems including a knowledge of thermodynamics and electricity.

**Recommended reading**


**MM180 Construction Materials**

3 hours per week • Hawthorn • Instruction: lectures, tutorials, laboratory work • Assessment: examination 80%, reports 20%

A second year subject in the Bachelor of Engineering (Manufacturing) and (Mechanical)

**Content**

This subject is intended to give students an understanding of the behaviour of building materials such as timbers, bricks and blocks, cement and concrete, bituminous materials so that they can determine whether traditional materials are being used correctly and appraise new materials.

This subject also provides an introduction to other materials used in buildings, and joining methods.

**Recommended reading**


Van Vlack, L.H., Materials for Engineering, Reading, Mass., Addison-Wesley, 1982

**MM215 Machine Dynamics 1**

10 credit points • 4 hours per week • Hawthorn • Assessment: examination and tests

A second year subject in the Bachelor of Engineering (Manufacturing) and (Mechanical)

**Objectives**

To develop an understanding of and a functional familiarity with the physical principles and mathematical instruments that form the basis of the engineering analysis of the dynamic behaviour of particles and rigid bodies in plane motion.

**Content**

**Kinematics of a particle**


**Rigid body kinematics**

Relative velocity, instant centres, relative acceleration. Analysis of mechanisms; degrees of freedom, four bar chains, Grashof mechanisms.

**Rigid body kinetics**

Rigid body kinetics: translation, fixed axis rotation. Rigid body kinetics: plane motion - force, mass, acceleration, work and energy, impulse and momentum.
Recommended reading

Bedford, A. and Fowler, W., Dynamics, Addison-Wesley, 1995

MM225 Solid Mechanics 1

10 credit points • 4 hours per week • Hawthorn • Assessment: examination and laboratory

A second year subject in the Bachelor of Engineering (Manufacturing and Mechanical)

Objectives

To develop the ability to synthesise and solve problems involving force equilibrium, deformation and stressing of machine components and structures.

Content

Review of axial, bending, shear and torsion actions in frames and machines.
Analysis of stresses in plane frames.
Analysis of stresses in machines.
Review of torsion.
Plane stress and strain: Transformations, principal stresses and strains, maximum shear stresses and strains, orientations, Muh’s circle, simple 3D cases.
Static indeterminacy in axial (tangential and torsion.
Stress-strain relations (Hook’s law), Volumetric strain. Relationship between elastic constants, E, G and ν.
Failure theories: Maximum shear stress (Tresca) maximum principal stress (Rankine) and maximum shear strain energy (Ven Mises)
Combined loading: Strain gauge and rosettes, beams, shafts and C frames.
Laboratory Experiments
Combined Bending and Torsion.

Text


Recommended reading

Fletcher, D.Q. Mechanics of Materials, Hor-Seavers, 1985

MM235 Engineering Materials

10 credit points • 4.5 hours per week • Hawthorn • Assessment: examination, laboratory and assignments

A second year subject in the Bachelor of Engineering (Manufacturing and Mechanical)

Objectives

• To provide students with an understanding of the essential properties of the major classes of material by explaining their microstructure/property relationships.
• To provide students with an understanding of the principles of Materials selection based on materials properties and failure analysis.
To develop communication skills by formal reporting of experiments carried out in the laboratory.

Content

Metals: Ferrous
Major categories of steels/cast irons and applications
Microstructural phase constituents and property relationships.
Failure theories: Maximum shear stress (Tresca) maximum principal stress (Rankine) and maximum shear strain energy (Ven Mises)
Combined loading: Strain gauge and rosettes, beams, shafts and C frames.
Laboratory Experiments
Combined Bending and Torsion.

Text


Recommended reading

Fletcher, D.Q. Mechanics of Materials, Hor-Seavers, 1985

TTT diagrams: polygon additives
Adhesive joining.
Composites: Composites: nature of composite materials, strength, isostress, isostrain
Failure of Materials
Energy processes involved in fast fracture, toughness of materials as a design parameter.
Environmental failures of polymers: UV deterioration, oxidation, solvent attack of plastics. Corrosion of materials. Friction and wear
Ceramics
Processing of ceramic products.
Ceramic structures, AX, Phase diagrams
Mechanical properties.
Laboratory Experiments:

Recommended reading


Reference


MM245 Thermodynamics

10 credit points • 4.5 hours per week average • Hawthorn • Assessment: examination and laboratory

A second year subject in the Bachelor of Engineering (Manufacturing and Mechanical)

Objectives

• To develop the fundamentals of thermodynamics;
• to cover the Second Law, entropy and conservation laws;
• to apply these concepts to heat exchangers, boiling condensation and radiation.

Content

Revision of steady flow
Second law of thermodynamics
The heat engine; Entropy; T-s diagram. Reversible processes and the T-s diagram.
Irreversible processes, Energy.
Power cycles
Reciprocating gas compressors
Air motors.
Reciprocating IC engines
Fourier’s law of conduction

Environmental failures of polymers: UV deterioration, oxidation, solvent attack of plastics. Corrosion of materials. Friction and wear
Ceramics
Processing of ceramic products.
Ceramic structures, AX, Phase diagrams
Mechanical properties.
Laboratory Experiments:

Recommended reading


Reference


MM245 Thermodynamics

10 credit points • 4.5 hours per week average • Hawthorn • Assessment: examination and laboratory

A second year subject in the Bachelor of Engineering (Manufacturing and Mechanical)

Objectives

• To develop the fundamentals of thermodynamics;
• to cover the Second Law, entropy and conservation laws;
• to apply these concepts to heat exchangers, boiling condensation and radiation.

Content

Revision of steady flow
Second law of thermodynamics
The heat engine; Entropy; T-s diagram. Reversible processes and the T-s diagram.
Irreversible processes, Energy.
Power cycles
Reciprocating gas compressors
Air motors.
Reciprocating IC engines
Fourier’s law of conduction

Environmental failures of polymers: UV deterioration, oxidation, solvent attack of plastics. Corrosion of materials. Friction and wear
Ceramics
Processing of ceramic products.
Ceramic structures, AX, Phase diagrams
Mechanical properties.
Laboratory Experiments:

Recommended reading


Reference

MM246 Fluid Mechanics 1

10 credit points • 4.5 hours per week • Hawthorn • Assessment: examination and laboratory
A second year subject in the Bachelor of Engineering (Manufacturing) and (Mechanical)

Objectives
To develop the fundamentals of fluid mechanics to cover fluid statics, momentum and energy principles and boundary layer theory.
To apply these fundamentals to turbo-machinery and conduit flow.

Content
Introduction to fluid mechanics
Fluid properties
Ideal flow, Viscosity, Elasticity, Surface tension, Vapour pressure, Newtonian and non-Newtonian fluids.
Fluid statics
Martometry, Pressures, Heads, Hydrostatics forces on surfaces, Bucoyancy.
Fluids in motion
Continuity, Acceleration, Control volumes.
Pressure variation flowing fluids
Bernoulli equation, Separation, Cavitation.
Momentum principle
Moment of momentum, Navier Stokes equation, Reynolds equation.
Energy principle
Hydraulic and energy lines.
Flow in conduits
Shear stress, Laminar flow, Turbulent flow, Pipe systems. Losses, Non-circular conduits.

Recommended reading

MM269 Services

2 hours per week • Prerequisite: MM169 Services • Instruction: lectures, tutorials and field excursions • Assessment: examination 70%, assessed work 30%
This is a subject in the Bachelor of Technology (Building Surveying)

Content
This subject deals with the services encountered in industrial and low rise buildings.
The following topics are covered:
Air-conditioning basic principles of human comfort requirements. Equipment type.
Integration in buildings. Electrical services principles of illumination, emergency and exit lights. Communication systems. Specialty services trade waste disposal.

Recommended reading
Stein, B. et al. Mechanical and Electrical Equipment for Buildings. 7th edn, Wiley, 1986

MM273 Manufacturing Technology 1

10 credit points • 6.5 hours per week • Hawthorn • Assessment: examination, assignments and laboratory
A second year subject in the Bachelor of Engineering (Manufacturing) and (Mechanical)

Objectives
• To provide a general understanding of the role of manufacturing technology in industry—and how the selection and application of different technologies relates to a range of manufacturing requirements.
• To develop foundation knowledge of some of the more commonly encountered manufacturing technologies.
• To provide an introduction to current engineering trade practices.

Content
Manufacturing technology within the total manufacturing system, relationships with design and product requirements.
Manufacturing processes: Introduction to the broad groups of processes – casting and forming of metals, powder metallurgy, manufacture of polymer products, material removal processes.

Basic calculations in machining. Concept of machinability – criteria, introduction to tool wear mechanisms and simple tool life relationship.
Economics of machining: Criteria, mathematical modelling, data bases
Polymers in manufacturing: Forming and moulding techniques, applications
Extrusion: Effects of process parameters on product quality
Injection moulding: Effects of process parameters on product quality
Introduction to manufacturing automation: The impacts of conventional automation, Numerical Control, Robotics on the attainment of efficiency and quality through manufacturing technology
CNC machine tools: Applications, relative merits, fundamentals of programming
Introduction to engineering dimensional metrology: Standards, common practices and equipment used in the measurement of length, Accuracy and uncertainty of measurement, calibration systems
Measurement of other engineering quantities - Surface texture, angle, roundness, flatness, etc.
Introduction to optical measurement techniques.
Quality in manufacturing: Concepts of quality, quality control and quality assurance.
Systematic management of quality: Accreditation to National and International standards (Introductory only)
The use of in-process quality control tools in the attainment of manufacturing quality.
Other quality control tools
Advanced manufacturing Technologies: Introduction to advanced and emerging technologies
Manufacturing technology and the environment: Introduction to environmental impacts and measures being developed to eliminate/reduce such impacts
Laboratory
Tool lab in machining, metrology, CNC, polymers

Recommended reading
Kalpakjian, S., Manufacturing Engineering and Technology. 3rd edn, Addison-Wesley, 1995
MM295 Measurement and Control Systems
10 credit points • 4 hours per week • Hawthorn • Assessment: examination, assignments, laboratory
A second year subject in the Bachelor of Engineering (Manufacturing and Mechanical).

Objectives
To provide knowledge of:
- electronics principles of measurement and control systems;
- industrial measurements and associated instrumentation;
- mathematical modelling of physical components;
- dynamic behaviour of instruments and control systems;
- communication between control devices;
- typical applications of instrumentation in automatic control systems.

Content
System Components


Recommended reading
Tennich, D. J., Computer Architecture and Interfacing 2, Mechatronics Systems, Chrystaball Engineering, 1994
Richards, R. J., Solving Problems in Control, Longman Scientific and Technical, 1993

MM355 Mechanical Design
10 credit Points • 5 hours per week • Hawthorn • Assessment: Assignments and examination
A third year subject in the Bachelor of Engineering (Mechanical and Manufacturing).

Objectives
To understand and apply the theories of failure and the fundamentals of machine component design.

Content

Fundamentals of machine component designs: cams, energy storage, design, selection and application of springs, design for impact, fasteners and joints and gaskets, rivets, welding and bonding.

Machine power transmission components: shafts, sliding and rolling element bearings, gears, belts and chains drives, couplings, clutches and brakes.

MM385 Design for Manufacture 1
10 Credit Points • 4 hours per week • Hawthorn • Assessment: Projects and examination
A third year subject in the Bachelor of Engineering (Mechanical and Manufacturing).

Objectives
To provide a basis for making decisions concerning the design of high quality and reliable components, design of tools for manufacturing processes and the design of systems for automation.

Content

Recommended reading
Null
Pressure vessels
Pressure vessel design: AS 1210 Unfired Pressure Vessel Code, design aspects of available materials, vessel features, cylindrical shells, dished ends and closures, inspection openings and bolted connections with gaskets, hydrostatic pressure testing, computation and submission to authorities.

Fluid power systems
Fluid power systems, design characteristics of hydraulic and pneumatic systems, graphical symbols for circuit components and functions, linear actuators, pumps and motors, control valving for pressure, direction and flow control, open loop control systems analysis, including frictional losses, pressure and flow variations during operational cycles of fluid power systems.

Recommended readings

MM465 Design for Manufacture
10 credit points • 4 hours per week • Hawthorn • Assessment: Projects and examination
A Fourth year subject in the Bachelor of Engineering (Manufacturing)

Objectives
To provide an understanding of design of tooling used in manufacturing processes.
To provide the skill to work within a group to fulfill the design requirements.
To provide the ability to design tooling and machinery which conforms to available materials, vessel features, cylindrical shells, dished ends and closures, inspection openings and bolted connections with gaskets, hydrostatic pressure testing, computation and submission to authorities.

Content
Design for assembly: methods, selection, feed mechanisms. Product and component design, manual and automated.
Design for die for metal forming processes: forging dies and punches, cold, warm and hot forging, forging sequence.
Design of dies for die casting. For plastic moulding.
Cooling of dies: heat exchange analysis.
Computer based tooling design software.
Design of machinery for production: functional requirements of machine tools, quality, accuracy, output, lubrication, transmission and drives, design of computer controlled machine tools and presses.
Design of slides: guides and bearings: hydrodynamic, hydrostatic, calculation of design parameters.
Design of jigs and fixtures: process planning and sequence. Dimensional analysis, calculation of errors in location, elimination of location errors. Flexible and programmable fixtures. For assembly and inspection operations and machining operations.
Finite element modelling (FEM) and finite element analysis technique applied to tooling design.
Evaluation of designs for products and tooling: on the basis of quality, function, reliability, cost, value analysis, manufacturability, safety, community and environment issues.

Recommended readings

MM475 Manufacturing Technology
10 credit points • 416 hours per week • Hawthorn • Assessment: Assignments and examination
A Fourth year subject in the Bachelor of Engineering (Manufacturing)

Objectives
To build upon foundation studies in manufacturing technology - particularly in relation to the development of knowledge of processes used in the manufacture of sheet and bulk formed metal product and the application of numerical control.
To develop knowledge in the application of rapid prototyping technologies within the context of rapid product development.
To develop awareness and skills in the analysis of process parameters in order to better achieve quality and productivity in the application of these technologies.

Content
Sheet metal forming processes: Applications, process parameters.
Computations for sheet metal forming processes.
Tutorial session: Sheet metal forming calculations.
Bulk forming processes for metals: Applications, process parameters.
Work solutions to bulk forming processes.
Tutorial session: Bulk forming calculations (work solutions).
Review of plasticity theory for metals.
Introduction to mathematical modelling of metal forming.
Tutorial session: Mathematical modelling of metal forming.
Slip line field, upper bound approaches to bulk forming calculations.
N/C Machine tools: Comparison with manual and conventional automatics.
N/C, CNC, DNC, DDNC systems: Relative merits, configurations and hardware.
Overview of N/C programming methods: Relative merits.
Tutorial session: Manual part programming.
Introduction to computer assisted part programming languages, role of post processors.
Tutorial session: Computer assisted part programming.
Stereolithography as a rapid prototyping system.
Fused Deposition Modelling as a rapid prototyping system.
Other rapid prototyping systems.
Demonstration/tutorial: The FDM process.

Recommended readings
Kapajian, S., Manufacturing Engineering and Technology, 3rd ed., Addison-Wesley, 1995

MM495 Industrial Computing and Sensor Technology
10 credit points • 4 hours per week • Hawthorn • Assessment: Projects and examination
A Fourth year subject in the Bachelor of Engineering (Manufacturing)

Objectives
To develop the ability to:
- analyse a process control requirement
- decide and select suitable sensors for collection of data
- determine the control parameters through modern control techniques
- devise suitable control algorithms for controlling the process at hand
- use a high level language to write a program to control the process at hand

Content
Computer control theory.
Review of computer architecture and interfacing.
Theory of Modern control (state space techniques).
Introduction to digital control (matrix approach).
Professional engineering software development.
Structured high level languages, e.g. C Language.
Application to measurement, analysis and automatic control.
The aim of this subject is to develop the students’ skills in planning and executing a major individual research project in the course. At the end of the fourth year academic period, each student will be given, or allowed to select, a project to undertake during the fourth year industrial training session. At the beginning of the final semester of the course, the student may be required to give a short oral presentation of the aims, objectives and experimental method to be followed.

Recommended reading

MM500 Manufacturing Project
20 credit points • 6 hours per week • Hawthorn • Assessment: thesis and observed technique
A fifth year subject in the Bachelor of Engineering (Manufacturing)

Objectives
To allow students to integrate the knowledge and skills they have gained during the fourth year industrial training session. At the beginning of the final semester of the course, the student may be required to give a short oral presentation of the aims, objectives and experimental method to be followed.

Recommended reading

MM501 Engineering Project
16 credit points: 127 hours over 18 weeks • Hawthorn • Assessment: report, project, management, seminar
A fifth year subject in the Bachelor of Engineering (Mechanical)

Objectives
- To allow students to integrate the knowledge and skills they have gained throughout the course into a targeted engineering investigation with the aim of producing a substantial report and, if appropriate, usable equipment;
- To develop individual initiative in pursuing an engineering objective;
- To plan and manage, in conjunction with a staff member, the progress of an engineering project.

Content
Topics are selected by students from a list prepared by academic staff or students may suggest their own topic based on an individual's interest or industrial experience. Projects may be university based or industry based. The project may take various forms in which technology, research and development, experimental work, computer analysis, industry liaison and business acumen vary in relative significance.

Recommended reading

MM509 Engineering Mathematics
4 credit points • 2 hours per week • Hawthorn • Assessment: tutorial assignments, practical work and examination
A fifth year subject in the Bachelor of Engineering (Manufacturing)

Objectives
To round off the student's knowledge of mathematical methods required by practising engineers and to place these methods in perspective through a study of different mathematics structures used in the mathematical modelling of engineering systems.

Content

Recommended reading

MM510 Combined Heat and Mass Transfer
10 credit points • 5 hours per week (65 hours) • Hawthorn • Assessment: examination, assignments and practical work
A fifth year subject in the Bachelor of Engineering (Manufacturing - Chemical Stream)

Objectives
To acquaint the student with the responsibilities of the professional chemical engineer and some of the issues that may be confronted.

Content
Industrial applications of heat and momentum transfer. Diffusional operations drying, crystallization, water cooling and humidification. Single and multi-effect evaporator systems; thermal and mechanical recompression. Operation, control and economics of evaporation systems.

Recommended reading

MM511 Chemical Engineering Design
9 credit points • 5 hours per week (65 hours) • Hawthorn • Assessment: examination, assignments and practical work
A fifth year subject in the Bachelor of Engineering (Manufacturing - Chemical Stream)

Objectives
To acquaint the student with the responsibilities of the professional chemical engineer and some of the issues that may be confronted.

Content
A separate segment seeks to consolidate the student's previous work in computer programming by applying it to problems relevant to his/her future career. The syllabus covers aspects of chemical plant design formulating the design; the design procedure; flow sheets and their use in design work; safety and health considerations; economic aspects; plant layout. Computer aided design the use of software packages for flowsheeting, flowsheet preparation and layout; exercises in preparation of computer solutions to problems in momentum, heat and mass transfer.

Recommended reading

MM520 Engineering Science
8 credit points • 4 hours per week • Hawthorn • Assessment: examination, assignments and report
A fifth year subject in the Bachelor of Engineering (Mechanical)

Objectives
This subject aims to provide students with an opportunity to pursue a number of engineering science areas in depth. Students must select two subjects from the selection below. The subjects within this group offer advanced studies in engineering science. The subjects offered each year are subject to demand and availability of staff.

Fluid Mechanics

Objectives
The syllabus includes three topics selected from: turbulence theory equations of continuity and motion for turbulent flows, equations of motion for an ideal fluid, boundary layer theory. Laminar and turbulent, Rayleigh's number. Fluids number flows; steady laminar flow in pipes and between parallel plates; measurement of viscosity; fundamentals of the theory of hydrodynamic lubrication, two-phase flows; slugs and particle/carry gas flows. Measurement techniques in simple and two phase flows.

Recommended reading

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Energy Systems

Content
The syllabus contains three topics, two of which are supported by laboratory work. Numerical methods in heat transfer and energy systems. Heat transfer numerical methods applied to multi-dimensional unsteady conduction with boundary condition and radiation and extended surfaces. One topic selected from heat and mass transfer in direct contact processes, turbocharged internal combustion engines, available energy and direct energy conversion.

Recommended reading

Vibration and Modal Analysis

Content
The subject includes advanced topics in the theoretical and experimental analysis of vibration in machines and structures. Random vibration; statistical modelling and measurement. Spectral analysis, analogue and digital methods, filtering, band width, averaging time and error analysis. Response of linear systems to random forcing. Modal analysis; experimental evaluation of modal data, system identification and modification to meet design specification. Finite element methods, applications packages.

Recommended reading

Control Engineering

Content
This subject includes advanced topics in the analysis and design of engineering control systems. Topics will be offered from the following list: Design and compensation of control systems. Non-linear system analysis by describing functions. Application of state-space methods. Stochastic control processes. Optimal and adaptive control systems.

Recommended reading

Machine Systems and Simulation

Content
The subject includes advanced application in the analysis, synthesis and design of machines and mechanisms. Topics are selected from the following list: Synthesis of mechanisms and linkages. Kinematics and kinesics of spatial mechanisms, robotic manipulators. Lubrication and wear of machines, rollers, bearings, gears and cams elastohydrodynamic lubrication of heavily loaded surfaces. Computer simulation; analogue and digital dynamic simulation of mechanisms and engine systems.

Recommended reading
Cameron, A., Basic Lubrication Theory. 3rd edn, Chichester E. Horwood, 1981

Mechanics of Machine Systems

B credit points • 4 hours per week • Hawthorn • Assessment: Examination, Assignments, reports
A fifth-year subject in the Bachelor of Engineering (Mechanical)

Objectives
Students must select two subjects from the selection offered below. The subjects within this group offer advanced studies in both the theoretical and applied aspects of machine and mechanisms. The subjects offered each year depend on demand and availability of staff.

Mechanics of Solids

Content

Recommended reading

MM540 Mechanics and Machine Systems

B credit points • 4 hours per week • Hawthorn • Assessment: Examination, Assignments, reports
A fifth-year subject in the Bachelor of Engineering (Mechanical)

Objectives
Students must select two subjects from the selection offered below. The subjects within this group offer advanced studies in both the theoretical and applied aspects of machine and mechanisms. The subjects offered each year depend on demand and availability of staff.

Mechanics of Solids

Content

Recommended reading

MM550 Design for Manufacture

B credit points • 5 hours per week • Hawthorn • Assessment: examinations, project work and examination
A subject in the Bachelor of Engineering (Manufacturing – Production Stream)

Objectives
This subject aims to provide additional knowledge of designing tools, machinery and equipment for quality production.
Content

The modules on design of machinery for production and industrial robot design provide the basis for the design and testing of machine tools and robots. Advanced mechanical design and advanced tooling design with CAD applications aim to provide bias for more detailed analysis of design problems with the aid of larger CAD/CAE systems.

Recommended reading
Encarnacao, J. and Krause, G.L. (eds), 'File Structures and Data Bases for CAD Proceedings', Amsterdam, North Holland, 1982

MM551 Engineering Technology

9 credit points • 6 hours per week • Hasseth • Assessment: Examinations, assignments, reports

A fifth year subject in the Bachelor of Engineering (Mechanical)

Objectives

To provide further studies in topic areas which will enrich the student's knowledge and understanding of engineering technology.

Students must select three subjects from the selection offered below. The subjects within this group offer advanced studies in engineering technology. The subjects offered each year depend on demand and availability of staff.

Engineering Ergonomics

Content

The syllabus covers postural strain and overuse injuries; types, origins, pathology, versus user control, causes of user anxiety. Control techniques: windows, menus, buttons, command keys.

Recommended reading

Engineering Technologies

Content


Approximate formulas for mean, variance. Operating windows and reliability.


Experimental Design: Scaling, Orthogonal arrays. Factorial designs. Multi-factor experiments. Determination of significant effects.

Multi-level experiments: Conforming, Fractional factorial.


Recommended reading
Taguchi, G., Introduction to Quality Engineering. Tokyo, Asian Productivity Organization, 1986

Equipment Life Cycle

Content

Types of equipment
Fixed and mobile equipment acquisition and procurement cycle; major equipment acquisition, minor equipment acquisition, forecasts, budgets and estimates, acquisition definition and realisation.

Design research and development
FMEA and LSA, adaptive design and off-the-shelf design options. Equipment trialling, testing and demonstration; user requirements, engineering requirements, reliability, maintainability, maintenance and logistic support requirements, trials, tests and demonstration plans and contracting for reliability.

Maintenance strategy
Types and approaches, preventive maintenance, condition monitoring, on condition maintenance, Maintenance economics and ORTL.

Integration and commissioning process
Systems management and systems effectiveness, the operational system, the maintenance sub-system, the training and documentation package, ISR and inventory stocking levels, and warrant periods.

Maintenance operations
Maintenance planning and control, work planning, resource analysis and allocation, plant inventories and records. Repair parts scaling and stores Assessment. Maintenance activities; repair and performance and condition monitoring, replace, diagnose, isolate, test, calibrate, overhaul, rebuild, rectification, downtime and equipment availability. Maintenance access and creation of maintenance windows.

Measures of maintenance effectiveness.

Configuration
Configuration control and modification. Discommissioning, disposal and system replacement.

Recommended reading
Byrt, W.J. and Masters, P.R., The Australian Manager. 2nd edn, Melbourne, Macmillan, 1982

Occupational Risk

Content

Occupational hygiene: methods and limitations of sampling and measurement of contaminants, control aspects of occupational hygiene.

Toxicology: routes of entry, dose-response relationships, threshold limit values and other measures applied to chemicals, noise, vibration and radiation.

Chemical hazards and effects: solvents, dusts, welding fumes, heavy metals,

Radiation: ionising and non-ionising, uses and applications, damage-risk criteria, control methods.

Biological hazards: Legionaire's disease, zoonoses, AIDS, bacterial infection, principals and control.

Engineering risk control for external energy sources mobility of energy source and recipient, passive and active control, organisational requirements for control.

Engineering risk control for internal energy sources principals or organisational and technical controls.

Application of event synthesis techniques machines, processes.

Swinburne University of Technology | 1998 Handbook
Fire and explosion: principles and practices, ignition sources, fuels, fire testing, computations, detection and control, codes of practice.

**Recommended reading**

**Technology Modelling**

**Content**
- The modelling process needs: Objectives, understanding phenomena, literature, systems and subsystems, refinement, verification and communication; modelling materials: fundamental physical laws, constitutive relations, equations of engineering science, derived formulae, constraints, sources.
- Building techniques: Objectives, failure models, system diagrams; decomposing into subsystems; parameter bookkeeping; assembling the system and dimensional reasoning.
- Refinement techniques: aesthetic; dimension checking; comparing magnitudes; analyzing sensitivity and verifying results.
- Modelling techniques in thermo-fluids engineering theoretical and experimental; predictive; computational; experimental methods; dimensional analysis and similarity; engineering decisions in modelling and power plants, boiler design and hydraulic plants.

**Recommended reading**

**MM570 Manufacturing Technology**

- **Credit points**: 5 hours per week
- **Hawthorn**

**Objectives**
- To complete the work commenced in MM472. In the plasticity section emphasis is placed on the analysis of hot working techniques and on load bounding methods.

**Content**
- The automation section emphasises the techniques applied in automation and the use of industrial robots and the plastics and rubber sections completes the development of these techniques.
- The metal forming section emphasises on load bounding methods.

**References**

**MM580 Management Practices**

- **Credit points**: 3 hours per week
- **Hawthorn**

**Objectives**
- To address the key issues for managing productive and innovative engineering environments and to provide further elective study in management practice areas of prime student interest.

**Content**
- This subject includes managerial concepts and practices that engender a cooperative working environment required for "World Class" productive and innovative engineering. It consists of a compulsory core in which the key elements for managing productive and innovative typically that associated with research and development environments are studied. Students then select an elective from one of the following: Engineering leadership; project management; research and development management; risk management; occupational health and safety management; maintenance management; informatics management; production management.
- Elements of a productive environment: the working environment; factors contributing to work performance, structures of control, alternative social relations of production, managerial goals and organisational structure; impact of technology on work, social environment, occupational health and safety. The engineering environment; optimisation of a system of technology and people for maximising the desired engineering outcomes; new applications of technology, socio-technical systems analysis for specification, selection and implementation of total technical and working environment requirements.
- Job design to sustain cooperative and productive engineering environment: perspectives of the labour process and factors contributing to the design of jobs, needs and policies in the recruitment and selection of achievers, socio-technical analysis and design of optimum engineering system and people combinations.
- Elements of an innovative environment: relationship between work design and engineering innovation; flexible specialisation. Managing change; understanding the psychology of change, specifying, designing, planning, negotiating and implementing change. Managing innovation; social dimensions of creativity, invention and technology, technological diffusion and economic analysis of innovation.

**Recommended reading**
MM581 Manufacturing Systems Modelling

4 credit points • 2 hours per week • Hawthorn
• Assessment: assignment, projects and exam
A fifth year subject in the Bachelor of Engineering (Manufacturing)

Objectives
To introduce modelling concepts, techniques and solutions applied to manufacturing systems as tools in identification, structuring and analysis of problems leading to real decision making.

Content
The syllabus covers modelling concept, classifications; optimisation models, simulation modelling: concept, benefits applications, languages, packages; introduction to and applications of a commercial simulation package (simfactory); statistical analysis, reliability modelling.

Recommended reading
Carey, A., Simulation of Manufacturing Systems, John Willey & Sons, 1988
Neelamkavil, F., Computer Simulation & Modelling. Chichester, Willey, 1987

MM582 World Class Manufacturing Systems

4 credit points • 2 hours per week • Hawthorn • Assessment: project work or assignment, exam
A fifth year subject in the Bachelor of Engineering (Manufacturing)

Objectives
To give the student an understanding of the current trends in manufacturing via thorough investigation of Content, relevance and interrelationships of JIT, TQC, quality circles, maintenance, reliability. Discussions to be supported by video and seminars.

Content
Theory and management style resembling the Japanese approach towards management, productivity through employee involvement, trust and respect for the individual, impact control.

VAM concept/philosophy, definitions, planning, implementation.

JIT concept, elements/levels, comparison with traditional method, requirements, training, government participation.

TQC concept, management improvement, employee attitude, environmental implementation.

Quality circles: people’s participation in problem solving, management attitudes, scope of problem, levels of circle, training, approaches, examples.

Recommended reading
Innovations in Management The Japanese Corporation. IE, 1985

MM583 Industrial Management

4 credit points • 4 hours per week • Hawthorn • Assessment: assignments and examination
A subject in the Bachelor of Engineering (Manufacturing)

Objectives
To provide knowledge of contemporary management principles and practices by presenting specific material which builds upon the subject matter presented earlier in the course; a further aim is to assist the effectiveness of graduates in supervisory roles in industry. Appropriate computer packages to be used to solve problems.

Content
Topics covered include business strategy, setting of Objectives, theories and practice; supervision and leadership, motivation, financial, payment systems, management development, quality management and personnel appraisal, legal.

Recommended reading
Skinner, W., Manufacturing the Formidable Competitive Weapon. New York, Willey, 1985

MM638 Advanced Energy Systems

12.5 credit points • 4 hours per week • Hawthorn • Assessment: Project 50% and examination 50%
This is a subject in Graduate Certificate, Graduate Diploma and Masters in Modelling and Process Analysis

Objectives
To provide the students with the opportunity to learn the fundamental governing equations and their applications in industrial environments.

To provide an opportunity to apply these techniques to several real life case such as turbo machinery, power stations and air conditioning and ventilation.

To develop the interaction between technology and management in energy related fields.

Content
After completing this subject, students should have a good understanding of:

• The continuity, energy momentum equations
• Laminar and turbulent flows
• Boundary layers
• Compressible flow around a body
• Unsteady flow
• Turbomachinery
• Machine-network interaction
• Ventilation
• Energy in buildings, energy management, coverage, recovery
• Heat and mass transfer

Reference
Inmie, SW, Compressible Fluid Flow, Butterworths, 1973

MM639 Introduction to Programming for Engineers & Virtual Reality

12.5 credit points • 4 hours per week • Hawthorn • Assessment: Project 50% and examination 50%
This is a subject in Graduate Certificate, Graduate Diploma and Masters in Modelling and Process Analysis

Objectives
To provide the students with the opportunity to learn the fundamental of scientific and engineering programming and an introduction to virtual reality.

To provide the students with a minimum level of competency using these techniques.

To provide an opportunity to apply these techniques to several real life case studies.

Content
After completing this subject, students should have a good understanding of:

Basic C: the basics of C programming

Printers: Explanation of address manipulation in C,

Structures: the basic construct of data groups and how to construct them for engineering applications

Functions: designing functions for engineering applications

Structured programming: layout of scientific programs,

Numerical techniques: a discussion of numerical algorithms and their implementation in C.

Arrays: concrete arrays, concrete array references, concrete array projections, interfaced arrays, projections of interfaced arrays, iterators.

Dynamic arrays: The creation, management and use of dynamic array types

Virtual reality: An introduction into the world of virtual reality.

Reference
An Introductory Course in Engineering C Programming. Potchefstroom University, 1990
Bedd, T.A., Classic Data Structures in C++, Addison-Wesley, 1984
Sedgewick, R., Algorithms in C++, Addison-Wesley, 1994
Buzzi-Ferraris, G., Scientific C++, Addison-Wesley 1993
MM640 Introduction to Numerical Modelling 
Computing for Engineers 

12.5 credit points • 4 hours per week • Hawthorn • Assessment: projects 50% and examination 50%

This is a subject in Graduate Certificate, Graduate Diploma and Masters in Modelling and Process Analysis

Objectives
- To provide students with the opportunity to learn the fundamental of Numerical Analysis.
- To enable students to gain an understanding of the basis of computational fluid dynamics and introduce advanced CFD methods.
- Introduction to Technology modelling and techniques.

Content
Computational Fluid Dynamics
- Introduction to CFD and Numerical Analysis
- Applications: Available methods, Governing equations, Continuity, Momentum, Energy Equation, General Convection-Diffusion equation, Discretization, error analysis, stability.

Finite Volume Method
- Grid systems, rectangular, axi-symmetric, body fitted, colocated & staggered.
- Solution of governing equations. Pressure correction, SIMPLE., Rhie-Chow.

Advanced CFD Techniques

Technology Modelling
- Fundamentals of physical modelling and diagnostics
- Modelling techniques in thermofluid engineering
- Engineering modelling and decision

Recommended reading

MM642 Manufacturing Management Systems 

12.5 Credit Points • One semester; four hours per week • Hawthorn • Prerequisites: Nil • Assessment: examination, project, assignments

This is a subject in the Master of Business Administration

Objectives
To provide a thorough coverage of the essential activities and their interrelationships in development of operational systems particularly in manufacturing, and the management approaches developed to best utilise these systems in the competitive global market.

Content
Review of operations management
- Evaluation of management and its principles, trends in operations management (business and industry), automation and computerisation, integration, market forces, competition, customer orientation, engineering administration.

Technology
- Understanding technology: technical vs. business vision; technological forecasting; effects on organisation; chaos, installation and implementation of technology; measuring success; financial aspects and impacts; design and management of innovation systems; creativity and rewards; traditional and modern technologies and their application areas; product and process design, CAO, CAD.

Maintenance Management
- Operations and maintenance; preventative, predictive, total productive maintenance, computerised systems.

Manufacturing Management Systems
- Just in Time (JIT) production philosophy, principles, techniques, mixed flow models, cellular production, lead time reduction, Kanban systems.
- Manufacturing Resource Planning (MRP II), MRP, capacity considerations, bill of material, inventory status files, mechanism, changes, reports, simulation, other peripherals, process units, proven path for implementation.
- Optimised Production Technology (OPT), Philosophy, bottlenecks, principles, developments
- Operations Planning and Scheduling as applied to variety of scenarios.

Recommended reading
MM646 Advanced Experimental Modelling Techniques
12.5 credit points • 2 hours per week • Hawthorn • Assessment: examination 100%

This is a subject in Graduate Diploma and Masters in Modelling and Process Analysis

Objectives
- To provide students with the opportunity to learn the fundamentals of experimental methods and techniques in Science and Engineering.
- To enable students to design and conduct experiments on their own.
- To provide an opportunity to apply these techniques to several real life case studies.
- To provide the students with the opportunity to learn the fundamentals of scale modelling and dimensional analysis in Science and Engineering.

Content
- Design of experiments: fundamental requirements
- Electronics for experimentation and research
- Laboratory experiments: velocity, pressure, temperature
- LDA: lasers and fundamental aspects of LDA, Hot-wire and LDA
- Flow visualization: visualisation in LDA
- FIV: Particle Image Velocimetry
- PDA: Particle Dynamic Analyser
- Principles and design of scale models: fundamental requirements, primary and secondary scale factors, representative quantities and Pi numbers, the law approach, principal and common Pi numbers, equation and parameter approach, pilot and production experiments, representation of test results.
- Recognition of design requirements: identifying essential laws, disregarding weak laws, circumventing strong laws
- Case studies: dynamic response of structures, cavitation at missile entry into water, sedimentation, urban air pollution, soil-machines interactions, equilibrium temperature of a large tyre, forest burning fires, architectural acoustics, induction furnace.

Recommended reading
Short Course on experimental diagnostic techniques in Thermo-Fluids Engineering, Swinburne University of Technology, 1991.

MM647 Numerical Analysis with Engineering Applications
12.5 credit points • 2 hours per week • Hawthorn • Assessment: projects 100%

This is a subject in Graduate Diploma and Masters in Modelling and Process Analysis

Objectives
- To provide students with a good understanding of the numerical analysis of practical engineering problems.
- To provide an overview of the evolution of Industrial Engineering as an effective and dynamic discipline, the tools, techniques and their applications; role of IEs and their impact on productivity of organisations; future trends.

Content
- Traditional and Modern IEs
  - Review, evolution of concepts, review of major schools of thought and their consequences: Trends in manufacturing and business, effect of technology change, computerisation, environmental issues, competition; role of IEs in organisations; team building and facilitation; international activities.
- Methods Engineering and Work Measurement
  - Process analysis, data collection, measuring process efficiency, waste, process improvement, training, standardisation; cellular approach in non-manufacturing fields, standardisation.
  - Concepts; human factors; techniques; computer based systems.
- Environmental factors
  - Health and safety issues and applications; occupational health regulations; hazardous materials and activities, fire protection, training people; establishing systems; work place conditions and standards, ergonomics, risk analysis.
- Cost estimation
  - Sources, cost modelling; accounting; statistical and mathematical methods in cost estimation; one of a kind product costing; project costing; financial analysis.
- Forecasting
  - Concepts, types, techniques for casual models and time series analysis; Box Jenkins approach.
- Scheduling
  - Types, modelling, measuring effectiveness, examples from personnel, shop floor, etc.
- Project management
  - Nature of projects; phases of team building, preparation, scheduling, control and closing.

Recommended reading

MM648 Project
50 credit points • 12 hours per week • Hawthorn • Assessment: Self directed work under supervisor's guidance, Continuous assessment through progress reports (40%), final report (55%) and oral presentation (5%)

This is a subject in Masters in Modelling and Process Analysis

Objectives
- To provide students with the opportunity to apply knowledge gained from subjects taught on the course in solving engineering based problems in the area of modelling and process analysis relevant to industry.

Content
- Students will work on projects approved by the course convenor under Swinburne staff supervision. Industrial supervisors will be appointed if and when appropriate. Each project will involve an extensive literature survey and or experimental investigation.
- Wherever possible projects will be industry based and/or sponsored and directly relevant to the student’s area of interest or employment.
- The investigation work carried out on the project, results and conclusions will be presented as a written report in accordance with approved guidelines. An oral presentation of the project work to a selected audience will also be required.

MM649 Fundamentals of Industrial Engineering
12.5 Credit Points • One semester, four hours per week • Hawthorn • Prerequisite: Nil • Assessment: examination, project, assignments

This is a subject in the Master of Business Administration

Objectives
- To provide an overview of the evolution of Industrial Engineering as an effective and dynamic discipline, the tools, techniques and their applications; role of IEs and their impact on productivity of organisations; future trends.

Content
- Traditional and Modern IEs
  - Review, evolution of concepts, review of major schools of thought and their consequences: Trends in manufacturing and business, effect of technology change, computerisation, environmental issues, competition; role of IEs in organisations; team building and facilitation; international activities.
- Methods Engineering and Work Measurement
  - Process analysis, data collection, measuring process efficiency, waste, process improvement, training, standardisation; cellular approach in non-manufacturing fields, standardisation.
  - Concepts; human factors; techniques; computer based systems.
- Environmental factors
  - Health and safety issues and applications; occupational health regulations; hazardous materials and activities, fire protection, training people; establishing systems; work place conditions and standards, ergonomics, risk analysis.
- Cost estimation
  - Sources, cost modelling; accounting; statistical and mathematical methods in cost estimation; one of a kind product costing; project costing; financial analysis.
- Forecasting
  - Concepts, types, techniques for casual models and time series analysis; Box Jenkins approach.
- Scheduling
  - Types, modelling, measuring effectiveness, examples from personnel, shop floor, etc.
- Project management
  - Nature of projects; phases of team building, preparation, scheduling, control and closing.

Recommended reading
MM650 Quality and Productivity

12.5 Credit Points • One semester, two hours per week • Hawthorn • Prerequisites: Nil • Assessment: examination, project, assignment

This is a subject in the Master of Business Administration

Objectives

To provide a thorough understanding of the meaning, measurement and management of productivity and quality issues and ways of improving, establishing implementation and standardisation.

Content

Productivity

Concepts, definition, history; impact on management; employees; structure; customer supplies models; teams; culture; productivity indices.

Basic approaches, 5Ss; 20 kaya model; small group activities.

Performance measurement, systematic approaches, models, types of measures, key performance measures (KPM), tools and implementations.

Visual Control, visual systems designs, development and implementation.

Mathematical models for productivity measures: data envelopment analysis.

Benchmarking concepts, approaches, sources of data, government assistance; best practice.

Quality

Understanding quality; cost of quality; internal/external customers; impact on culture, organisational views; training.

The path; gurus and their views; total employee involvement; chain of customers; customer focus; work place culture.

TQM planning and implementation issues in detail; management role; costs; plans; recognition; awards.

Statistical Quality Control, concept of variation; measuring variation; control charts.

Quality systems, history of standards; needs; ISO 9000, AS 3900 avails concepts, structure, meaning; full implementation plan; review and auditing.

Recommended reading


MM655 Decision Analysis

12.5 Credit Points • One semester, two hours per week • Hawthorn • Prerequisites: Nil • Assessment: assignments, examination, project

This is a subject in the Master of Business Administration

Objectives

To introduce the decision making process and techniques used to model variety of decision scenarios of quantitative and qualitative nature and to apply them to real industry based engineering problems using appropriate software packages.

Content

Concepts

Nature, complexity, trends and developments in the decision making process.

Cash flow modelling

NPV, IRR and other evaluation methods.

Uncertainty

Nature and its measurement by probability and utility functions.

Uncertainty and qualitative decision methods and applications; decision trees, influence diagrams, computer based systems.

Subjective factors

Safety, government regulations, environmental aspects, modelling approaches, Analytic Hierarchy Process (AHP), goal programming.

Investment problems

Share market; Portfolio analysis.

Group decisions

Managerial and corporate level group decisions, tools and techniques.

Decision Support Systems

Concepts, packages, programming environments, cases.

Case studies

Several case studies and projects will be discussed and conducted.

Recommended reading


MM656 Systems Optimisation and Reliability

12.5 Credit Points • One semester, four hours per week • Hawthorn • Prerequisites: equivalent of three years engineering mathematics • Assessment: assignments, examination, project

This is a subject in the Master of Business Administration

Objectives

To provide knowledge and skill in modelling and optimisation of physical/conceptual systems and ways of assessing and improving the reliability of systems.

Recommended reading

Content

Modelling
System view, methodology, types (data modelling, DFD), structural models, temporal models; Mathematical models, types, complexities; formulation; validation; solution; implementation; Solution spaces, overview of algorithms, types and complexities.

Statistical and Mathematical Models
Review of statistics; estimation and test of hypothesis; regression; design of experiments; variance analysis; fuzzy logic and applications; Neural Networks and applications.

Deterministic Model
Nature, type; linear models, cases in several areas; solution by computer; integer models; non-linear models; optimality conditions; solution approaches (analytical, numerical approaches, modern approaches, search methods).

Probabilistic Models
Review of probability theory; queuing model; Markov chain models; general stochastic models; renewal theory.

Reliability
Data modelling; component reliability; system reliability; reliability analysis and application in design and maintenance; reliability centred maintenance; models and approaches to reliability, failure mode effect analysis (FMEA); replacement analysis.

Recommended reading

MM657 Computing for Industrial Engineers
12.5 Credit Points • One semester, two hours per week • Hawthorn • Prerequisites: Nil • Assessment: assignments, examination, project
This is a subject in the Master of Business Administration

Objectives
To provide knowledge in simple to integrated computing tools, useful for conduct of IE functions, and to provide systematic approaches to analysis, design and development of computer based information systems, networking.

Content
Needs for computing in IE
Survey of computer software and applications, including spread sheets, engineering, managerial, mathematical and statistical packages; computer programming languages and paradigms, graphical and developmental environments, costs and productivity.

System analysis and design
Steps, tools and technologies; strategic modelling, design and analysis approaches and tools, costing and management of projects.

Database technology
Overview, modelling approaches, relational data bases, object oriented data bases, software packages.

Computer systems
Hardware technology, choice of systems, maintenance.

Interfacing and networking
Concepts, methods, PLC and CNC programming and interfacing, sensors, types of networks and their suitability, cost, implementation.

Information systems
Review of need for information sharing and some management information systems such as inventory, tools and engineering data.

Recommended reading
Manuals for Excel and other packages.

MM658 Design of Physical Facilities
12.5 Credit Points • One semester, four hours per week • Hawthorn • Prerequisites: Nil • Assessment: assignments, examination, project
This is a subject in the Master of Business Administration

Objectives
To provide knowledge in design and implementation of logistic issues including material handling, warehouses, distribution systems, layout design, services and utilities, procurement.

Content
Facilities Design
Understanding concepts; location problem and models; cells, structure, benefits, group technology and cell formation for operations (manufacturing and business focus); data and algorithms, software. Nature of layout problem; effects on operations and productivity; review and comparison of different approaches; mathematical models and computer routines; complexity of integration.

Material Handling Systems
Overview of material handling systems; manual, mechanical, and automated systems; automated guided vehicles (AGVs); conveyors; robots; buffers; feasibility, suitability and economic considerations.

Warehousing
Nature of inventory; cost; inventory models; warehouse operations; warehouse automation; automated storage and retrieval systems (AS/RS); warehouse information systems, integration with the rest of the company.

Distribution Systems
Internal systems; external systems; procurement; supplier management; information systems; fleet management; customer service and support.

Packaging
Types, specifications, physical considerations, regulations, marketing and financial aspects, methods, equipment, palletising, computerisation.

Recommended reading
Sheth, INITIAL Facility Planning and Material Handling, PUBLISHER 1995.

MM660 Project
50 Credit Points • One semester, twelve hours per week • Hawthorn • Prerequisites: Nil • Assessment: progress reports, final report, oral presentation
This is a subject in the Master of Business Administration

Objectives
To provide students with the opportunity to apply knowledge gained from subjects taught on the course in solving robotic and automation related problems relevant to industry.

Content
Students will work, under Swinburne staff supervision, on projects approved by the course convener. Industrial supervisors will be appointed when required. Each project will involve an extensive literature survey and theoretical and/or experimental investigation. Wherever possible projects will be industry-based and/or sponsored, and directly relevant to the student's area of interest or employment. The investigative work carried out on the project, results and conclusions will be presented as a written report in accordance with approved guidelines. An oral presentation of the project work (to a selected audience) will also be required.

Recommended reading
As appropriate to be prescribed by project supervisor.
**MM661 Project**

50 credit points • 12 hours per week • Hawthorn • Assessment: progress report and presentation

A subject in the Master of Engineering (Computer Integrated Manufacture).

**Objectives**

To provide the opportunity to apply the subject matter studied in other courses to the solution of CIM related problems in his/her specific field of interest.

**Content**

Work on approved projects under Swinburne supervision. External supervisors, where possible, may also be appointed. Each project will require a literature survey, and a theoretical and/or experimental investigation.

If possible the projects should be industry sponsored and have direct relevance to the student’s area of employment. The investigated work, results and conclusions will be presented in a written report in accordance with the approved guidelines. Oral presentations to selected audience will also be required.

**MM662 Computer Aided Design**

12.5 credit points • 4 hours per week • Hawthorn • Assessment: assignments, projects and examination

A subject in the Master of Engineering (CIM) and the Graduate Diploma (CIM) and the Graduate Certificate (CAD/CAM).

**Objectives**

To provide students with the opportunity to learn the fundamental of CAD. To provide a degree of competency in using a CAD system. To enable to work on a realistic CAD project.

**Content**

**CAD Hardware and Software**


**Graphic Elements and Transformation Systems**

- The design process and the role of CAD. 2D and 3D graphic elements: points, lines, curves, shapes, shapes, mirror image, symbol libraries, parametric design, Windowing and clipping, 2D and 3D translation, rotation, scaling, matrices and applications. Hiddenline algorithms. Mass property algorithms. Shading.

**Geometric Modelling**


**Hands on Advanced 3D Modelling System**

- Hands on wireframe, surface and solid modelling techniques. Concept of CAD/CAM. Projects on geometric modelling.

**Recommended reading**


**MM663 Manufacturing Management Systems**

12.5 credit points • 4 hours per week • Hawthorn • Assessment: assignments, projects and examination

A subject in the Master of Engineering (CIM) and the Graduate Diploma (CIM) and the Graduate Certificate (CAD/CAM).

**Objectives**

An overview of the major approaches including: Traditional, MRP II, JIT, OPT, FMS, CIM, TQM, Fractal systems and Agile competition.

**Manufacturing Management Systems**


**Management of Technology**


**Productivity and Quality Issues**

- Productivity (Measurement, management and improvement (including SMED...), Quality concepts (Gurus), Quality control techniques, ISO 9000, TQM.

**Decision Making in Manufacturing**

- Decision support systems, various approaches and techniques in handling single criterion decisions (cash flow), effect of uncertainty, subjective (AHP) and mathematical models.

**Reliability and Maintenance Management**

- Reliability concepts, models and approaches (Failure Mode Analysis, Reliability concepts, models and approaches (Failure Mode Analysis...). Maintenance concepts, trends (breakdown, preventative, productive (TPM), Computerised maintenance.

**Recommended reading**


**MM664 Advanced Robotics**

12.5 credit points • 2 hours per week • Hawthorn • Assessment: assignments & examination

A subject in the Master of Engineering (CIM & Robotics and Automation) and the Graduate Diploma (CIM & Robotics and Automation) and the Graduate Certificate (CAD/CAM & Robotics and Automation).

**Objectives**

To provide students with an understanding of the design, operation and control of robots.

**Content**

**Low Cost Automation**

- Logic circuit design, pneumatic and electro-pneumatic circuit design, programmable logic controller (PLC) based circuit design.

**Introduction to Robotics**

- Definitions, classifications, characteristics.

**Mechanical Design of Manipulators**

- Gears, linkages, belt drives, v-belts, harmonic drives, hydraulic drives.

**Robot Arm Kinematics**

- Direct Kinematic problem, inverse kinematic problem, trajectory planning.

**Robot Dynamics**

- Static/dynamic forces, Lagrangian-Euler formulation, generalised equations of motion.

**Mobile Robots**

- Kinematic modelling of wheeled robots, models of walking, navigation.

**Service and Medical Robots**

- Introduction, sensing and control requirements, future directions.

**Tele-operation and Robotics**

- Classification of tele-operator systems, tele-operation with open loop control.

**Recommended reading**

MM665 Numerical Control Systems
12.5 credit points • 2 hours per week • Hawthorn • Assessment: project work and examination
A subject in the Master of Engineering (CIM) and the Graduate Diploma (CIM) and the Graduate Certificate (CAD/CAM).

Objectives
To provide a sound appreciation of the nature, operation, programming and application of Numerical Control - both as a particular mode of control in manufacturing, and in terms of its relationship with other approaches to automation including FMS and rapid product development.

Content
N.C. Systems
The nature of Numerical Control, its relationship to other forms of automation, distinction between generic NC, CNC, DNC, ODNC. Components and characteristics of devices operated under NC which set them apart from other systems - structure of NC controls, motors and feedback devices. NC machine tools, modern features and development trends.

N.C. Programming Methods
Characteristics, relative advantages and limitations of the various approaches to NC part programming (manual, computer-assisted, interactive-graphics, CAD/NC). Programming for families of parts and parametric programming.

N.C. Applications
Appropriate application areas, flexibility and the context in which the advantages of NC can be exploited in relation to manual or conventional automation systems.

Flexible Manufacturing Systems

Rapid Product Development

Recommended reading

MM666 Intelligent Manufacturing Systems
12.5 credit points • 2 hours per week • Hawthorn • Assessment: projects and examinations
A subject in the Master of Engineering (CIM) and the Graduate Diploma (CIM).

Objectives
To contribute to better understanding of developments and applications of intelligent manufacturing systems.

Content
Computer Aspects and Artificial Intelligence
Data base technology, networking: benefits and problems, knowledge-based systems - overview of the concepts, approaches.

Flexible Manufacturing Systems and CIM
Concept of flexibility, benefits, structures; Flexible Assembly Systems; process planning for FASs; tool management; tool storage policies, the CIM philosophy, benefits, structure, trends and problems.

Concurrent Engineering
Product development life cycle; requirements for effective concurrent engineering; plans, key linkages and information flow for CE.

Holonics Manufacturing Systems and Agile Competition

Fractal Factory
Definition. The characteristics of self-similarity, self-organisation, dynamics and vitality.

Enterprise Intergration
Concepts, protocols, trends and problems

Dynamic Scheduling
Benefits; data requirement, methods

Virtual Reality
Concepts, developments and benefits

Recommended reading

MM667 Computer Control and Sensing
12.5 credit points • 4 hours per week • Hawthorn • Assessment: project and examination
A subject in the Graduate Certificate in Robotics and Automation, Graduate Diploma (CIM & Robotics and Automation) and the Master of Engineering (CIM & Robotics and Automation).

Objectives
To provide an understanding of modern computer control and monitoring techniques, as applied to advanced manufacturing systems and examine the architecture of modern computers and the interaction between computers and sensors for industrial control and monitoring.

Content
Computer Architecture - Hardware and Software Elements
Boolean logic, basic digital circuits for control, flip-flops, counters, registers, state-machines, memory devices, programmable array logic (PAL), microprocessors, digital signal processors (DSPs), address and data bus structures, memory mapping, Microcode, machine code, assembly languages, memory management (Paging), operating systems, compilers.

Interfacing - Basic Stages in the Closed Loop
Transformation, Isolation, Protection, Conversion to and from analog voltage forms (D/A and A/D conversion), Signal Conditioning, etc.

Interfacing Elements - Analog Circuit Components
Diodes and linear diodes, BJTs and FETs, operational amplifiers, thyristors and rectifiers, analog circuit characteristics (Input and output impedance)

Interfacing Elements - Basic Transducers and Sensors (2 Hours)
Strain Gauges, thermo-couples, encoders, resolvers, limit-switches, opo-couplers, etc., selection and performance criteria

Interfacing Elements - Advanced Feedback Sensors (4 hours)
Vision, laser-scattering, acoustic emission, ultrasounds, X-ray

Computer Control Fundamentals and Advanced Topics
Revision of classical control concepts, digital control concepts, sampling, quantisation errors, etc. Control, monitoring and analysis of systems based on advanced sensor feedback - image processing and analysis techniques, image filtering, etc., Fuzzy logic control, neural network based control, etc.

Recommended reading

MM668 Expert Systems, Simulation and Modelling
12.5 credit points • 2 hours per week • Hawthorn • Assessment: assignments and examinations
A subject in the Graduate Diploma in Engineering (Computer Integrated Manufacture) and the Master of Engineering (Computer Integrated Manufacture).

Objectives
To provide an understanding of the characteristics and uses of modelling, simulation and expert systems technology particularly in relation to improving the performance of manufacturing operations.
Theory of curves and surfaces used in CAD systems, parametric representation of mechanisms and robot cells, applications, curves and surfaces, Bezier curves and surfaces, patch, NURBS, relationship to CAD, strategy, tool path generation, APT file creation, post processing, verification of part techniques, use of high level languages and CAD, examples of parametric modelling.

A subject in the Graduate Diploma in Engineering (Computer Integrated Manufacture).

Recommended reading
Englewood Cliffs, N.J., 1994
Burnett, D., programs.

MM669 Computer Modelling and FEA
12.5 credit points • 4 hours per week • Hawthorn • Assessment: assignments, project and examinations
A subject in the Graduate Diploma in Engineering (Computer Integrated Manufacture) and the Master of Engineering (Computer Integrated Manufacture).

Objectives
To provide a working knowledge of advanced computer aided design techniques, modelling, analysis and its applications.

Content
Finite element analysis
Fundamentals of FEA, 2D and 3D elements, modelling technique, mesh generation, linear and non-linear static analysis, dynamic analysis.

Parametric design
Introduction to parametric design and its applications, parametric modelling techniques, use of high level languages and CAD, examples of parametric modelling software.

Form feature design and solid modelling
Design by features, creating form features, feature extraction, libraries, applications, modelling, interference checking for assembly.

Space curves and surfaces
Theory of curves and surfaces used in CAD systems, parametric representation of curves and surfaces, Bézier curves and surfaces, patch, NURBS, relationship to CSG.

NC machining of CAD models
Steps in producing part programs from a CAD systems, modelling, machining strategy, tool path generation, APT file creation, post processing, verification of part programs.

Kinematic and robotics modelling
Elements of kinematics and robotics models, modelling techniques, modelling of mechanisms and robot cells, applications.

Recommended reading
Burke, D., Finite Element Analysis, Reading Mass., Addison-Wesley, 1987


MM756 Chemical Engineering Design 3
4 credit points • 2 hours per week • Hawthorn
• Assessment: examination
A first-year subject in the Graduate Diploma in Risk Management.

Objectives
To give students a basic understanding of the principles involved in the design of batch and continuous reactors, and to specifically study the operation of small scale batch plant as used in many Australian industries.

Content
Reactor design: a review of chemical reaction kinetics, flow kinematics of various reactor types including batch, tubular and CSTR, temperature and pressure effects on reactor performance. Adiabatic and isothermal operation. Gas and liquid phase reactions. Heterogeneous operations.

Batch processes — unsteady state operation of chemical plant with examples including batch distillation, batch drying, batch filtration, batch reactors and batch leaching and adsorption, solvent extraction, ion exchange, semibatch operation.

Recommended readings
Levenspiel, O., Introduction to Reaction Engineering.

MP107 Engineering Drawing
5 credit points • 2 hours per week • Hawthorn
A first-year subject in Bachelor of Applied Science (Environmental Health).

Content
Introduction to the technique of engineering drawing equipment, methods and standards.
Illustration of buildings, equipment, materials in drawn form including concept of scaling.
Interpretation of symbols relative to the illustration of buildings, equipment and materials.
Topics will include: dwelling construction, ventilation systems, waste disposal equipment, drains and sewers.

MP180 Construction Materials 1
3 hours per week • Hawthorn • Prerequisites: nil • Instruction: lectures, tutorials, laboratory work • Assessment: examinations 65%, assignments and lab reports 35%
This is a first-year subject in Bachelor of Technology (Building Surveying).

Content
This subject will assist students to understand the relationship between the materials and properties of building materials and the ability to apply this to the selection of materials for typical building applications. Case studies and laboratory experiments will be used to describe the relationship between performance, properties and structure of the following common building materials: metals, concrete, glasses, structures and properties of material and to be able to apply this to the selection of building materials.

Recommended reading

MP280 Construction Materials 2
3 hours per week • Hawthorn • Prerequisites: MP180 • Instruction: lectures, tutorials, laboratory work • Assessment: examinations 65%, assignments and lab reports 35%
This is a second-year subject in Bachelor of Technology (Building Surveying).

Content
The aim of this subject is to develop and extend students knowledge of the properties and behaviour of materials relevant to building applications. This subject will give
detailed treatment of metals with particular reference to steel and aluminium.

Processes for forming, strengthening, heat treatment, joining and modes of failure will be examined.

**Recommended reading**

**MP286 Building Materials 2**
4 hours per week • Hawthorn • Assessment: assignment and examination

**Objective**
To extend students’ knowledge of material behaviour relevant to building construction.

**Content**
Detailed treatment of behaviour of selected materials used in building steels, high strength weldable steels, aluminium alloys, plastics and rubbers used for cladding and pipe systems.

Joining methods principles of behaviour of the different joining systems including welding, adhesive bonding, soldering, brazing, mechanical fasteners, comparative costs of various joining methods.

For references and recommended reading see MP183.

**MP711 Mass Transfer**
9 credit points • 4 hours per week • Hawthorn • Assessment: laboratory work, assignment and examination

**Objectives**
To provide the student with an insight into the theory, and physical reality of diffusional mass transfer.

**Content**
Mass transfer theory Fick’s Law of diffusion; steady state diffusion in single-phase systems; multicomponent and transient diffusion; determination of diffusion coefficients.

Convective mass transfer; mass transfer coefficients; interphase mass transfer. Theory and design of continuous differential contractors; mass transfer with chemical reactions; mass, heat and momentum transfer analogies. Gas absorption, liquid/liquid extraction.

**Recommended reading**

**MP712 Unit Operations**
10 credit points • 4 hours per week • Hawthorn • Assessment: practical work and examination

**Objectives**
To impart understanding of physical phenomena involving particles, and the importance of these in chemical manufacturing.

**Content**
Fluid/particle systems hydraulic classification, hindered settling, thickening, flow through packed beds, sand filters, fluidisation, pneumatic and hydraulic conveying, filtration and centrifuging.

Handling and transport of powders, powder mixing, crushing, grinding and screening.

**Recommended reading**

**MP713 Chemical Engineering Design 1**
8 credit points • 4 hours per week • Hawthorn
Assessment: assignments an examination

**Objectives**
To instruct students in the fundamentals of chemical engineering thermodynamic and the basic principles of mass and energy balances as a basis for further study in chemical process technology.

**Content**
Basic design techniques mass and energy balance calculations; flowsheets; stoichiometry calculations involving bypass, recycle and purge; combustion and heat engine calculations.

Chemical engineering thermodynamics physical equilibrium, bubble and dewpoint relations; phase diagrams, activity and activity coefficients, Gibbs-Duhem equation, chemical reaction equilibria, heats of reaction and mixing.

**Recommended readings**

**MP714 Stagewise Processes**
12 credit points • 5 hours per week • Hawthorn • Assessment: practical work and examination

**Objectives**
To give students a general understanding of industrial mass transfer operations, and of stagewise methods for the design of mass transfer equipment.

**Content**
Applications of mass transfer operations such as distillation, gas absorption, liquid-liquid extraction and leaching in chemical manufacturing; descriptions of the equipment in which these operations are carried out.

Behaviour of plate and packed columns; characteristics of packings; bubble cap and sieve trays, weirs and downcomers; flooding, hold-up and pressure drop; selection of optimum column diameter.

The concept of the equilibrium stage as applied to distillation, liquid-liquid extraction, leaching and other mass transfer operations. Graphical and computer-based design techniques employing this concept McCabe-Thiele, Sorel and Pinchon-Savrit methods.

**Recommended reading**

**MP715 Heat Transfer**
12 credit points • 5 hours per week • Hawthorn • Assessment: practical work and examination

**Objectives**
To provide the student with a sound approach to the design and selection of heat transfer equipment.

**Content**
Description and characteristics of shell and tube exchangers, and alternative geometries; boilers, condensers, etc. with examples of their use.


**Recommended readings**

**MP717 Industrial Processes and Pollution Control**
4 credit points • 4 hours per week • Hawthorn • Assessment: assignment and class participation

**Objectives**
To teach students the by the use of case studies and other means to scientifically assess the possible pollution outcomes of various processes.

**Content**
Use of process flow diagram. Simple process calculation stoichiometry, combustion, heat and mass balances. Disposal and dispersal of efficient stack heights, etc. Description of major industries and their problems (aluminium industry, electroplating, etc.). Major environmental issues of general concern (acid rain, atomic power, PCBs, dioxide, dumping of toxic waste).
MP719 Occupational Health and Safety
4 credit points • 4 hours per week • Hawthorn • Assessment: assignments and examination

Objectives
To provide a working knowledge of types of hazards encountered in the workplace and means by which these may be overcome.

Content

Toxicology toxic substance; mechanisms of action and pathogenic effects


Ionising toxicity substances; mechanisms of action and pathogenic effects (cancerogenesis, mutagenesis, teratogenesis). Routes of ingestion toxic substances including heavy metals, benzene, PCB, solvents, etc.


MP724 Chemical Engineering Design
9 credit points • 5 hours per week • Hawthorn • Assessment: practical work and examination

Objectives
To acquaint the student with the responsibilities of the professional chemical engineer and some of the issues he or she may have to confront.

To consolidate the student's previous work in chemical engineering and applying it to problems relevant to his or her future career.

Content
Computer-aided design the use of software packages for flowsheeting, flowsheet preparation and layout; exercises in preparation of computer solutions to problems in momentum, heat and mass transfer.

Recommended reading
Ross, G., Computer Programming Examples for Chemical Engineers. Amsterdam, Elsevier, 1987

OM650 Logistics and Distribution
12.5 Credit Points • one semester, three hours per week • Hawthorn • Assessment: assignments, examination

This is a subject in the Master of Business Administration

Objectives
To provide understanding of enterprise operations management; and to evaluate the relationship between manufacturing operations and other enterprise functions and the application of technologies to aid market forecasting, research and development and production.

Content
Manufacturing Strategy

Manufacturing Organisation
The manufacturing process, manufacturing inputs and outputs, functions within a manufacturing organisation, and organisation and planning, organisation and control of the manufacturing process.

Manufacturing Systems Effectiveness
Manufacturing systems effectiveness - its measurement, management and growth, productivity and its measurement, performance indicators, benchmarking and benchmarks.

OM691 Manufacturing Operations Management
12.5 Credit Points • one semester, three hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: assignments, examination

This is a subject in the Master of Business Administration

Objectives
To provide understanding of enterprise operations management; and to evaluate the relationship between manufacturing operations and other enterprise functions and the application of technologies to aid market forecasting, research and development and production.

Content
Manufacturing Strategy

Manufacturing Organisation
The manufacturing process, manufacturing inputs and outputs, functions within a manufacturing organisation and relationships, production and maintenance functions and organisations, planning, organisation and control of the manufacturing process.

Recommended reading

OM690 Logistics Management
12.5 Credit Points • one semester, three hours per week • Hawthorn • Prerequisites: completion of core MBA subjects or equivalent • Assessment: examination, seminar, assignments

This is a subject in the Master of Business Administration

Objectives
To address contemporary issues of logistics management in both service and manufacturing industries and the challenge of integrating logistics functions.

Content
Concepts of Logistics Management
Logistics and management, drives for integration, logistics mission, elements of logistics, integrated logistics concepts.

Logistics and Quality Customer Service
Elements of customer service, the order cycle, distribution channels and their design, service logistics, establishment and evolution of integrated service logistics, strategic implications, obligation for goods and services, consumer rights, technical service and support obligations, product recall.

Supply and Distribution
Nature of transportation problems, stocking policies, balanced and unbalanced transportation problems and their solution.

Logistics Activities
Transportation, inventory management, scheduling, purchasing warehousing, packaging, materials handling, maintenance and technical services.

Logistics for Strategic Advantage
Opportunities, purchase/ manufacture decisions, inventory issues, logistics planning ant/resource considerations, supply chains, inputs and outputs, building relationships, infrastructure requirements and constraint international distribution.

Control of Integrated Logistics
Organising and development of organisational structures, information systems, logistics communications, information system definition, flow and use of logistics information, electronic commerce, strategic, quality and global issues.

Recommended reading

OM491 Manufacturing Operations Management
12.5 Credit Points • one semester, three hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: assignments, examination

This is a subject in the Master of Business Administration

Objectives
To provide understanding of enterprise operations management; and to evaluate the relationship between manufacturing operations and other enterprise functions and the application of technologies to aid market forecasting, research and development and production.

Content
Manufacturing Strategy

Manufacturing Organisation
The manufacturing process, manufacturing inputs and outputs, functions within a manufacturing organisation and relationships, production and maintenance functions and organisations, planning, organisation and control of the manufacturing process.

Manufacturing Systems Effectiveness
Manufacturing systems effectiveness - its measurement, management and growth, productivity and its measurement, performance indicators, benchmarking and benchmarks.

OM490 Logistics Management
12.5 Credit Points • one semester, three hours per week • Hawthorn • Prerequisites: completion of core MBA subjects or equivalent • Assessment: examination, seminar, assignments

This is a subject in the Master of Business Administration

Objectives
To address contemporary issues of logistics management in both service and manufacturing industries and the challenge of integrating logistics functions.

Content
Concepts of Logistics Management
Logistics and management, drives for integration, logistics mission, elements of logistics, integrated logistics concepts.
OM692 Total Quality Management

12.5 Credit Points • one semester, three hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: assignments, seminar presentation, final examination

This is a subject in the Master of Business Administration

Objectives
To introduce the concept of quality as a prime dimension of competitiveness through Total Quality Management and Continuous Improvement; and to address contemporary issues of quality management as reflected in quality assurance standards and accreditation processes, quality progression and implementation initiatives.

Content
Foundations for Quality Management
Origins of quality management in United States of America, Japan, Europe and Australia, elements of quality management and application to specific enterprises.

Essence of Quality
Definition and dimensions of quality, competing on quality, quality relationship, strategic errors with quality, quality for competitive advantage, foundations of competitiveness, matrix to ensure operational advantage, Time-Based Competitiveness, Quality and Customers and Competitors.

Quality Progression
The quality progression, converting negative to positive, corrective progression, preventive progression, cost-based progression, customer satisfaction progression.

Quality Culture and Continuous Improvement
Achieving a quality culture, quality performance, quality leadership and initiation of quality improvement initiatives, quality improvement concepts and supporting analytical and decision-making tools, building a quality improvement plan, building quality improvement teams and activities.

Recommended reading

OM693 Project Management

12.5 Credit Points • one semester, three hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: assignments, seminar presentation, final examination

This is a subject in the Master of Business Administration

Objectives
To address the requirements of project management from a management perspective specifically through the management requirements in project selection, initiation, operation and control and through the challenges presented to the project manager and the manager’s interaction with the parent organisation.

Content
Project Initiation
Projects in contemporary organisations, project selection criteria and models, the project manager and requirements, team organisation and team requirements, project planning, orientation, work breakdown structure, responsibilities and interface management, creativity, innovative thinking and idea generation, history, importance and methods for technological forecasting.

Negotiation and Conflict Resolution
Nature of conflict over the project life cycle, management strategies for conflict resolution, consultation processes for conflict resolution, compromise for conflict resolution, the nature principles, strategies and tactics of negotiation.

Project Implementation
Budgeting and cost estimation, scheduling and network analysis, part and CPM, scheduling charts, resource allocation, resource levelling, monitoring and information systems, project control systems, control processes and requirements.

Project Termination
Project auditing, the project audit and audit report, construction, the audit life cycle, evaluation and measurement, termination alternatives and processes.

Recommended reading

OM694 Risk Management

12.5 Credit Points • one semester, three hours per week • Hawthorn • Prerequisites: completion of MBA core subjects or equivalent • Assessment: assignments, seminar presentation, final examination

This is a subject in the Master of Business Administration

Objectives
To address skills required to identify and manage perceived risks to an organisation; and to address contemporary issues of risk in society and emerging issues in risk management, understand processes and techniques in risk management and appraise risk management practices.

Content
Risk Management within an Organisation
Domains of risk, nature and requirements of risk management and transfer.

Concepts and Types of Risks
Risk and work risk assessment needs, concepts, models and measurement of risk.

Risk Management Tools and Techniques
Risk decision making, risk identification and analysis tools and techniques, spreadsheet based risk analysis, risk modelling software packages.

Hazard Identification and Risk Assessment
Workplace risk assessment process (major risk areas, assessment objectives, assessment methods, outcome requirements, assessment team, types, process definition, risk assessment and presentation of findings, review and implementation).

Managing the Pre-Conditions of a Potential Risk Event
Supervisory system development, risk management administration, organisation, staffing, directing, controlling and application of egmtr to time zone.

Risk Inventories
Preparation, inventories for large installations, liabilities and asset liability registers, development of risk inventories, risk measurement, risk evaluation.

Managing the Risk Event Occurrence and Consequences
Managing time zone 2 and time zone 3.

Selling the Cost Beneﬁt of Risk Management Initiatives
Cost beneﬁt analysis and report, direct and time element losses.

Recommended reading
Extensive selected bibliography of books, papers, legislation and regulations.

SA203 Building Standards

5 Credit points • 4 hours per week • Hawthorn

This is a subject in the Bachelor of Applied Science (Environmental Health)

Content
Introduction to the elements of construction with particular emphasis on housing including timber-framed, brick veneer and cavity brick dwellings, Examination of foundations, footings, internal/external claddings, framing and roof structures, Water disposal theory with reference to vented, vented modified, single stack, single stack modified systems, Standards of installation, applications and inspection methods.
Consideration of various forms of construction practices related to concrete, steel, timber and masonry.
Relevant provisions of building and plumbing legislation, codes and standards.
Plan review technique.

SA508 Industry Based Learning

50 credit points

A six month period of employment experience occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science (Environmental Health). Students are supervised by a member of the academic staff, and are required to complete a Competency Attainment Program.
SA608 Industry Based Learning
50 credit points
A six-month period of employment experience occurring as part of the third year of the course leading to the degree of Applied Science (Environmental Health). Students are supervised by a member of the academic staff and are required to complete a Competency Attainment Program.

SC100 Environmental Health
5 credit points • 2 hours per week • Hawthorn
This is a first year subject in the Bachelor of Applied Science (Environmental Health)
Content
Historical background: a history of public health in Victoria and the impact of environmental health on the prevention of spread of disease.
Provisional role and practice of the environmental health officer in government and industry. Concepts of environmental health.
Administration: the structure and role of state and local government agencies involved in environmental health and pollution control.
Overview of appropriate legislation that the environmental health officer is required to administer.

SC108 Biology
10 credit points • 4 hours per week • Hawthorn
A first semester subject offered for first year students enrolled in the Bachelor of Applied Science (Applied Chemistry), (Biochemistry/Chemistry) and (Environmental Health)
Objectives and content
The subject introduces the cell as the basic biological unit, considers tissues as aggregates of cells with specialised functions and then proceeds to treating the following systems in some detail.
Cardiovascular system properties of blood: anatomy and physiology of the heart. Mechanical and electrical events of the cardiac cycle; cardiac output. Regulation of heart rate and blood pressure, haemostasis.
Respiratory system anatomy of the respiratory system; gas exchange and transport; control of respiration. The properties of haemoglobin.
Renal system and water balance structure of the kidney and urinary system. Basic renal processes. Regulation of extracellular volume and osmolarity.
Digestive system the arrangement and functions of the digestive system.
Muscular system types of muscle and their roles. Mechanism of contraction. Conduction in the heart.
Immune system: reticulo endothelial system. Inflammation, phagocytosis; lymphocytes, cell-mediated immunity, antibody-mediated immunity.
Nervous system the arrangement and structure of the central nervous system.
Endocrine system the arrangement and functions of the endocrine system.
Integumentary system the arrangement of the integumentary system.
Integration of body systems responses to stresses such as exercise, shock.

SC109 Biology
10 credit points • 4 hours per week • Hawthorn
This is a first year subject in the Bachelor of Applied Science (Psychology and Psychophysiology) for students who do not possess Year 12 Chemistry
Content
Elementary chemistry: structure of atom, mole concept, formulae, naming, introduction to Periodic table and simple calculations.
Writing and balancing molecular, ionic and redox equations.
Stoichiometry: calculations covering all types of chemical reactions with amounts of reactants and products expressed as mass, mole, concentration and volumes of gases. Review of gas laws and relevant calculations.
Equilibria: Quantitative and qualitative aspects of gaseous, heterogeneous, acid-base, solubility and complex-ion equilibria. Major emphasis on acid-base equilibria, buffers, properties of acids and bases, and pH measurement.
Periodicity: Covers electronic structure, periodic properties and Lewis bonding model.
Practical Work: Covers measurement and errors, a study of chemical reactions, and volumetric analyses including acid-base, redox and complexometric titrations.
A practical exam tests skills learnt during practical work.

SC127 Chemistry
10 credit points • 5 hours per week • Hawthorn
This is a first year subject in the Bachelor of Applied Science (Environmental Health) for students who do not possess Year 12 Chemistry
Content
Elementary chemistry: structure of atom, mole concept, formulae, naming, introduction to Periodic table and simple calculations.
Writing and balancing molecular, ionic and redox equations.
Stoichiometry: calculations covering all types of chemical reactions with amounts of reactants and products expressed as mass, mole, concentration and volumes of gases. Review of gas laws and relevant calculations.
Equilibria: Quantitative and qualitative aspects of gaseous, heterogeneous, acid-base, solubility and complex-ion equilibria. Major emphasis on acid-base equilibria, buffers, properties of acids and bases, and pH measurement.
Periodicity: Covers electronic structure, periodic properties and Lewis bonding model.
Practical Work: Covers measurement and errors, a study of chemical reactions, and volumetric analyses including acid-base, redox and complexometric titrations.
A practical exam tests skills learnt during practical work.

SC133 Chemistry
7.5 credit points • 3 hours per week Hawthorn
This is a first year subject in the Bachelor of Applied Science (Psychology and Psychophysiology) for students who do not possess Year 12 Chemistry
Content
Elementary chemistry: structure of atom, mole concept, formulae, naming, introduction to Periodic table and simple calculations.
Writing and balancing molecular, ionic and redox equations.
Stoichiometry: calculations covering all types of chemical reactions with amounts of reactants and products expressed as mass, mole, concentration and volumes of gases. Review of gas laws and relevant calculations.
Equilibria: Quantitative and qualitative aspects of gaseous, heterogeneous, acid-base, solubility and complex-ion equilibria. Major emphasis on acid-base equilibria, buffers, properties of acids and bases, and pH measurement.
Periodicity: Covers electronic structure, periodic properties and Lewis bonding model.
Practical Work: Covers measurement and errors, a study of chemical reactions, and volumetric analyses including acid-base, redox and complexometric titrations.
A practical exam tests skills learnt during practical work.

SC133P Chemistry
7.5 credit points • 3 hours per week Hawthorn
This is a first year subject in the Bachelor of Applied Science (Psychology and Psychophysiology) for students who do not possess Year 12 Chemistry
Content
Elementary chemistry: structure of atom, mole concept, formulae, naming, introduction to Periodic table and simple calculations.
Writing and balancing molecular, ionic and redox equations.
Stoichiometry: calculations covering all types of chemical reactions with amounts of reactants and products expressed as mass, mole, concentration and volumes of gases. Review of gas laws and relevant calculations.
Equilibria: Quantitative and qualitative aspects of gaseous, heterogeneous, acid-base, solubility and complex-ion equilibria. Major emphasis on acid-base equilibria, buffers, properties of acids and bases, and pH measurement.

SC154 Chemistry
10 credit points • 5 hours per week • Hawthorn
This is a first year subject in the Bachelor of Applied Science (Chemistry) and (Biochemistry/Chemistry).

Content
Elementary chemistry: structure of atom, mole concept, formulae, naming, introduction to Periodic table and simple calculations.
Writing and balancing molecular, ionic and redox equations.

Periodicity: Covers electronic structure, periodic properties and Lewis bonding model.
Volumetric analyses including acid-base, redox and complexometric titrations.

A practical exam tests skills learnt during practical work.

SC154P Chemistry
10 credit points • 3 hours per week • Hawthorn

Content
Elementary chemistry: structure of atom, mole concept, formulae, naming, introduction to Periodic table and simple calculations.
Writing and balancing molecular, ionic and redox equations.

Stoichiometry: calculations covering all types of chemical reactions with amounts of reactants and products expressed as mass, mole, concentration and volumes of gases. Review of gas laws and relevant calculations.
Equilibria: Quantitative and qualitative aspects of gaseous, heterogeneous, acid-base, solubility and complex-ion equilibria. Major emphasis on acid-base equilibria, buffers, properties of acids and bases, and pH measurement.
Periodicity: Covers electronic structure, periodic properties and Lewis bonding model.

Practical Work: Covers measurement and errors, a study of chemical reactions, and volumetric analyses including acid-base, redox and complexometric titrations.

A practical exam tests skills learnt during practical work.

SC173 Biology
18.6 credit points • 4 hours per week • Hawthorn
A first semester subject offered for first year students enrolled in the Bachelor of Arts program.

Objectives
The subject introduces the cell as the basic biological unit, considers tissues as aggregates of cells with specialized functions and then proceeds to treat the following systems in some detail.

Cardiovascular system: properties of blood; anatomy and physiology of the heart; Mechanical and electrical events of the cardiac cycle; cardiac output. Regulation of heart rate and blood pressure, haemostasis.

Respiratory system: anatomy of the respiratory system; gas exchange and transport; control of respiration. The properties of haemoglobin.


Digestive system: the arrangement and functions of the digestive system.

Skeletal system: calcium regulation, structure of bone.

Muscular system: types of muscle and their roles. Mechanism of contraction. Conduction in the heart.

Immune system: reticuloendothelial system. Inflammation, phagocytosis; lymphocytes, cell-mediated immunity, antibody-mediated immunity.
Nervous system: nerves and excitability; transmission, the synapse, simple reflex arc. Overview of functions and structures in the central nervous system.

Endocrine system: functions, major glands, their products and functions.

Reproductive system: anatomy, gametogenesis, contraception, pregnancy. Integration of body systems responses to stresses such as exercise, shock.

SC174 Biology
16.6 credit points • 4 hours per week • Hawthorn
A second semester subject for first year students enrolled in the Bachelor of Arts program.

Objectives
To develop insights into the cell as the basic functional unit of the biological world.
To understand the morphology of the cell and the roles of the various subcellular structures and organelles.
To develop an appreciation of the role of enzymes in the functioning of cells, and the role of biochemical pathways in effecting chemical conversions within the cell.
To develop an introductory understanding of the nature of the world of microorganisms.
To develop an introductory level understanding of the way in which DNA determines the characteristics of organisms.

Content

Basic microbiology. Elements of microbial world covering viruses, rickettsia, bacteria, algae, protozoa and fungi. Methods of growing, isolating and handling microorganisms. Microbes and pathogenicity.


Practical work covering the above topics.

Recommended reading

SC208 Cell Biology
10 credit points • 4 hours per week • Hawthorn • Instruction: lectures, laboratory work • Assessment: tests 30%, examination 70%

Objectives
To develop insights into the cell as the basic functional unit of the biological world.
To understand the morphology of the cell and the roles of the various subcellular structures and organelles.
To develop an appreciation of the role of enzymes in the functioning of cells, and the role of biochemical pathways in effecting chemical conversions within the cell.
To develop an introductory understanding of the nature of the world of microorganisms.
To develop an introductory level understanding of the way in which DNA determines the characteristics of organisms.

Content

Metabolism of fat.

Basic microbiology. Elements of microbial world covering viruses, rickettsia, bacteria, algae, protozoa and fungi. Methods of growing, isolating and handling microorganisms. Microbes and pathogenicity.


Practical work covering the above topics.
Recommended reading

SC209  Biology
10 credit points • 4 hours per week • Hawthorn
This is a first year subject in the Bachelor of Applied Science (Environmental Health)
For details see SC208 Biology.

SC252  Biological Chemistry
10 credit points • 5 hours per week • Hawthorn
• Prerequisites: SC209 Biology. • Assessment: examination/assignment/practical work.
This is a first year subject in the Bachelor of Applied Science (Environmental Health)

Objectives
• To study structure, reactions and identification of organic compounds and macro-molecules.
• To study the structure and function of important biological molecules.

Content
Organic chemistry: alkanes, alkenes, alkynes; benzene and derivatives; alcohols, aldehydes ketones, acetics, esters, others, amines, amides; IUPAC nomenclature; polymers.
Chemistry of living cells: cellular homeostasis; major organic groupings in tissues; biologically useful energy and ATP.
Protein structure and function: relation to catalysis, transport, pumping. Membrane structure and function; membrane potentials; impulse transmission. Generation of ATP: glycolytic pathway; anaerobic ATP generation; Krebs cycle; fatty acid oxidation; electron transport; oxidative phosphorylation.

Practical work:
A selection of experiments to illustrate organic and biochemical reactions.

Textbook
Bertheim and March, General, Organic and Biological Chemistry.

SC254  Chemistry
10 credit points • 4 hours per week • Hawthorn

Content
Chemical bonding:
Electronic structure of atoms; s, p, and d atomic orbitals and their shapes; energy levels; electron configuration of atom; periodic table; Lewis structures of atoms. Trends in electronic properties of elements including ionisation energy, electron affinity, electronegativity, and atomic size. Types of chemical bonding including covalent, ionic, polar, metallic. Electronic structure of molecules. Lewis structures of inorganic and organic molecules; multiple covalent bonds, formal charges, resonance, tautomerism. Molecular geometry, VSEPR theory, valence bond theory; hybridisation of atomic orbitals; an emphasis on carbon compounds. Hydrogen bonds; other intramolecular forces; effect on properties such as boiling point and solubility.

Organic chemistry:

Physical chemistry:
Measurement; errors; units; states of matter; the ideal gas law; macro and microscopic viewpoints of matter. Forms of energy: kinetic, potential, and internal energy; heat and work. Spontaneous processes; systems; state and path dependent functions; intensive and extensive properties. The first law of thermodynamics. Calculation of heat and work. Reversible processes. Special forms of the first law. Enthalpy. Processes of ideal gases. Thermochemistry; calorimetry; Hess’s law; tabulation of thermochromic data; standard states; standard enthalpy of formation; estimation of enthalpy changes from bond energy. Kinetics: definition and measurement of reaction rate; transforming the data, the infinity reading. Simp e rate law format. Differential and integrated rate laws for zero, first and special case second order reactions; half-times. Experimental determination of the rate law; initial rate and extrapolation methods. The effect of temperature on rate. Reaction mechanisms; the predicted rate law; the steady state approximation; the rate determining step method. Catalysis, introduction to free radical chain reactions.

Analytical inorganic chemistry
Acid-base equilibria; pH measurement; acid-base titrations and indicators. Redox equilibria; electrochemical cells, standard redox potentials, prediction of spontaneity, the Nernst equation, ion-sensitive electrodes, redox titrations and indicators. Complex ion equilibria; complexometric titrations and indicators. Precipitation equilibria; gravimetric analysis, precipitation titrations and indicators. End-point determination in acid-base, redox, complexometric and precipitation titrations from potentiometric and conductance measurements.

SC254P  Practical Chemistry
10 credit points • 4 hours per week • Hawthorn

Content

SC349  Microbiology
10 credit points • 4 hours per week • Hawthorn • Prerequisites: SC109, SC209
This is a second year subject in the Bachelor of Applied Science (Environmental Health)

Content
Basic microbiology: general anatomy of the bacterial cell. Structure and function of bacterial components. Bacterial nutrition and growth. Types and composition of media for growth. Special growth techniques: anaerobic, enrichment. Counting techniques as a method for measuring bacterial growth. These will also include some field techniques such as millipore filtration and MPN counts.
Sterilisation methods: a wide range of physical and chemical methods of sterilisation and disinfection will be taught. The methods will range from heat and radiation methods which are suitable for laboratories to chemicals and chlorine which are suitable for extensive waterways.
Practical work: will be conducted in conjunction with the above topics.

Recommended reading

SC353  Applied Chemistry
10 credit points • 4 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Chemistry)

Content
Inorganic reactions: a study of the major classes of inorganic reactions and associated equilibria. Application of such reactions to the separation and identification of common metal cations and anions in multi-component solutions and commercial products. This component of the course is done as practical work.
Kinetics of complex reactions: consecutive, parallel and reversible first-order reactions; non-equil initial concentrations; enzymes: kinetics; free radical and chain reactions; the internal combustion engine and air pollution; batch and flow reactions. Introduction to the chemical industry and chemical processing fluid flow; heat transfer; separation processes; process analysers; process control.

SC360  Practical Chemistry
10 credit points • 4 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Chemistry)

Content
Quantitative analysis: manual titration, colorimetry, atomic absorption, GC and HPLC.
SC370 Chemistry
10 credit points • 4 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Chemistry)

Content
Thermodynamics of formation; reaction; variations with temperature; free energy; chemical potentials; available work.

Organic chemistry aromaticity.
Chromatography general principles; column chromatography, GC, HPLC.
Spectroscopy basic instrumentation; atomic, UV/Visible and IR spectra.

SC372 Biochemistry
10 credit points • 5 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

Content
Introduction to biomolecules monosaccharides, disaccharides, polysaccharides, amino acids, polypeptides, structure of proteins, lipids, nucleotides, enzymes, coenzymes, nucleic acids.
Enzyme kinetics simple enzyme mechanisms, Michaelis-Menten kinetics, inhibition.
Catabolic pathways catabolic pathways for carbohydrate, lipid and protein.
Laboratory exercises will include quantitative spectrophotometric analysis, and enzyme assays. The program supports the theory content by illustrating biochemical structures, enzyme kinetics and metabolic pathways.
As well as practice in basic biochemistry laboratory techniques and procedures, skills emphasised by the practical program include protocol interpretation and design, and calculations and interpretation of data from quantitative analyses.

SC380 Practical Chemistry
10 credit points • 4 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

Content
Analytical techniques: volumetric analysis, analysis using an atomic absorption spectrometer, UV/Visible spectrometer, gas chromatograph and high performance liquid chromatograph.

SC390 Computers in Chemistry
7.5 credit points • 3 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Chemistry) and (Biochemistry/Chemistry)

Content
Computer jargon, external and internal computer structure, operations of hardware and software, binary and hexadecimal notation and ASCII codes.
Disc and file operation using DOS, sub-directories and DOS Shell and Windows.
Molecular Modelling using Desk-Top Molecular Modeller.
Simulation of chromatographic resolution and kinetics.

SC418 Microbiology
10 credit points • 4 hours per week • Hawthorn • Prerequisites: SC372 Biochemistry 1, SC318 Microbiology 1
This is a second year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

Content
Taxonomy and identification of the major groups of microorganisms with particular reference to those organisms associated with food poisoning and with industrial processes.
Comparison of pathogenic and non-pathogenic organisms. Basis of pathogenicity in bacteria, fungi, viruses, yeasts. Symptoms of pathogenicity in disease. Specific examples to include Enterobacteria, Staphylococcus, Streptococcus, Listeria, Campylobacter, Vibrio and Pseudomonas.
Conditions and microorganisms promoting food spoilage. Food borne diseases. Carriers and food handlers. Microbial toxins to include aflatoxins. Methods for minimising contamination.
Microbial infections in the manufacture of vinegar, cheese, sour cream, vegetables, meat products and alcohol. Acid fermentations and their preservation properties.

References:

SC451 Food Microbiology
10 Credit Points • 4 Hours • Hawthorn

Content
The role of micro-organisms in food spoilage. Conditions that promote or inhibit food spoilage. Shelf life. Water activity, pH, temperature and storage in relation to food spoilage and pathogenicity.
• Acid fermentations in manufacture of foods, eg cheese and meat products.
• Food-borne pathogens eg Bacillus, Clostridium, Staphylococcus, Streptococcus, Listeria, Campylobacter, Vibrio, Pseudomonas, Enterobacteriaceae (E. coli, Salmonella, Shigella, Serratia) and other pathogens of current interest.
• Infective dose.
• Microbial toxins
• Viral structure, replication and variations. Chemical and genetic composition.
• Food-borne viral diseases eg Hepatitis A & E, Norwalk, Enteroviruses, Rotavirus. Viruses in seawater and shellfish. Monitoring and detection.
• Minimisation of microbial contamination of food.
• Semiautomated methods of identification, eg API strips, Microbact strips etc.

SC460 Practical Chemistry
15 credit points • 7 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Chemistry)

Content
Organic techniques; syntheses, identification and characterisation of individual compounds and mixtures using chemical tests and physical measurements.

SC467 Environmental Health Practice (1)
7.5 credit points • 5 hours per week • Hawthorn
• Prerequisites: SC100 Environmental Health
This is a second year subject in the Bachelor of Applied Science (Environmental Health)

Content
Food establishment evaluation design and construction standards, hygienic practices, auditing and registration procedures. Practical application of HACCP principles, food safety plans. Cleaning and sanitisation procedures for food plant and equipment. Liquid domestic waste management and disposal. Approval procedures.

SC468 Environmental Science
10 credit points • 5 hours per week • Hawthorn • Prerequisites: SC1900, SC252, SP220. • Assessment: Examination/Practical Work
This is a first year subject in the Bachelor of Applied Science (Environmental Health)
Objectives
- To study water chemistry in terms of sources of pollutants and their effects
- To study the analysis of water for polluting potential
- To study swimming pool chemistry
- To study the chemistry of selected household products
- To study meteorology and related phenomena.

Content
Meteorology atmospheric variables, measurement of humidity, air pollution, atmospheric stability, inversion, plume behaviour, local effects.

Recommended reading

SC469 Epidemiology
7.5 credit points • 3 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Environmental Health)

Content
Overview, nature and scope of epidemiology. Nature, transmission and control of various diseases of public health importance including exotic diseases, sexually transmitted diseases, myco-bacterial and viral infections, food-borne diseases, skin contact diseases, parasitic infections and zoonotic diseases. Immunology and immunisation procedures with particular reference to Australian requirements.

SC470 Chemistry
15 credit points • 5 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Chemistry) and (Biochemistry/Chemistry)

Objectives
- To use physical properties of elements and compounds to interpret the chemical properties and structure.
- To use physical properties and the periodic table to predict the chemical and structural properties of the less well structure or unknown elements.

Content
Descriptive inorganic chemistry: Chemistry of the main group elements and their compounds. Chemistry of lanthanide elements. The emphasis is on interpretation of chemical behaviour from physical properties. The thermodynamics of formation will be studied Organic chemistry: acidity, basicity, carbonations and application to synthesis. Coordination chemistry fundamentals. Phase equilibria one and two component systems, with emphasis on practical applications.

SC472 Biochemistry
12.5 credit points • 6 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

Content
Anabolic pathways biosynthetic pathways leading to glucose, glycogen, lipid, protein, DNA. Regulation and control of metabolism control mechanisms operating at the level of the gene and at enzyme level. Examples will be drawn from fermentation pathways. Written assignments will form a major part of the subject. Laboratory exercises include protein purification and analysis, and experiments in metabolism and metabolic control. Techniques used will include thin layer chromatography, gel filtration, selective precipitation, ion exchange, gel electrophoresis, spectrophotometric and enzymatic analysis of metabolites and the use of oxygen electrode.

SC473 Applied Chemistry
12.5 credit points • 4 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Chemistry) and (Biochemistry/Chemistry)

Content
Polymer chemistry Classification of polymers. Introduction to polymerisation reactions, including industrial polymerisation processes. Characteristic properties of polymers and their measurement, including molecular weight determinations and crystallinity by X-ray spectroscopy.

Polymer coatings
Applications of protective organic surface coatings; non-convertible and convertible surface coatings, their chemistry and properties. Analysis and Identification of polymers; differential thermal analysis; gel permeation chromatography; polymer applications of infrared and NMR spectroscopy; pyrolysis gas chromatography.

Urban Ecology
Water Chemistry

SC480 Practical Chemistry
7.5 credit points • 4 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

Content
Organic techniques; syntheses, identification and characterisation of compounds using chemical tests, physical measurements.

SC490 Computers in Chemistry
7.5 credit points • 3 hours per week • Hawthorn
This is a second year subject in the Bachelor of Applied Science (Chemistry) and (Biochemistry/Chemistry)

Content
Statistical treatment of chemical data using spreadsheets errors, distributions, confidence limits, significance tests, lines and curves of best fit, quality control charts. Internet communications. Exercises using the Acid-Base package.

SC504 Human Biochemistry
4 credit points • 2 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

Content
Control mechanisms operating in living organisms. Steroid and trophic hormone effects. Their target tissues and activities at the enzyme and nucleic acid levels. Also includes amplification of signals through receptors, types of receptors and synthetic analogues modifying the signals. Abnormal hormone patterns and their relationship to disease processes. The role of chemical analysis in the treatment and diagnosis of disease. The chemistry of muscle and exercise. Exercise, energy and respiration. Abnormal patterns of carbohydrate utilisation. Diabetes.

SC508 Industry Based Learning
50 credit points
A six-month period of employment experience occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science Biochemistry/Chemistry and Chemistry. Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor.

SC509 Research Skills
7.5 credit points • 2 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Environmental Health)

Content
Students are introduced to research methods, both quantitative and qualitative, in preparation for a major research project.
SC553 Applied Chemistry
12.5 credit points • 7 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry)

Content
Applied Organic Chemistry
Organic synthesis general principles. Reagents. Planning and design of syntheses. Practical aspects and synthetic techniques. Industrial versus academic syntheses.

Computer-aided syntheses.
Photochemistry free radicals and their reactions; photochemical reactions; industrial photochemistry.

Polymer Chemistry
Polymer coatings applications of protective organic surface coatings; non-convertible and convertible surface coatings, their chemistry and properties.

Colloid and Electrochemistry
Colloid chemistry origin of the electrical double layer; potentials at interfaces; potential determination, ionic and ionic adsorption; description of the electrical double layer; electrophoretic phenomena; colloid stability.

Electrochemistry electrochemical aspects of corrosion Pourbaix diagrams, passivation of metals, anodic and cathodic protection; corrosion rate determination via electrochemical techniques (polarization resistance, Tafel extrapolation); Evans diagrams, inhibitors, galvanic corrosion.

Catalysis
An introduction to catalysis with emphasis on acid/base catalysis and examples drawn from the petrochemical industry.

SC560 Practical Chemistry
15 credit points • 7 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry)

Content
Selected experiments in electrochemistry and colloid chemistry.
Qualitative analysis of an unknown liquid mixture using distillation, physical measurements, an infra-red spectrums, PMR spectra, CMR spectra and mass spectrums.
Stereochemistry experiment, infra-red data station experiment and UV experiment.

SC562 Analytical Biochemistry
6 credit points • 3 hours per week • Hawthorn • Assessment: assignments and a final examination • Prerequisites: SC372 Biochemistry
This is a fourth year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

Objective
Provide students with knowledge of a range of the most common techniques and their uses in the areas of biochemistry and molecular biology.

Content
Separation techniques and purification strategies in biochemistry.
Structure and analysis of proteins.
Nucleic acid technology.

SC565 Practical Biochemistry
10 credit points • 6 hours per week • Hawthorn • Assessment: practical reports submitted during the semester
This is a fourth year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

Objective
To enable students to gain competency in the use of a number of common biochemistry laboratory techniques.

Content
Experiments in protein and DNA purification and analysis. Cell fractionation techniques. Enzyme purification and analysis. Physical techniques will include use of spectroscopy and fluorescence spectroscopy, various forms of gel electrophoresis, molecular weight determinations and use of the ultracentrifuge.

SC567 Environmental Health Practice (2)
7.5 credit points • 3 hours per week • Hawthorn • Prerequisites: SC467 Environmental Health Practice (1)
This is a fourth year subject in the Bachelor of Applied Science (Environmental Health)

Content
Food law a detailed examination of the role and function of the Australia-New Zealand Food Authority and appropriate committees. A study of the Food Standards Code. The role of the environmental health officer in food inspection, sampling and seizure procedures.
Accommodation standards: examination of environmental health risks associated with residential accommodation (hotels, rooming houses, etc.), and temporary accommodation facilities including camping areas, role of the environmental health officer in ensuring health and safety of occupants.

SC568 Applied Food Science and Inspection
7.5 credit points • 5 hours per week • Hawthorn • Prerequisites: SC560, SC461 Food Processing and Analysis, SC457 Environmental Health Practice
This is a fourth year subject in the Bachelor of Applied Science (Environmental Health)

Content
A detailed study of food manufacturing methods and processes highlighting activities that may prevent or cause health hazards, spoilage and/or contamination.

Quality Control and Quality Assurance in the food industry incorporating the principles of HACCP.

SC569 Urban Ecology
10 credit points • 4 hours per week • Hawthorn • Assessment: end of semester exam, assignment and verbal presentation.
This is a first year subject in the Bachelor of Applied Science (Environmental Health)

Content
Basic ecology definitions, 'indicator' organisms and their role in ecosystems, nutrient cycles and the effects of human activities, biological effects of heavy metals contamination, sewage treatment, biological aspects of soil remediation, case studies.

Environmental auditing.
Case studies.

SC570 Chemistry
15 credit points • 6 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry) and (Biochemistry/Chemistry)

Content
Electrochemistry: Fundamental thermodynamic, kinetic and instrumental aspects of electrochemistry.
Applications of Electrochemistry: Electrosynthesis, batteries, fuel cells, analytical chemistry.

Liquid surfaces: Introduction of the general principles of surface and colloid chemistry by particular reference to the properties and applications of liquid surfaces and interfaces.


Swinburne University of Technology | 1994 Handbook
Stereocchemistry: The importance of molecular geometry on chemical properties with an emphasis on applications in organic chemistry.

**SC580 Practical Chemistry**
7.5 credit points • 3 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

**Content**
Selected experiments in electrochemistry and surface chemistry.
Qualitative analysis of an unknown liquid mixture using distillation, physical measurements, infra-red spectra, PMR spectra, CMR spectra and mass spectra. Stereochemistry experiment and infra-red data station experiment.

**SC590 Computers in Chemistry**
5 credit points • 3 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry) and (Biochemistry/Chemistry)

**Content**
Databases.
Instrumental data handling.

**SC602 Scientific Communication**
10 credit points • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry) and (Biochemistry/Chemistry) course which requires student performance and participation throughout the four years of the course.

**Objectives**
- Improvement of student ability in communication
- Development of generic skills that employers require in graduates.

**Content**
Each year has specific requirements which will be explained at the beginning of each semester of the course.

**SC604 Biotechnology**
6 credit points • 2 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)

**Content**
- Microbial genetics and gene manipulation: Recombinant mechanisms in bacterial microbial genetics and industrial fermentation processes.
- Yeast technology: Fermentations involving Saccharomyces cerevisiae in the production of alcohol, wines and beers. Descriptions to include processing of starting material, methods of fermentation, biochemical reactions and enzymes.
- Enzyme technology: Industrial enzymes: sources, production and industrial uses of a range of selected enzymes. Immobilised enzymes, and industrial and analytical uses;
- Waste treatment, sewage disposal, sludge, composting, pollution, biological detoxification and bioremediation. Processes and organisms involved.

**SC608 Industry Based Learning**
50 credit points
A six-month period of employment experience occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science Biochemistry/Chemistry and Chemistry. Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor.

**SC609 Health Promotion**
10 credit points • 2 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Environmental Health)

**Content**
The course begins by reviewing key concepts and strategies in community health early identification, treatment, disease prevention, health promotion. After considering significant historical developments in the area of health education, the following topics will be treated
- social, cultural and psychological factors involved in health promotion and disease prevention behaviours;
- health promotion programs, opportunities and responsibilities for environmental health officers;
- health promotion strategies and techniques for environmental health officers;
- instructional techniques and communication skills for health educators;
- needs Assessment: techniques;
- program evaluation strategies, performance indicators;
- public health plans;
- review of health promotion programs.

**SC653 Process Chemistry**
10 credit points • 5 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry)

**Content**
Extraction of metals free energy relationships applied to metal extraction; thermodynamic basis of free energy relationships. Pyrometallurgical processes for the extraction of metals from their ores. Explanation of various aspects of these processes in terms of free energy relationships. Treatment of industrial wastes control and treatment of industrial waste. The Environmental Protection Act and its administration. Types, source and effect of pollution with regard to natural ecosystems and human health. Disposal of domestic and industrial wastes, including microbiological bases physico-chemical and other methods. Hazardous and intractable wastes. Chemistry of natural products - saccharides industrial organic chemistry. The application of HPLC to the analysis of small molecules, amino acids, polymers, peptides and proteins. Structure of antibodies. Antigens and the immune response. Production of antibodies - polyclonal and monoclonal. Immunoassays — types and examples. Immunochemical techniques.

**SC660 Practical Chemistry**
7.5 credit points • 4 hours per week in sem. 8 • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry)

**Content**
hPLC and GC/MS experiments. Analysis of a food product using an atomic absorption spectrometer. Project.

**SC661 Environmental Analysis and Control**
7.5 credit points • 4 hours per week • Hawthorn • Prerequisite: SC658 Environmental Science • Assessment: examination/assignment/practical work. This is a fourth year subject in the Bachelor of Applied Science (Environmental Health).

**Objectives**
- To study specific analytical methods for the analysis of environmental samples;
- to study engineering processes and environmental control.

**Content**
Analysis: Review of analytical methods as applied to environmental analytes. Covers compleximetric, acid-base, chromatographic, electrochemical and spectrochemical techniques.

**Practical work**
Related to these techniques.

**Control**
Use of process flow diagrams. Simple process calculations (stoichiometry, combustion, heat and mass balances).
Disposal and disposal of pollutants — air, water and land pollution. Current issues acid rain, greenhouse effect, ozone depletion, photo chemical pollution. Case studies/field trips.

SC662 Analytical Biochemistry
4 credit points • 2 hours per week • Hawthorn • Assessment: tests and a final examination • Prerequisites: SC372 Biochemistry
This is a fourth year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)
Objective
To provide students with a knowledge of analytical techniques of Biochemistry.
Content
Radiotrace methods. Immunohistochemistry and its applications in chemical and biochemical analysis. Computer analysis in biochemistry. Use of spectroscopy for biochemical analysis (e.g. NMR, mass spec.).

SC665 Practical Biochemistry
7.5 credit points • 4 hours per week • Hawthorn • Assessment: major reports, seminar presentation, project supervisor assessment
This is a fourth year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)
Objectives
- Give students experience at managing and executing a research project, working independently and designing experiments. Report writing and seminar skills are also emphasised.
Content
A major research project in biochemistry is carried out by the student. An experimental exercise in support of SC662 lectures on radioisotopes and immunology is scheduled late in the semester.

SC667 Environmental Health Practice (3)
5 credit points • 2 hours per week • Hawthorn • Prerequisites: SC100 Environmental Health, SC109 Biology, SC208 Biology, SC467 Environmental Health Practice (1), SC567 Environmental Health Practice (2)
This is a fourth year subject in the Bachelor of Applied Science (Environmental Health)
Content
Applied pest control encompassing principles of taxonomy, lifecycles and general characteristics of insect species, pest species detection and identification, control measures and techniques.

SC668 Research Project
16 credit points • 8 hours per week • Hawthorn
This is a fourth year subject of the Bachelor of Applied Science (Environmental Health)
Content
Students undertake a research program on an environmental health topic which can include science, engineering, law, administrative or social issues.

SC670 Chemistry
10 credit points • 4 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry) and biochemical/Chemistry)
Content
Ion exchange and solvent extraction principles and applications in industrial, laboratory and biochemical situations. Organic chemistry: carbocations, heterocyclics. Laboratory analyzers, with specific discussion of detectors, amplification, frequency response, digital systems and clinical analyzers.

SC680 Practical Chemistry
5 credit points • 3 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Biochemistry/Chemistry)
Content
HPLC and GC/MS experiments. Analysis of a food product using an atomic absorption spectrometer. Molecular model using the IRIS computer.

SC690 Computers in Chemistry
5.5 credit points • 3 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry) and Biochemistry/Chemistry)
Content
Use of macros to automate spreadsheets, ANOVA, regression and experimental design. Simplex optimisation. HPLC optimisation. Forecasting. Project Management.

SC708 Scientific Communication 7
2 credit points • 1 hour per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science (Chemistry) and Biochemistry/Chemistry)
Content
Training and practice in the presentation of oral reports to industrial, scientific and general audiences. Special requirements of oral reporting, including the use of audio-visual aids.

SC709 Employment Experience
30 credit points
A six-month period of industry based learning in the Graduate Diploma in Industrial Chemistry. Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor.

SC720 Applied Chemical Techniques
12.5 credit points • 4 hours per week • Hawthorn • Assessment: Instruction: lectures and assignment work
This is a subject of the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry)
Content
Computers in chemistry. Spectroscopy IR, UV/visible and atomic. Chromatography GC and HPLC.

SC721 Properties of Colloids and Interfaces
12.5 credit points • 4 hours per week • Hawthorn • Assessment: Instruction: lectures/tutorials
This is a subject of the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry)
Content
Classification and scope of colloidal systems and interfaces. The properties of curved surfaces. Concepts of surface tension and surface activity, Absorption and orientation at interfaces. Wetting and spreading of liquids on solids; concept of contact angle. Origin of charge and electrical double layer on surfaces in aqueous dispersions - potential determining ions, ionic adsorption. Electrokinetic phenomena - zeta potential. Stability of colloidal dispersions. Throughout the lecture course, strong emphasis is given to applying the basic concepts and principles to practical examples of the uses of colloids.

SC723 Industrial Chemistry
12.5 credit points • 4 hours per week • Hawthorn • Assessment: Instruction: lectures/tutorials/assignment
This is a subject of the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry)
Content
NMR spectroscopy, mass spectrometry and Fourier transform techniques. Liquid surfaces. Electrochemistry.
SC725 Practical Chemistry
12.5 credit points • 4 hours per week • Hawthorn • Instruction: practical work
This is a subject of the Graduate Diploma of Applied Science (Industrial Chemistry)

Content
Analytical experiments using GC, HPLC, AA, UV/visible and IR techniques.

SC729 Industrial Microbiology
12.5 credit points • 4 hours per week • Hawthorn
This is a subject of the Graduate Diploma of Applied Science (Industrial Biochemistry)

Content
Students study subject areas from six options.
The subject areas are:
- microbial genetics
- fermentation technology
- fermentation reactions
- enzyme technology
- waste treatment and disposal
- down stream processing

SC731 Practical Biochemistry
12.5 credit points • 6 hours per week • Hawthorn • Instruction: practical work
This is a subject of the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry)

Content
The practical work covers a range of laboratory exercises and common techniques used in biochemical and chemical laboratories. These techniques include estimation of disulphide and thiol groups in proteins, fluorescence spectroscopy, affinity chromatography, fractionation using ultracentrifugation, antibody labelling techniques, gel electrophoresis and enzyme kinetics.

SC732 Practical Work
12.5 credit points • 4 hours per week • Hawthorn
This is a subject of the Graduate Diploma of Applied Science (Industrial Chemistry)

Content
Liquid surfaces and electrochemistry experiment.
Qualitative analysis of an unknown liquid mixture using distillation, physical measurements, infra-red spectra, PMR spectra, CMR spectra and mass spectra.

SC772 Biochemistry 5
10 credit points • 4 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science with honours (Biochemistry/Chemistry)

Content
This subject is divided into two parts.
Part 1 Human Biochemistry
- Control mechanisms operating in living organisms. Steroid and trophic hormone effects. Their target tissues and activities at the enzyme and nucleic acid levels. Also includes amplifications of signals through receptors, types of receptors and synthetic analogues modifying the signals. Abnormal hormone patterns and their relationship to disease processes. The role of chemical analysis in the treatment and diagnosis of disease.
- The chemistry of muscle and exercise. Exercise, energy and respiration. Abnormal patterns of carbohydrate utilisation.
- Diabetes.

Part 2 Analytical Biochemistry
- Separation techniques and purification strategies in biochemistry.
- Structure and analysis of proteins.
- Nucleic acid technology.

SC808 Scientific Communication
2 credit points • 1 hour per week • Hawthorn
This is a fourth year subject of the Bachelor of Applied Science (Chemistry) and (Biochemistry)

Content
Literature search and written report on current developments in organic chemistry. Obtaining and analysing experimental data. Experimental design to eliminate common errors of logic. Case studies.

SC872 Biochemistry 6
10 credit points • 4 hours per week • Hawthorn
This is a fourth year subject in the Bachelor of Applied Science with honours (Biochemistry/Chemistry).

Content
This subject is divided into two parts.
Part 1 Biotecnology
- Microbial genetics and gene manipulation: Recombinant mechanisms in bacterial microbial genetics and industrial fermentation processes.
- Yeast technology: Fermentations involving Saccharomyces cerevisiae in the production of alcohol, wines and beers. Descriptions to include processing of starting material, methods of fermentation, biochemical reactions and enzymes.
- Enzyme technology: Industrial enzymes: sources, production and industrial uses of a range of selected enzymes. Immobilised enzymes, industrial and analytical uses; and ways to treatment, sewage disposal, sludge, composting, pollution, biological detoxification and bioremediation. Processes and organisms involved.

Part 2 Analytical Biochemistry
- Radioisotope methods. Immunochromatrography and its applications in chemical and biochemical analysis. Uses of spectroscopy for biochemical analysis (eg NMR, Mass spec.)

SC900 The Scope of Computational Chemistry
12.5 credit points • 150 hours of study spread over 8 months full time or up to 20 months part time. • Assessment: Based on reports, essay and results from running software.

Objectives
On completion of this unit students will have a broad overview of computational chemistry, will have successfully installed and used a major computer package on their own computer, and will understand the relevance of computational chemistry to real problems. The unit will give students a broad understanding of the position of computational chemistry today, improve their skills in finding information on the internet, and start them off in having significant code for computational chemistry on their own site.

Content
This unit is intended to give students a broad view of computational chemistry and will do this by allowing them to access a range of materials over the internet. It is the overview unit of M Sc in Computational Chemistry. The unit involves various in-depth studies of the role of computational chemistry and the installation and use of a significant computer package in the field.

References
WWW documents and code, both written by the course team and by others.

SC901 Molecular Modelling
12.5 Credit points • 150 hours of study spread over 8 months full time or up to 20 months part time • Assessment: Based on reports, essay and results from running software.

Objectives
On completion of this unit, students will have a broad understanding of the methods and application of molecular modelling. This unit provides an introduction to molecular modelling and provides the basis on which all the more advanced units build. Methods of visualisation of molecules, including both 2-D and 3-D representations of molecules are covered. Specific chemical properties are also visualised. Methods for obtaining the initial data for
students will be expected to use a molecular visualiser to be able to examine molecular geometry in detail and do simple visualisation exercises. Script files of these exercises can be generated to be e-mailed for assessment.

**Content**
This unit provides an introduction to molecular modelling and provides the basis on which all the more advanced units build. The unit includes extensive use of molecular visualisers.

**References**
WWW documents and code, both written by the course team and by others.

**SC902 Approximate Quantum Chemistry**
12.5 Credit points • 150 hours of study spread over 8 months full time or up to 20 months part time • Assessment: Based on reports, essay and results from running software.

**Objectives**
On completion of this unit, students will understand the basic theory of empirical and semi-empirical molecular orbital methods and be able to use software such as Hückel, extended Hückel and MOPAC (MNDO, AM1 and PM3) to calculate properties of simple organic molecules. This unit will provide a practical introduction to empirical and semi-empirical molecular orbital theory. It includes Hückel theory, extended Hückel theory, and zero-differential overlap methods such as MNDO, MNDO, AM1 and PM3. For all these methods a "forms" based interface on a web page allows the student to formulate a particular problem and submit the data to a computer program running on the server computer. Results are quickly sent back to the student on the client computer and can be studied as numerical output or in some cases as molecular images with viewer programs. Results can be saved and will be e-mailed as part of the assessment to the unit coordinator as part of the required assignment.

**Content**
This unit will provide a practical introduction to empirical and semi-empirical molecular orbital theory. It includes Hückel theory, extended Hückel theory, and zero-differential overlap methods such as MNDO, MNDO, AM1 and PM3. While practical applications are emphasised, students will be expected to acquire an adequate knowledge of the basic theory and a keen appreciation of the range of problems that particular methods are appropriate for.

**References**
WWW documents and code, both written by the course team and by others.

**SC903 Basic Quantitative Structure Activity Relationships (QSAR)**
12.5 Credit points • 150 hours of study spread over 8 months full time or up to 20 months part time • Assessment: Based on reports, essay and results from running software.

**Objectives**
On completion of this unit, students will understand the basic theory and methods of quantitative structure-activity relationships (QSAR).

**References**
WWW documents and code, both written by the course team and by others.

**SC904 Ab initio Quantum Chemistry**
12.5 Credit points • 150 hours of study spread over 8 months full time or up to 20 months part time • Assessment: Based on reports, essay and results from running software.

**Objectives**
On completion of this unit, students will be able to run ab initio calculations using the Gaussian and/or GAMESS(US) packages to calculate optimised geometries, frequencies and spectral intensities for small molecules and will understand the basic theory and criterion for choice of basis sets.

This unit will provide a broad background to the use of ab initio molecular orbital methods. The emphasis is on how and when to apply the methods and a critical appreciation of the reliability of results obtained in different situations. The unit will also cover the basic theory of all methods and the choice of basis sets. Methods will include Hartree–Fock theory and Möller–Plesset perturbation theory to order two for both closed and open shell systems used for geometry optimisation, prediction of harmonic frequencies along with i.r. intensities and Raman activities, and general molecular properties. A significant number of real calculations will be carried out and interpreted using a "forms" interface from the WWW to ab initio packages on a NTU computer.

**Content**
This unit will provide a broad background to the use of ab initio molecular orbital methods. The emphasis is on how and when to apply the methods and a critical appreciation of the reliability of results obtained in different situations. The unit will also cover the basic theory of all methods and the choice of basis sets.

**References**
WWW documents and code, both written by the course team and by others.

**SC905 Molecular Mechanics and Dynamics**
12.5 credit points • 150 hours of study spread over 8 months full time or up to 20 months part time • Assessment: Based on reports, essay and results from running software.

**Objectives**
On completion of this unit, students will understand the basic methods of molecular mechanics and molecular dynamics and be able to use these methods to locate local and global minima for a range of molecules up to the size of small proteins. Basic concepts of classical potential energy, molecular mechanics, molecular dynamics, simulated annealing and related types of calculations will be introduced. The composition of selected Force Fields will be analysed. Areas where such calculations are appropriate will be discussed. Analysis of results will be emphasised as these are approximate techniques. Conformational analyses to locate both local and global minima will be performed. Protein conformations will be analysed by comparison with standard Ramachandran maps. Calculations, in areas of particular interest to the student, will be performed using appropriate software. Assessment will be based on the results and analyses of these calculations.

**Content**
Basic concepts of classical potential energy, molecular mechanics, molecular dynamics, simulated annealing and related types of calculations will be introduced. The unit will involve extensive calculations using appropriate software.

**References**
WWW documents and code, both written by the course team and by others.

**SC906 Advanced Molecular Modelling**
25 credit points • 300 hours of study spread over 8 months full time or up to 20 months part time • Assessment: Based on reports, essay and results from running software.

**Objectives**
On completion of this unit, students will have an extensive knowledge of the methods of molecular modelling and will be able to integrate data obtained from appropriate calculations to build working hypothesis which can be used for predictive purposes. The main emphasis will be in the area of drug design. Advanced molecular modelling focuses on the integration of data obtained from appropriate calculations to build working hypotheses which can be used for predictive purposes. Experience will be gained with sophisticated techniques including a range of conformer searching methods, comparison techniques, distance geometry calculation, pharmacophore development, de novo ligand design, docking and pseudo-receptor analysis. Students will become familiar with a number of software packages, and will apply the techniques to appropriate problems, such as the design of bioactive compounds.

**Content**
Advanced molecular modelling focuses on the integration of data obtained from appropriate calculations to build working hypotheses which can be used for predictive purposes. The main emphasis will be in the area of drug design. Students will become familiar with a number of software packages, and will apply the techniques to appropriate problems, such as the design of bioactive compounds.

**References**
WWW documents and code, both written by the course team and by others, along with various texts and articles from the literature.
SC907 Advanced ab initio Quantum Chemistry

• 25 Credit points • 500 hours of study spread over 8 months full time or up to 20 months part time • Assessment: Based on reports, essay and results from running software.

Objectives
On completion of this unit, students will have an extensive knowledge of the methods of ab initio quantum chemistry. They will be able to make sophisticated choices of method and basis set appropriate for a particular problem and have a wide knowledge of the available computer codes for these methods. This unit will look at all the current methods of ab initio molecular orbital theory including Hartree-Fock theory, Møller-Plesset perturbation theory to order four, coupled cluster theory, configuration interaction, G2 theory and Density Functional theory. The theory will be investigated in detail. Experience will be gained with both the GAUSSIAN and GAMESS (US) packages. A wide variety of basis sets will be used and the choice of basis set for particular problems will be investigated. A range of practical applications will be studied.

Content
This unit will look at all the current methods of ab initio molecular orbital theory including Hartree-Fock theory, Møller-Plesset perturbation theory to order four, coupled cluster theory, configuration interaction, G2 theory and Density Functional theory. The choice of method and choice of basis sets will be investigated in detail.

References
Materials used will be the WWW pages produced by the CAIT Project, some openly available pages from other sites containing advanced material and a textbook such as "Modern Quantum Chemistry" by Szabo and Ostlund (this is currently out of print but a new edition is expected). Students will also be expected to consult the original literature.

SC908 Advanced QSAR

25 Credit points • 500 hours of study spread over 8 months full time or up to 20 months part time • Assessment: Based on reports, essay and results from running software.

Objectives
On completion of this unit, students will have an extensive knowledge of the theory and methods of quantitative structure-activity relationships (QSAR).

Content
This module provides an introduction to the advanced concepts used in the design of experiments and analysis of resultant data by use of generalized pattern recognition techniques.

References
Livingstone, D., Data Analysis for Chemists-Applications to QSAR and Chemical Product Design, Oxford University Press, 1995. WWW documents and code, both written by the course team and by others.

SC909 Research Project and Report

50 Credit points • 500 hours of study spread over 3 months of full time internal study • Assessment: A thesis incorporating the results and analysis of the project.

Objectives
On completion of this unit, students will have completed a small original research project and will have acquired a thorough appreciation of research methodology in one area of computational chemistry. This unit will involve an original research project designed to take just over three months of intensive full-time work. The choice of project and preliminary work will be carried out before the internal mode period of four months. A full thesis conforming to the normal NTU Chemistry guidelines for an Honours thesis will be produced.

Content
A supervised research project in one of the areas of computational chemistry.

References
Direct access to articles in the literature and reviews.

SC1500 Introductory Chemistry

10 credit points • 5 hours per week
This is a first year subject of the Bachelor of Applied Science (Environmental Health)

Content
Elementary chemistry: structure of atom, mole concept, formulae, naming, introduction to Periodic table and simple calculations.
Writing and balancing molecular, ionic and redox equations.
Stoichiometry: calculations covering all types of chemical reactions with amounts of reactants and products expressed as mass, mole, concentration and volumes of gases. Review of gas laws and relevant calculations.
Equilibria: Quantitative and qualitative aspects of gaseous, heterogeneous, acid-base, solubility and complex-ion equilibria. Major emphasis on acid-base equilibria, buffers, properties of acids and bases, and pH measurement.
Periodicity: Covers electronic structure, periodic properties and Lewis bonding model.
Practical Work: Covers measurement and errors, a study of chemical reactions, and volumetric analyses including acid-base, redox and complexometric titrations.
A practical exam tests skills learnt during practical work.

SC3400 Food Processing and Analysis

10 credit points • 4 hours per week • Hawthorn
This is a second year subject of the Bachelor of Applied Science (Environmental Health)

Content
Food processing introduction to processes used in the food industries for the preparation and processing of foods. Problems or potential problems associated with those processes that have implications for community health.
Hazard Analysis Critical Control Point.
Food chemistry techniques used in the determination of the amounts of carbohydrates, protein and lipid in foods. Determination of the amounts of micronutrients in foods. Methods used for determining the water Content of foods. Determination of the calorie or joule Content of foods. Other manual and instrumental techniques used in food analysis (e.g. determination of sulphur dioxide). Chemical additives to food will be considered under the following headings: chemical classes of food additives, historical aspects, permitted compounds, reasons for use, function, advantages, disadvantages, breakdown pathways, toxicity testing, regulations controlling use.
Classes of chemical additives to be considered will include the following: preservatives, antioxidants, flavouring compounds, colouring compounds, sweetening agents, flavour enhancers, nutrients, emulsifiers.
Natural hazards associated with food.
Practical work: Experiments in food analysis — 2 hours per week.

SCE201 Basic Process Analysis and Calculations

10 credit points • 4 hours per week • Hawthorn • Instruction: lectures, tutorials • Assessment: examination 70%, tests 15%, assignments 15%
This is a subject in the intermediate stage of the Bachelor of Engineering (Chemical).

Objectives
To develop competence in the application of physical and chemical principles to determine mass and energy flows and other stream conditions in industrial processing plants. Upon completion of this subject students should be able to:
• perform unit conversion
• draw process flowsheet and perform flowsheet calculations
• understand simple behaviour of solids, liquids, and gases.

Content
Units and dimensions; unit conversion. Mixture composition, Process variables and flowsheets.
Material balances; bypass, recycle and purge. Material balances with chemical reactions; stoichiometry; conversion, yield, and selectivity; calculation of equilibrium composition.
P-V-T relationships of substances. Ideal and real gases; compressibility; equations of state. Gas mixtures; partial pressure and partial volume; Dalton’s and Amagat’s laws.
Coal analysis and combustion; stoichiometric air and excess air; flue gas composition.

Swinburne University of Technology | 1998 Handbook
Thermochemistry: heat capacity, heat of phase change, heat of reaction, heat of this is a subject in the intermediate stage of the Bachelor of Engineering.

References

SCE204 Biochemistry 1
10 credit points • 5 hours per week • Hawthorn • Instruction: lectures, laboratory • Assessment: examination 50%, tests 20%, laboratory reports 30% • Prerequisites: SC108 Biology
This is a subject in the intermediate stage of the Bachelor of Engineering Chemical.

Objectives
• To acquaint students with detailed structures of biomolecules.
• To develop an understanding of enzyme structure, mechanisms, kinetics (including the roles of coenzymes, cofactors, activators, inhibitors). To develop a practical appreciation of the techniques for handling delicate macromolecules such as enzymes.
• To develop a detailed understanding of the main catalytic pathways, especially in relation to energy transformations and inter-relationships of the pathways.

Content
Introduction to biomolecules: monosaccharides, disaccharides, polysaccharides, amino acids, polypeptides, structure of proteins, lipids, nucleotides, enzymes, coenzymes, nucleic acids. Enzyme kinetics simple enzyme mechanisms, Michaelis-Menten kinetics. Catabolic pathways for carbohydrate, lipid and protein. Laboratory exercises will include quantitative spectrophotometric analysis, colorimetric assays, biochemical reactions and analyses, model building of peptides, enzyme kinetics, computer simulated enzyme catalysis, isoenzyme analysis, and enzyme assays. The program supports the theory content by illustrating biochemical structures, enzyme kinetics and metabolic pathways. As well as practice in basic biochemistry laboratory techniques and procedures, skills emphasised by the practical program include protocol interpretation and design, and calculations and interpretation of data from quantitative analyses.

Recommended reading

SCE205 Chemistry 2
10 credit points • 5 hours per week • Hawthorn • Instruction: lectures, laboratory work • Assessment: tests 15%, examination 35%, laboratory work 50% • Prerequisites: SC154 Chemistry
This is a subject in the intermediate stage of the Bachelor of Engineering (Chemical).

Objectives
To build on the many basic concepts acquired elsewhere in Chemistry and to extend this knowledge to a level that is applicable for chemical engineering.

Content
Overview of chemical bonding, electronic structure of atoms and molecules. Organic chemistry: alkenes and alkydes; benzene and other aromatic compounds; alcohols; allyl halides; ethers; nitriles and amines; aldoldehydes and ketones; carboxylic acids and their derivatives.
Inorganic chemistry: ionic and metallic bonding. Analytical chemistry: precipitation equilibria; complex ion equilibria; the Nernst equation. Introduction to kinetics. Establishing basic laboratory skills in analytical, organic and physical chemistry. Some instrumental analysis will be included.

Recommended reading

SCE206 Fluid Mechanics
10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, tutorials, laboratory work • Assessment: examination 60%, assignments 30%, laboratory reports 10%
This is a subject in the intermediate stage of the Bachelor of Engineering (Chemical).
Subject Details

SCE302 Chemical Engineering Thermodynamics

10 credit points • 4 hours per week • Hawthorn • Instruction: lectures, tutorials
• Assessment: examination 70%, labs 15%, assignments 15%

This is a subject in the intermediate stage of the Bachelor of Engineering (Chemical).

Objectives
• To train students in the application of thermodynamic principles in analyzing engineering problems.
• To provide sound understanding of the fundamental principles and methods of thermodynamics, and underlines the theoretical bases of many chemical engineering operations such as separation processes, vapour cycles and reactive systems.

Content
Review of fundamental concepts: temperature, heat, work and energy; state of a system.
Work and heat functions; state functions; reversibility.
Kinetic theory of gases. Ideal and real gas behaviour; compressibility; law of corresponding states. Theories of viscosities, thermal conductivity, and mass diffusivity of gases.
Macroscopic properties of pure substances; phases; phase transition and phase equilibrium.
Phase equilibria. Degrees of freedom; Gibbs phase rule.
Thermodynamics of liquids: vapour pressure; heat of evaporation; theory of viscosity of liquids.
Ideal and non-ideal mixtures; vapour pressure of solutions; Raoult’s law and Henry’s law. Solubility. Liquid-vapour systems with one, two and three components. Partial molal quantities; chemical potential; Gibbs-Duhem relation; activity and activity coefficients of non-ideal solutions; distribution coefficients.
Coligative properties; boiling point elevation and freezing-point depression.
Chemical equilibria. Standard free-energies; dependence of free energy on pressure and temperature. Fugacity; activities and activity coefficients. Equilibrium constant.

Recommended reading

SCE304 Microbiology 1

10 credit points • 4 hours per week • Hawthorn • Instruction: lectures, tutorials
• Assessment: examination 70%, laboratory tests 30% • Prerequisites: SCI108 Biology

A third-year subject in the Bachelor of Engineering (Chemical).

Objectives
To develop knowledge and practical skills related to the isolation and identification of bacteria, especially with reference to the food and beverage industries.

Content
Counting techniques as a method for measuring bacterial growth. These will also include simple field techniques such as membrane filtration and MPN counts.

Sterilisation methods: a wide range of physical and chemical methods of sterilisation and disinfection will be considered.

Practical work will develop the manipulative skills associated with the handling and culturing of microorganisms and the techniques required for the operation of a microbiological laboratory.

**Recommended reading**


Brock, T.D., & Brock, K.M., *SCE305 Separation Processes*

Objectives

- To develop an understanding of the types of separation process that can be used in chemical engineering plants.
- To apply basic engineering science in the design of separation systems.
- To develop basic design skills for selecting and sizing separation systems.
- To develop an understanding of and sensitivity to the environmental impact of the selection of particular separation processes.

Content

Leaching: mass transfer in leaching operations, countercurrent washing of solids, calculation of the number of stages, graphical methods.

Distillation: the methods of distillation (two component mixtures), the fractionating column, multicomponent mixtures, azeotropic and extractive distillation, steam distillation.

Liquid-liquid extraction: extraction processes, calculation of the number of stages, graphical methods.

Adsorption: the nature of adsorbents, adsorption equilibria.

Membrane separation processes: classification of processes, microfiltration, ultrafiltration.

**Recommended reading**

Coulson and Richardson: *Chemical Engineering*, Vol 2 1981

**SCE306 Industry Based Learning 1**

50 credit points • Prerequisites: Basic Process Calculations, Fluid Mechanics

This is a third year subject in the Bachelor of Engineering (Chemical).

Objectives

- To complete 24 weeks of full time paid employment in an appropriate industrial setting.
- To work as an engineering trainee under the direction of a professional engineer/scientist and be an effective part of a multi-disciplinary team within the industry.
- To develop and document professional engineering practice for all industry assignments and to communicate professionally in written and verbal forms.
- To establish and refine personal development skills in order to develop engineering competence towards the professional level.
- To implement and gain further understanding of engineering management skills and practices operating within engineering organisational structures.
- To observe and appreciate significant trends in employment work groups and industrial relations.
- To understand and apply quality control and assurance techniques.

Content

Work requirements are established by the employer in consultation with Swinburne University.

**Recommended reading**

As suggested by the Swinburne academic supervisor to support the student's task environment.

**SCE400 Heat Transfer**


Objectives

- To develop competence in the application of heat transfer theory to the analysis of practical heat transfer problems, design and selection of heat exchangers, and evaluation of heat exchanger performance.

Content

- Mechanics of heat transfer; theory and applications.

**Recommended reading**


Objectives

- To develop the principles of mass transfer and phase equilibrium to problems involving diffusion with or without chemical reactions, to separation processes, and to the design of equipment used in mass transfer operations.

Content

- Convective mass transfer: mass-transfer coefficient; film and overall coefficients. Fluid flow in convection; laminar and turbulent flow; boundary-layer theory. Interphase mass transfer; phase equilibrium; theories of interphase mass transfer: film theory, penetration theory, random surface renewal theory. Design of continuous differential contactors. Height of transfer unit and number of transfer units.
- Combined heat and mass transfer: humidification, drying, and crystallization. Analogies among momentum, heat, and mass transfer.

**Recommended reading**


SCE402 Biochemistry 2

10 credit points • 5 hours per week • Hawthorn • Instruction: lectures, laboratory work • Assessment: examination 50%, test 20%, laboratory 30% • Prerequisites: SCE101 Chemistry 1, SCE204 Biochemistry 1, SCE205 Chemistry 2

A fourth year subject in the Bachelor of Chemical Engineering

Objectives
- To develop an understanding of the various factors that determine the rates of intra-cellular enzyme reactions (including the role of coenzymes, cofactors, activators, inhibitors).
- To further develop a practical appreciation of the techniques for handling enzymes.
- To develop a detailed understanding of the main anaerobic pathways, especially in relation to the inter-relationships of the pathways.

Content
Anaerobic pathways: synthetic pathways leading to glucose, glycogen, lipid, protein, DNA.

Regulation and control of metabolism control mechanisms operating at the level of the gene and at enzyme level. Examples will be drawn from fermentation pathways.

Laboratory exercises include protein purification and analysis, and experiments in metabolism and metabolic control.

Techniques used will include thin layer chromatography, gel filtration, selective precipitation, ion exchange, gel electrophoresis, spectrophotometric and enzymatic analysis of metabolites and the use of oxygen electrode.

Recommended reading


SCE406 Industry Based Learning 2

50 credit points • Assessment: report and satisfactory achievements of employer requirements • Prerequisites: SCE506 Industry Based Learning 1

A fourth year subject in the Bachelor of Chemical Engineering

Objectives
- To complete 24 weeks of full time paid employment in an appropriate industrial setting.
- To work as an engineering trainee under the direction of a professional engineer and be an effective part of a multi-disciplinary team within the industry.
- To develop and document professional engineering practice for all industry assignments and to communicate professionally in written and verbal forms.
- To establish and refine personal development skills in order to develop engineering competence towards the professional level.
- To implement and gain further understanding of engineering management skills and practices operating within an engineering organisation.
- To observe and appreciate significant trends in employment work groups and industrial relations.
- To understand and apply quality control and assurance techniques.

Content
Work requirements are established by the employer in consultation with Swinburne University.

Recommended reading
As suggested by the Swinburne academic supervisor to support the students task environment.

SCE407 Chemical Engineering Laboratory 2

10 credit points • 4 hours per week • Hawthorn • Instruction: tutorials 30%, laboratory work 70% • Assessment: tutorial 30%, laboratory work 70% • Prerequisites: SCE206 Fluid Mechanics, SCE302 Chemical Engineering Thermodynamics

A fourth year subject in the Bachelor of Chemical Engineering

Objectives
- To extend skills from Chemical Engineering Laboratory 1 - in order to be able to measure, control and optimise macro processes and to augment most of the experiments with automatic telemetry using modern process control and instrumentation.
- To prepare professional reports for the operation of pilot scale plant studies.

Content
Laboratory work will supplement material studied in other subjects: extensions of Chem. Eng. Lab. 1 labwork which may include a selection of “state-of-art” chemical engineering processes - from ultra filtration, reverse osmosis, UHT, spray drying, freeze drying.

Laboratory Work:
Students will be assigned tasks that further develop laboratory skills and particularly skills of designing experiments. Students will also devise strategies and techniques to measure the relevant and significant parameters necessary to monitor and control unit operations - including the use of instrumentation, data recorders, FLSs and computers for the process control operations.

SCE500 Biotechnology 1

10 credit points • 4 hours per week • Hawthorn • Instruction: lectures, laboratory and field work • Assessment: examination 50%, assignment 30%, reports 20% • Prerequisites: SCE204 and SCE204 Biochemistry 1 & 2, SCE402 Microbiology

Content

Fermentation technology, nutrition and kinetics in batch and continuous fermentations. Design of bioreactors.

Fermentation technology: Fermentations involving Saccharomyces cerevisiae in the production of alcohol, wines and beers: Descriptions to include processing of starting material, methods of fermentation, biochemical reactions and enzymes.

Enzyme technology: Industrial enzymes: sources, production and industrial uses of a range of selected enzymes. Immobilised enzymes, cells, organelles and co-enzymes and their industrial and analytical uses.

Swinburne University of Technology | 1998 Handbook
Waste treatment and disposal, sewage treatment, biological aspects of soil bioremediation, case studies. Processes and organisms involved, downstream processing: factors and problems involved in scale-up to pilot plant and production stages.

**Recommended reading**

**SCE501 Research Project**
10 credit points • 4.5 hours per week • Hawthorn • Instruction: lectures, project meetings, laboratory work, seminars, poster presentations • Assessment: seminar 10%, poster 30%, thesis 60%
A fifth year subject in the Bachelor of Chemical Engineering

**Objectives**
- To develop collaborative and team work skills
- To develop project management skills
- To undertake a major project investigation and complete the task satisfactorily within time and budget
- To develop an understanding of the processes of research
- To develop advanced skills in literature review and report writing

**Content**
Lectures: Topics covered will include: the philosophy of research; research planning; research budgets; research record keeping; research reporting; laboratory; major investigation by students working in pairs. Types of investigation may include: laboratory experiment to test an hypothesis, pilot plant modification and recommissioning; operational plant improvement. Projects will be undertaken under the supervision of an individual staff member. Students will have regular project review meetings with their supervisor: time and duration by negotiation
Seminar: Students will give a short presentation in Week 3 of the semester on the aims and methods of their projects
Poster presentation: Students will present posters of their projects in the final week of the semester.
Project thesis: A major thesis (not exceeding 100 pages) is to be submitted by each pair of students. The contribution of each student is to be clearly indicated both in the authorship of chapters of the thesis and in a statement of work completed from each student.

**SCE502 Reactor Design**
10 credit points • 4 hours per week • Hawthorn • Instruction: lectures, tutorials • Assessment: examination 70%, assignments 30% • Prerequisites: SCE206 Fluid Mechanics, SCE302 Chemical Engineering Thermodynamics, SCE402 Fluid Particle Systems and Advanced Fluid Mechanics - demonstrated equivalent knowledge
A fifth year subject in the Bachelor of Chemical Engineering

**Objectives**
To provide students with the skills necessary to understand the complexities of industrial chemical reactors and the reactions carried out in them. The analysis and design of reactors will also be studied, as well as the fundamentals of reacting systems.

**Content**
Review of basic chemistry necessary to study reactors
Solutions, order of reaction, thermodynamic considerations, especially effects of temperature on heats of reaction and heat capacity data, van't Hoff equation, chemical kinetics and the effect of temperature on rate of reaction. Definition of reaction rate, other variables affecting reaction rate, kinetics of homogeneous reactions.

Interpretation of batch reactor design
Constant volume batch reactor and analysis of data, variable volume batch reactor and analysis of data.

Types of ideal reactors
Definitions of ideal reactors, continuous stirred tank reactors, plug flow reactors, mixed flow reactors, reactors in series and parallel.

Design for single reactions
Size comparisons of single reactors, CSTR versus PFR for first and second order reactions.

**Temperature and Pressure effects**
Heats of reactions and equilibrium constants - the effect of temperature and pressure, general design procedure, optimum temperature progression, heat effects, adiabatic operation, non adiabatic operation.

**Non ideal flow in reactors**
Residence time distribution in reactors, age distribution curves, use of tracer information, diagnostics for poorly performing equipment.

**Heterogeneous reaction systems**
Fluid/particle reactions, shrinking core model for particles of changing size and associated controlling mechanisms, reaction rates of shrinking particles and associated control mechanisms, non spherical particles, fluidized bed reactors.

Application of the above concepts to the solution of problems.

**Recommended reading**

**SCE503 Process Control**
10 credit points • 3 hours per week • Hawthorn • Instruction: lectures, tutorials • Assessment: examination 70%, assignments 35%
A fifth year subject in the Bachelor of Chemical Engineering

**Objectives**
To develop skills in control design and implementation of systems for chemical (including biochemical and food) plants. Provide the mathematical tools to analyze process dynamics, investigate system stability and understand the implications of these for chemical plant design.

**Content**
Introduction to process control
- Steady state, process dynamics, process modelling, closed-loop, process stability

**Chemical process Models**
- Continuity equations, energy equations, transport equations, equations of state, chemical kinetics

**Chemical Process Models**
- CSTR (series, isothermal, variable hold up), batch reactor, distillation

**Process Dynamics**
- Time-domain, Laplace domain, frequency domain, Nyquist, Bode, Nichols plots

**Feed Back Control**
- Proportional, integral, derivative, tuning, stability, Bode, Nichols, Nyquist stabilization criterion

**Feed Forward Control**
- Principle of invariance, linear/non-linear systems, dynamic compensatory tuning.

**Fuzzy Logic Control Principles**

**Recommended reading**
*Palm W.J., Control Systems Engineering* W. J. Wiley N.Y. 1986
*Ogata, K., Modern Control Engineering 2nd Ed. Prentice Hall 1990.

**SCE504 Process Equipment Design**
10 credit points • 5 hours per week • Hawthorn • Instruction: lectures, tutorials • Assessment: examination 70%, tests 15%, assignments 15% • Prerequisites: CE102 Engineering Design, SCE201 Basic Process Calculations, SCE405 Fluid Particle Systems and Advanced Fluid Mechanics, SCE406 Heat Transfer, SCE401 Mass Transfer, SCE305 Separation Processes, MM235 Engineering Materials
A fifth year subject in the Bachelor of Chemical Engineering

**Objectives**
To apply scientific and economic principles in selecting and specifying major equipment required to carry out particular processes: heat and mass transfer.
equipment, equipment for storage and transport of fluids. Apart from the physical and chemical principles of the processes, other factors are also considered such as materials of construction, structural integrity, costs, safety and environmental effects, maintenance requirements and hygiene requirements.

Content
Design considerations: process requirements; performance, safety, reliability, maintainability; codes and standards; inspection and testing. Instrumentation. Equipment life, disposal, costs. With particular reference to the food and biological industries, the requirements for bio-compatibility of materials, and maintenance of hygiene.

Strength of materials: stress-strain relationships; failure theories; design criteria; design codes and standards. Effects of corrosion, creep, welding, embrittlement. Effects of vibration.

Piping system design: optimum pipe diameter; pipe stress analysis; pipe fittings; effect of thermal expansion; computer packages for pipe stress analysis. Non-destructive examination and hydrostatic testing. Pump selection; pumping power costs.

Pressure vessel design: design codes; materials and fabrication selection; vessel weight and costs; computations and submission to design authorities; vessel inspection and testing.


Equipment for simultaneous heat and mass transfer: dryers, crystallizers, cooling towers.

Maintenance management.

Recommended reading

SCE506 Environmental and Safety Assessment
20 credit points 3 hours per week Hawthorn Instruction: lectures, tutorials, Assessment: design report 75%, seminar presentation 25% Prerequisites: SCE504-Process Equipment Design. A fifth year subject in the Bachelor of Chemical Engineering

Objectives
To further develop in students knowledge and understanding of the environmental implications of engineering activities and an understanding of the responsibilities of engineers under the occupational health and safety laws.

Content
Geographical:
- global issues such as ozone depletion, atmospheric warming, biodiversity, finite nature of resources and recycling, renewable resources
- local issues such as lowering levels of ozone-depleting gases, energy generation, waste treatment and disposal
- physical issues such as cycles of elements, transportation mechanisms
- social issues such as impact of population, quality of life.

Prevention and control techniques:
- Assessment techniques - impact
- Assessment, auditing, risk
- Assessment legislation and regulations, management methods
- containment of genetically-engineered organisms.

Treatment techniques:
- types and sources of waste, recycling, handling and transport of wastes, processing and resource recovery, final disposal
- case studies related to problems with gases, liquids and solids in industries such as the chemical industry, food industry, nuclear industry, pharmaceutical industry, and in particular processes such as the combustion processes.

Cleaner production:
- philosophy of cleaner production, management approach to cleaner production and case studies of the implementation of cleaner production.

Occupational Health and Safety
The health, moral, social and legal responsibilities associated with the practice of chemical engineering, and the implications of relevant legislation.

Recommended reading

SCE507 Chemical Engineering Management
10 credit points 4 hours per week Hawthorn Instruction: lectures, tutorials, Assessment: examination 40%, assignments 40%, tutorial participation 20% A fifth year subject in the Bachelor of Chemical Engineering

Objectives
To introduce and develop (or further develop) an understanding of the role of management with respect to innovation and enterprise, project management, engineering finance and accounting, industrial relations, engineering law, leadership and human resource management in the context of chemical engineering projects and industry.
Content
Topics will encourage students to develop and demonstrate an understanding of the responsibilities and processes associated with effective management in chemical engineering industries.

Topics will include
- the role of innovation and enterprise;
- role of research and development;
- project management, project initiation, organisation, evaluation and review;
- finance and accounting processes, balance sheets, capital investment issues, sources of finance;
- principles of human resource management, the role of leadership, industrial relations, resolution of conflict;
- legal environment with respect to engineering operations, legal obligations, contracts, property, professional liability.

Recommended reading
Samson, D., Management for Engineers, Longman, Chezine, 1996
Schermurk, J.R., Management for Productivity, Wiley, 1993

SC555 Bioprocess Engineering
10 credit points • 4 hours per week • Hawthorn • Instruction: lectures, tutorials • Assessment: assignments 30%, examination 70%
A fifth year subject in the Bachelor of Chemical Engineering

Objectives
This subject will fully develop the connection between the various engineering subjects in the course and the biological subjects. The subject will develop the integrative skills that will enable the graduate to modify practices of chemical engineering to accommodate the specific requirements of biological systems.

Content
A selection will be made from the following topics in order to identify problems in which these problems can be solved or contained. For each topic the biological aspects and implications will be emphasised. Case studies will be used where appropriate.

Design of bioreactors
Selection of materials (bio-sensitivity); preparation of materials; nutrient supply; flow properties; mixing, agitation, shear rates; gas inputs and outputs, foaming; temperature control; sterilisation, contamination; inert supports.

Mass transfer
Boundary layers; nutrient diffusion and transfer; shear rates and mixing.

Heat transfer
Heat stability; sterilisation and pasteurisation; spray drying and freeze drying; product stability.

Fluid mechanics
Non-Newtonian fluid flow; applications in viscous systems.

Separations of biological products
Membrane technology; filtration; centrifugation; chromatography; affinity binding; crystallisation.

Recommended reading

SE101 Science for Technology
10 credit points • 5 hours per week • Hawthorn • Prerequisites: nil, but must satisfy course entry requirements • Assessment: practical work, assignments and examination
A first year subject in the degree of Bachelor of Applied Science (Multimedia Technology)

Objectives
- To provide a basis for specialist scientific disciplines through rigorous development of essential physics principles.
- To provide a coherent and balanced account of the fundamentals of physics.

Content
Forces and energy kinematics, linear and circular dynamics, gravitation, kinematic theory, heat.
Modern physics atomic structure, radioactivity, quantum theory, special relativity.
Electricity and magnetism magnetic and electric fields, Coulomb’s Law, electromagnetic induction-Lenz and Faraday’s laws, DC circuits.

Recommended reading

SE104 Psychological Processes
10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: nil, but must satisfy course entry requirements • Assessment: assignments and examination
A subject in the degree of Bachelor of Applied Science (Multimedia Technology)

Objectives
- The course is intended to provide introductory information on the nature of psychological processes.
- Specifically the course introduces information on the brain and the nervous system.
- Endocrine Systems: Consciousness, motivation, emotion, learning and visual and auditory perception.
- Understanding how humans attend, process and perceive information from the external environment.

Content
The Brain; The Neuron; The Nervous System; The Endocrine System; Consciousness; Motivation; Emotion; Classical Learning; Operant Learning; Social Learning; Sensation; Vision; Sensation; other senses.

Recommended reading
TBA

SE105 Robotics & Mechatronics Project 1
10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: nil • Assessment: examination & assignment
A first year subject in the degree of Bachelor of Engineering (Robotics & Mechatronics)

Objectives
- To develop an understanding of the social and environmental issues affecting engineering.
- To develop communications skills necessary for the role of a professional engineer.
- To develop skills in visualisation and graphical communications.
- To provide tools and techniques that will assist students when undertaking engineering projects, eg Professional Skills 2.

Content
Graphics

Communications


Introduction to Design Projects

Recommended reading

Swinburne Student Notes: Communications Project Guide
Professional Skills Student Guide
Note book on Graphical Communications
SE106 Psychology of Learning

A subject in the Bachelor of Applied Science (Multimedia Technology)

Objectives
Most multimedia applications, even computer games, involve a degree of instruction and guidance. This subject is intended to enable students to understand the cognitive processes behind learning so that more effective user environments can be developed.

Content
Theories of learning
Motivation
Creativity
Social factors influencing learning
Learning from student perspective
Personality
Cognitive styles
How students learn/learning styles
Deep learning vs surface learning
Problem solving and decision making
Learning strategies
Learning processes relevant to educational technology
Learning modes

Recommended reading
To be advised

SE108 Global Networks

10 credit points • 4.5 hours per week • Hawthorn • Prerequisite: Nil

Assessment: assignment, labs, examination

This is a subject in the Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Applied Science (Multimedia Technology), Bachelor of Applied Science (Computing and Advanced Technologies) Bachelor of Applied Science/Bachelor of Engineering (Multimedia Technology/Telecommunications & Internet Technologies)

Objectives
• To convey an appreciation of the nature, scope and resources available from modern global networks, particularly the Internet and intranets.
• To equip students with the conceptual models, familiarity, knowledge and skills base to exploit those resources during their course.
• To provide a working understanding of networking concepts, the role of hardware and software and telecommunications in the realisation of multimedia networking, and the limitations imposed by the various types of networks.

Content
• Introduction to the Internet, the WWW and Intranets: WWW browsers.
• Information searching and acquisition: WWW search engines, newsgroups.
• Introduction to HTML markup language: HTML editors.
• Person to person communication, synchronous and asynchronous: Email, Chat, MUDs/MOOs, audio, video.
• Person to remote computer access: Telnet, FTP, software acquisition.
• On-line resources: accessing on-line databases & courseware, interactive multimedia
• Telecommunications networks: architectures, technologies, capacities and limitations.
• Mobile communications: voice and multimedia networking.
• Local Area Networks. Architecture & principles, capacity limits and throughput.
• Review

Textbook

SE112 Introductory Biophysics A

10 credit points • 4 hours per week • Hawthorn • Prerequisite: Nil

This is a subject in the Bachelor of Applied Science (Medical Biophysics and Instrumentation), Bachelor of Applied Science/Bachelor of Engineering (Medical Biophysics/Electrical Engineering)

Objectives
To appreciate the importance of physical concepts and methods in the articulation of structure and function in biological systems.

SE118 Physics 1

10 credit points • 5 hours per week • Hawthorn • Prerequisites VCE Mathematics Methods Units 3 and 4, VCE Physics Units 1,2,3 and 4

Assessment: practical work, assignments and examination

This is a subject in the Bachelor of Applied Science (Computing and Advanced Technologies) and (Medical Biophysics and Instrumentation).

Objectives
• To provide the foundation for specialist scientific disciplines through rigorous development of essential Physics principles.
• To provide a coherent and balanced account of the fundamentals of Physics.

Content
Motion and Forces:
Electricity and Magnetism:
Atomic Physics
Nuclear Physics.

Recommended reading
Physics for Scientists and Engineers with Modern Physics, 4th Edition, Saunderson

SE121 Telecommunications Project 1A

10 credit points • 4.5 hours per week • Hawthorn • Prerequisite: Nil

Assessment: assignment & examination

This is a subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)

Objectives
To develop the personal communications skills necessary of a professional engineer.
• To develop individual skills in testing the behaviour and performance of components and systems for use in telecommunications and networks.
• To introduce skills that will assist students when undertaking engineering team projects.

Content
Communications:
Students will be expected to demonstrate teamwork and project management skills by conducting a series of small project feasibility, design and analysis tasks, in preparation for the following project subject. Introduction to product design principles. Design synthesis. Creative design methods - brainstorming, lateral thinking, analogies. Project planning. Computer modelling. Feasibility studies. Implementation methods. Testing.
**SE122 Introductory Biophysics B**

10 credit points • 4 hours per week • Hawthorn • Prerequisites: Nil • Corequisites: Nil

A first year subject in the Bachelor of Applied Science (Medical Biophysics and Instrumentation)

**Content**

This subject presents a combination of introductory and advanced theoretical and practical material on cellular, physiological and biophysical systems. Topics covered include: the major organ systems (cardiac, respiratory, nervous, renal and muscular) as well as biomechanics, sports science, endocrines, control and metabolism. Practical classes use experiments in combination with computer simulations to complement the topics, to provide practical skills and to provide numerical results from normal populations of selected human functions. All topic aspects are covered such that their vocational and practical relevance to the biological, clinical and sports sciences is clear.

**SE128 Physics 2**

10 credit points • 5 hours per week • Hawthorn • Prerequisites: SE118 • Assessment: practical work, assignments and examination

A first year subject in the degree of Bachelor of Applied Science (Computing and Instrumentation), (Medical Biophysics and Instrumentation) and Bachelor of Applied Science/Bachelor of Engineering (Medical Biophysics/Electrical Engineering)

**Objectives**

To provide a basis for specialist scientific disciplines through rigorous development of essential Physics principles;

to provide a coherent and balanced account of the fundamentals of Physics.

**Content**

Vibrations;

Waves and Sound;

Optics;

Thermal Physics;

Nuclear Physics.

**Recommended reading**

Physics for Scientists and Engineers with Modern Physics, 4th Edition, Serway (Saunders)

Study Guide with Computer Exercises to accompany Physics for Scientists and Engineers with Modern Physics, 4th Edition, Gordon and Sarway (Saunders)

**SE210 Electronics**

10 credit points • 4.5 hours per week • Prerequisites: EE192/SE120, SM112 • Assessment: practical work, assignments CML tests and examination

A second year subject in the degree of Bachelor of Engineering (Electrical and Electronic) Bachelor of Applied Science (Computing and Advanced Technologies) and (Medical Biophysics and Instrumentation) and (Multimedia Technology).

**Objectives**

To be familiar with the basic digital building blocks (such as gates, flip/flops, counters etc.);

to be able to analyse and synthesise digital circuits of moderate complexity;

to be familiar with the basic analog building blocks (such as amplifiers, filters, non-linear circuits, etc.);

to be able to analyse and synthesise analog circuits using operational amplifiers;

to develop a basic understanding of discrete electronic components (such as diodes and transistors).

**Content**

Digital Electronics; Combinational logic; Review of Boolean algebra analysis and synthesis, Kmaps; SSI & MSI Building Blocks: Adders, Subtractors, ALU’s, Multiplexers, Demultiplexers, Encoders, Decoders; Sequential Logic; Latches and Flip-flops; MSI building blocks (counters, registers, shift registers); State Machines; Logic Devices and Family Characteristics: Fan out, loading, propagation delays, power dissipation; Logic levels and compatibility; Three-state and open collector outputs; Programmable Devices: ROMs, PLA’s, PALs.


Non Linear OP-Amp Applications: Clipping and Clamping Circuits, Precision Diode, Peak Detector, Comparators.

**Recommended reading**

Maddock R.J., Cockott D.M. *Electronics for Engineers*, Longman Scientific and Technical 2nd Edn, 1984


**SE211 Telecommunications Project 1B**

10 credit points • 41/2 hours • Hawthorn • Prerequisites: SE211 • Assessment: Project

This is a subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)

**Objectives**

To develop skills in working together as teams on technical projects.

to work in teams to develop, evaluate and present a telecommunications or internet product.

**Content**

The major activity involves the progressive development and evaluation of a telecommunications or internet product, with each student working as a member of a project team. This will involve stages, comprising group planning, splitting the whole into individual or small group sub-projects, integration of the sub-projects into a whole, and reporting as a team.

**SE212 Circuits**

10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: SM111, SM112, EE192 • Corequisites: SM223 • Assessment: pracs, assignments, tests & examination

A second year subject in the degree of Bachelor of Engineering (Electrical and Electronic)

**Objectives**

To develop a wide range of skills to be used in the analysis of circuits and to identify the most appropriate analysis technique for a particular problem. The subject will embrace the steady state analysis of circuits stimulated with a sinusoidal or dc input.

**Content**

Review of DC Circuit analysis techniques

Review of complex impedance and phasor diagrams

Network theorems

Maximum power transfer in fixed frequency circuits, and its significance

Resonance in variable frequency circuits, and its significance

Three phase circuits and measurements

Two port network analysis

Dependent sources

Non-linear elements

Transformers and mutual inductance

Transient response of first-order circuits

**Recommended reading**


Swinburne University of Technology | 1998 Handbook
SE213 New Media: The Telecommunications Revolution

10 credit points • 3 hours per week • Hawthorn • Prerequisite: Nil • Assessment: tutorial and assignment

A subject in the Bachelor of Applied Science/Bachelor of Engineering in Multimedia Technology/Telecommunications & Internet Technologies and the Bachelor of Engineering in Telecommunications & Internet Technologies

Objectives
This subject examines the convergence of broadcasting and telecommunications in the context of political, economic and social change associated with new media.

Content
New media and convergence - mapping the territory.
The Australian telecommunications industry.
Forces for media change - the political economy.
Telecommunications - institutional change.
The cultural impact of new communications technologies - media imperialism.
New media systems - cable and pay television.
Information and community service obligations.
Innovation and industry development policy.
National information policy - policies and politics.
Future agendas.

Recommended reading

SE214 Engineering Physics 3

10 credit points • 4 hours per week • Hawthorn • Prerequisites: SP124,SP125 • Assessment: test and examination

A second year subject in the degree of Bachelor of Engineering (Electrical and Electronic), Bachelor of Applied Science (Computing and Advanced Technologies) and Bachelor of Applied Science (Medical Biophysics and Instrumentation)

Objectives
To develop in students a familiarity with selected areas of classical and modern physics, particularly those areas relevant to modern electrical and electronic engineering.

Content
Quantum Mechanics and Solid State Physics:
Quantum Mechanics; Quantum phenomena, probability and wave functions. Time independent and time independent Schrödinger equations. Applications of Schrödinger equation, quantum states, energy levels and degeneracy. Reflection and transmission at a potential barrier - tunnelling. Averages and the Heisenberg uncertainty principle.
Solid State Physics: Many body quantum mechanics, identical particles and Pauli exclusion principle; Quantum distribution functions; Free electron theory, Fermi-Dirac distribution, Fermi level; Conductivity in metals, failures of free electron model; Weak binding approximation, forbidden energies and effective mass. Strong binding approximation, band theory and intrinsic semiconductors. Extrinsic semiconductors and semiconductor devices.
Electromagnetism and Optics: Electromagnetic: Electric and magnetic fields and Maxwell’s equations; Scalar and vector potentials; Fields in dielectric, magnetic and conducting materials, polarization and magnetization, constitutive relations, Maxwell’s equations in macroscopic form. Energy in electromagnetic fields; Electromagnetic problems, solutions of Poisson’s equation; Magnetostatic problems: Electromagnetic waves in vacuum and in simple non-conducting and conducting media; Reflection and transmission at boundaries. Optics: Lasers and other light sources; Total internal reflection and optical wave guides: Optical fibre fundamentals, types of fibres and their transmission properties; Sources, modulators and detectors, communications via optical fibres; Holography and holographic optical devices.

Recommended reading

SE215 Instructional Design Principles

10 credit points • 4 hours per week • Hawthorn • Prerequisite: SE106 • Assessment: assignments and examination

A second year subject in the degree of Bachelor of Applied Science in Multimedia Technology.

Objectives
To provide an overview of the systematic approach to the design, implementation and evaluation of instructional programs and learning environments.

Content
Instructional strategies and models.
Problem analysis and project description: Stakeholder analysis; Identification of instructional goals; Identifying learners needs (sensitivities to entry level behaviour); Defining learning objectives.
Instructional analysis and design; Identification of appropriate instructional strategies; Use of criterion referenced instruction and assessment; Incorporation of learner feedback; Programs for novices vs programs for experts; Optimal instructional sequences; Selecting and developing instructional materials; Choice of media/integrating appropriate media.
Measurement of performance: Summative and formative assessment; Assessment of objectives.
Program Evaluation: The importance of building evaluation into program at design phase; Evaluation of all stakeholders (not only program participants).

Recommended reading
Seels, B. & Glasgow, Z., Exercises in Instructional Design, Merrill Publishing Company, Columbus, 1990

SE220 Sensors, Interfacing and Control

10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: SE210 • Assessment: practical work, assignments, CML tests and examination

A second year subject in the degree of Bachelor of Applied Science (Computing and Advanced Technologies), (Medical Biophysics and Instrumentation) and Bachelor of Applied Science / Bachelor of Engineering (Medical Biophysics / Electrical Engineering)

Objectives
To further develop the students understanding in sensors and microcontrollers and how they can be used in various applications.
To introduce how sensors and actuators can be interfaced to computers and to develop an understanding of control in transducer systems.

Content
Sensors and Applications
Survey position and temperature measurement techniques; The detection of nuclear and optical radiations; Industrial sensor applications; Medical sensor applications; Chemical and biosensors; Actuators and smart structures; Signal conditioning, shielding and grounding, noise reduction, analog signal processing; Digital signal processing.
Interfacing and Microcontrollers; Digital to analog converters; Analog to digital converters; Serial and parallel communication; Basic computer architecture and instruction execution; address decoding; Software for interfacing.
Microcomputer timing; Port addressing, interrupts; Sampling theory; Microcontroller applications.

Control theory
System introduction, basic structure, open loop, closed loop, feedback; System modelling, basic electrical, mechanical and thermal elements; Transfer function, system poles and zeros, s-plane, system stability. System analysis, transient and steady state analysis, steady state error; Root locus analysis; Frequency

Addison-Wesley (1993)
response, polar plots, bode plots, Nichols chart; Introduction of compensator design, concept of PID controller; Introduction of non-linear systems; Introduction of state space analysis, concept of state feedback controller; Introduction of discrete time systems, digital control scheme; Concept of adaptive control and optimal control, performance index.

Recommended reading
TBA

SE221 Engineering Business Skills
10 credit points • 4 hours per week • Hawthorn • Prerequisites: Nil • Assessment: CML tests, essays
A second year subject in the degree of Bachelor of Engineering (Electrical and Electronic) and Bachelor of Engineering (Telecommunications and Internet Technologies)

Objective
This subject is aimed at preparing students for the workforce, particularly for IBE, the following semester, through the development of a range of generic personal and professional skills and an introduction to business organisation and operation.

Content
Personal development: Writing of technical reports, proposals & business letters; Preparing a CV & interview skills; Making a presentation; Listening skills; Interpersonal skills: teams, negotiation, supervision; Getting organised: personal time management.

Business fundamentals: Why business exists: Investment and profit; Business organisation: R&D, manufacturing, sales & marketing, service; Organisational dynamics; Management & leadership; Business planning: Decision making; Financial management & funding of business; Macroeconomics & infrastructure; Small businesses.

Professional issues: Business etiquette; Professional ethics; Discrimination issues; Occupational Health and Safety in the workplace.

Recommended reading

SE223 Linear Systems
10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: SM223 • Corequisites SM244 • Assessment: practical work, assignments and examination.
A second year subject in the degree of Bachelor of Engineering (Electrical and Electronic)

Objectives
- To develop the analytical tools to study the dynamic response of a network or electromechanical system.
- To introduce the concept of the complex frequency and transfer functions, enabling the time and frequency response of a system to be calculated.
- The analysis shall be restricted to single input-single output linear systems up to second order.
- The concept of the Fourier series and Fourier transform shall also be introduced.

Content
Transients in single time constant circuits, using DEs and Laplace Transforms;
Extension of jw to s, s-plane;
Block diagram representation of systems;
Transfer functions and frequency response concepts;
Bode Plots;
Fourier series and Fourier transforms;
Analysis of second order systems;
Introduction to passive filter design;
Feedback systems: positive and negative feedback.

Recommended reading

SE224 Computer Communications & LANs
10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: SE314 • Assessment: CML tests, labs, assignments, examination
This is a subject in the Bachelor of Engineering (Telecommunications & Internet Technologies) and the Bachelor of Applied Science/Bachelor of Engineering (Multimedia Technology/Telecommunications & Internet Technologies)

Objectives
- To become familiar with common terminology, concepts and techniques of data transmission and open systems.
- To learn to explain, justify, analyse and critically evaluate common data transmission methods, including error protection techniques.
- To be able to analyse the performance of various protocols when subject to stochastic computer generated traffic.
- To learn to explain, justify, analyse and critically evaluate the operating principles and performance of common computer networking systems.

Content
Data transmission concepts
- Source and channel coding, OSI, layering, hardware and software
- Baseband pulse transmission, decision process, effects of noise and non linearity as binary and multilevel signals, signal shaping and eye diagrams, Shannon and Nyquist limits.
- Review of modulation techniques and media, optical media
- Asynchronous and synchronous formats, framing structures
- Bit, byte and frame synchronisation, line codes.
- Error control (parity, BCC, CRC), flow control.
- Protocols, Idle RQ, Continuous RQ, performance with errors, File transfer protocols
- LAN technologies.
- Site visits to industry will be arranged.

References

SE225 Machine and Power Systems
10 credit points • 4 hours per week • Hawthorn • Prerequisites: EE182 • Assessment: assignment, practical work and examination.
A second year subject in the degree of Bachelor of Engineering (Electrical and Electronic) and Bachelor of Engineering (Robotics and Mechatronics)

Objectives
To introduce the principles of magnetic circuits, electromechanical energy conversion, D.C. machines, transformers, induction machines, and power electronics

Content
Magnetic Quantities: Flux Density, Magnetic Field Intensity, Magnetic Flux, Magnetization, Permeability,
Magnetic Circuits; Series and parallel magnetic circuits, calculations for inductors, transformers, tractive magnets and rotating machines; (Detailed calculation of leakage paths not included); Energy density in a magnetic field, and the general tractive magnet force relationship.

Transformer Current Machines: Common structural forms, disc and drum types of armature windings, permanent magnet and wound field systems; Armature windings, lap and wave types; EMF and torque equations; Commutation and interpoles; Magnetic effect of armature; Methods of connection: Shunt, series; Torque-speed and voltage-current characteristics; Torque equation including inertia of moving system; (Solution not required) Losses and efficiency, methods of cooling, rating, starting and speed control methods for motors; Voltage control methods for generators; Power Electronics: Devices; The power diode and the Silicon controlled rectifier.
The Transformer: The single phase transformer equivalent circuit; voltage regulation and efficiency.

Recommended reading
Lander C.W., Power Electronics
Sen, P.C., Principles of Electric Machines & Power Electronics
SE226 Computer Communications
10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: SE314T
Assessment: CML tests, assessment, prac examination
A second year subject in the degree of Bachelor of Applied Science in Multimedia Technology.

Objectives
The student should become familiar with common terminology, concepts and techniques of data transmission and open systems. The student should be able to explain, justify, analyse and critically evaluate common data transmission methods, including error protection techniques. The student should be able to analyse the performance of various protocols when subject to stochastic computer generated traffic. The student should be able to explain, justify, analyse and critically evaluate the operating principles and performance of common computer networking systems.

Content
Data transmission concepts: Source and channel coding, OSI, layering, hardware and software.
Baseband pulse transmission; decision process: effects of noise and non-linearities on binary and multilevel signals; signal shaping and eye diagrams.
Shannon and Nyquist limits.
Review of modulation techniques and media, optical media:
Asynchronous and synchronous formats, framing structures.
Bit, byte and frame synchronisation, line codes.
Error control (parity, BCC, CRC), flow control.
LAN technologies.

Recommended reading

SE228 Physics 4
10 credit points • 4 hours per week • Hawthorn • Prerequisites: SE218 • Assessment: Semester test, examination
A second year subject in the degree of Bachelor of Applied Science (Computing & Advanced Technologies), (Medical Biophysics and Instrumentation) and Bachelor of Applied Science / Bachelor of Engineering (Medical Biophysics / Electrical Engineering)

Objectives
To develop an understanding of fundamental physics, both classical and modern, at post introductory level.

Content
Thermodynamics and Properties of Matter:
Thermodynamic equilibrium and thermodynamic quantities. Energy, entropy and the Laws of thermodynamics; Conditions for equilibrium, thermodynamic potentials; Thermal processes, phase transitions and fluctuations; Non-viscous and viscous fluids; Magnetic and Thermal Properties of Materials.
Physics of Solid State Devices: The PN junction, rectification; Semi conductor detectors, LED s and lasers.
Classical Mechanics: Newton s Laws; Motion with dissipative forces; Conservation Laws; Lagrangian and Hamiltonian formulations of classical mechanics; Theory of small vibrations, normal modes and resonance; Rigid body dynamics, angular momentum and the inertia tensor; Euler s equations and torsion free motion.

Recommended reading

SE229 Computer Learning & Authoring
10 credit points • 4 hours per week • Hawthorn • Prerequisites: SE215, SE314T
Assessment: Assignments and examination
A second year subject in the degree of Bachelor of Applied Science in Multimedia Technology

Objectives
To introduce students to the range of learning and teaching paradigms available through computer-based multimedia systems, covering structured systems such as Computer Managed Learning programs through to informal interaction and learning programs such as computer simulations, and games. Students will be introduced to an authoring system through which such learning environments can be generated.

Content
Computer interaction and feedback
Computer Based Instruction (CBI)
Hyper-text and HTML
Hypermedia
Authoring software such as Authorware and Author
Computer Managed Learning (CML) and assessment
Writing test items: formative and summative assessment
Item response analysis: reliability and validity
Limitations of CBI and CML
Computer simulations of real physical phenomena
Computer games
Tailoring the learning environments to the audience, eg: the young
Evaluation of learning
Stand-alone and networked systems
Interaction via the World Wide Web

Recommended reading
Kearsley, G, Authoring : a guide to the design of instructional software.
Addison-Wesley, Reading, Mass, 1986
Sneiderman, B, Designing the User Interface, Addison Wesley, Reading, Mass, 1992

SE230 Cardiovascular Biophysics
10 credit points • 4 hours per week • Hawthorn • Prerequisites: 4L • Corequisites: Nil
A second year subject in the degree of Bachelor of Applied Science (Medical Biophysics and Instrumentation) and Bachelor of Applied Science / Bachelor of Engineering (Medical Biophysics / Electrical Engineering)

Objective
This subject deals in the detail the biophysics and physiology of excitable cells which leads into a detailed coverage of the structure and function of synapses, skeletal and smooth muscle tissue and the automatic nervous system. During practical sessions, students will exposed to various underlying scientific principles as well as a range of clinical monitoring techniques.

Content
The heart: cardiac cycle, mechanical and electrical events, Starling’s law, mechanical properties of cardiac muscle.
Pulseatile pressure and flow in arteries, wave propagation in arteries, blood rheology, atherosclerosis, Starling’s hypothesis of the capillary system, mass transport, flow in collapsible tubes, blood flow in particular organs, Guyton’s model.
Cardiac monitoring and pathologies.
The ECG: genesis of myocardial field; changes in disease; arrhythmias and conduction defects
Pressure and flow monitoring: invasive and non-invasive methods, Swan Ganz catheters, cardiac output methods, oximetry, nuclear methods. Diagnosis by sonic and ultrasonic methods.
Intensive care instrumentation. Cardiopulmonary bypass
SE232 Embedded Microcontrollers
10 credit points • 4 hours per week • Hawthorn • Prerequisites: SE210 • Assessment: CML tests, lab, assignment, examination
This is a subject in the Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Engineering (Electrical & Electronic), Bachelor of Applied Science (Multimedia Technology), Bachelor of Applied Science/Bachelor of Engineering (Multimedia Technology)/Telecommunications & Internet Technologies, Bachelor of Medical Biophysics / Electrical Engineering.

Objectives
- Students will be introduced to the basic units that make up a microcomputer system at the component level. Students will gain an understanding of programming, from an assembly code level, as a foundation for their understanding of higher-level languages.
- They will then progress to programming using the C language.
- The emphasis of the subject will be on embedded systems and the programming examples and techniques making use of microcontrollers. This approach will be supported by the laboratory program.
- On completion of the subject, the student should be able to evaluate the usefulness of a microcontroller as a solution to an interfacing or control problem and then implement this solution using an appropriate combination of programming techniques and hardware.

Content
Computer Architecture overview
- Number systems & arithmetic (review): Binary, 2's complement, add, subtract, divide & multiply; Division into units: CPU, Memory, I/O, Memory organisation & addressing, bus structure.

Programmer's Machine Model (Assembly level)
- Assembly language programming: Register set, addressing modes, accessing data, data sizes, instruction sets, instruction classes; Introduction to assembly/linking/simulation process; Modular programming: Use of subroutines, hardware stack, recursion, storage allocation; Interrupt process and handlers; Programming examples.

C programming for embedded systems
- C compilation & Linking; Parameter passing & stack frames; Memory requirements and organisation; Accessing /I/O resources; Interrupt process and handlers; Programming examples; Optimisation of code.

Hardware
- Memory types: RAM, ROM, EEPROM, volatile & non-volatile; Bus structure & implementation; Bus signals & memory decoding, bus contention; Timing diagrams & timing constraints (qualitative).

Microcontroller on-chip peripherals
- I/O Ports, configuring & use; Timers & interrupt generation, event counting, timing generation; Analogue-to-digital & Digital-to-Analogue conversion; Serial communications, UARTS.

Interfacing Examples
- Keyboard scanning; Successive approximation A-to-D.

References:

SE240 Cellular Biophysics
10 credit points • 4 hours per week • Hawthorn • Prerequisites: SE112, SE122 • Assessment: practical work, assignments and examination
A second year subject in the degree of Bachelor of Science (Medical Biophysics and Instrumentation) and Bachelor of Applied Science / Bachelor of Engineering (Medical Biophysics / Electrical Engineering).

Content
- Membrane Phenomena: Structure and function of membranes and membrane channels; modes of transport of ions and non-electrolytes; Diffusive processes; Nernst and Donnan equilibria.
- Measurement of intracellular potentials: electrode processes; overpotentials; diffusion potentials; Experimental techniques; noise rejection; high impedance and differential amplifiers; Na' and K' channels.
- Experimental techniques: voltage clamping and patch clamping (Th1); Hodgkin-Huxley model: elements, Synapses.
- Pre-and post-synaptic processes: inhibitors and agonists; statistical analysis of mops; Receptors and neurotransmitters: types and modes of operation; Inhibitory and excitatory neurons: integrative functions of soma.
- Correlation between cellular and macroscopic properties: Length-tension relation ships in skeletal, smooth and cardiac muscles; Force velocity relationships: cellular correlates of Hill equation; Energy supply and metabolic measurements; Electrical activity: MUs and the EMG; Cellular basis of muscle fatigue and muscle disease.

Recommended reading
- Guyton A.C. and Hall, Textbook of Medical Physiology, 9th Edn, Saunders
- Plumley R.L. and Barr R., Bioelectric Phenomena, Preston, 1988

SE250 Biomedical Instrumentation
10 credit points • 3 hours per week • Hawthorn • Prerequisites: Nil • Corequisites: Nil
A second year subject in the degree of Bachelor of Applied Science (Medical Biophysics and Instrumentation) and Bachelor of Applied Science / Bachelor of Engineering (Biomedical / Electrical Engineering).

Objectives
- examine specific aspects of particular types of biomedical instrumentation
- primary emphasis on transducers and electronics
- secondary emphasis on physiology and applications

Content
- This subject deals with techniques and instrumentation relevant to clinical, hospital and biomedical areas. Biophysical and technical aspects are covered in detail as well as their practical application in hospitals and clinical circumstances. Material is treated in both lectures and where possible, in practical exercises. Fundamental considerations are developed so that complete systems are thoroughly covered. Most topics range from the detection, recording, processing and therapeutic uses of a range of biological signals.

SE260 Respiratory and Renal Biophysics
10 credit points • 4 hours per week • Hawthorn • Prerequisites: Nil • Corequisites: Nil
A second year subject in the degree of Bachelor of Applied Science (Medical Biophysics and Instrumentation) and Bachelor of Applied Science / Bachelor of Engineering (Medical Biophysics / Electrical Engineering).

Objectives
- To provide a thorough coverage of the structure, function and clinical considerations of the respiratory system, along with the basic biochemical, biophysical and physiological principles, details of the symptoms and measurement of clinically relevant respiratory disorders are covered in lecture material as well as in various practical exercises.

Content
- Respiratory system, structure and function, lung volumes and dead space, diffusion, blood flow, ventilation perfusion inequality, gas transport, Bohr and Haldane effects, acid/base balance, respiratory mechanics, control of respiration,
- Lung function testing and lung diseases, obstruction, restriction, flow/volume curves, diffusion capacity, compliance, body plethysmography.
- Exercise Biophysics: respiratory changes associated with exercise, anasthesia: agents and their administration, monitoring, physiological effects of anaesthesia.
- Sleep monitoring; monitoring the respiratory processes associated with sleep, and disorders of sleep.
- Renal biophysics; vasculature, the juxtaglomerular apparatus; kidney function tests, countercurrent multiplication, control of kidney function, renal pathophysiology, the artificial kidney.

SE310 Analog Electronics Design
10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: SE210 • Assessment: prac, assignments and examination
A third year subject in the degree of Bachelor of Engineering (Electrical and Electronic).

Objectives
- To provide the student with a variety of applications-oriented analog electronic design skills. Provide insights into design issues related to component variability,
and into the behaviour of semiconductor functional blocks commonly used in
integrated and discrete analog circuits. Introduce solid state device
characteristics with particular emphasis on analog integrated circuit
characteristics and the uses of analysis and simulation.

Content
Diode and bipolar transistor large signal models
FET large signal model
Integrated circuit current mirror circuits and large signal analysis
Emitter coupled differential amplifier & behaviour as a DC amplifier
Variable transconductance operational amplifier and balanced modulator with
some basic applications including multiplication
Bias circuits to establish desired operating voltages and currents
AC coupling and bypass for AC amplifiers
Small signal models and their use for finding gain and frequency response
Mid-band and high-frequency small signal analysis of CE and cascade amplifier
stages and tuned circuits
Feedback in discrete device amplifiers
Phase-locked loops
ADC, DAC sample/hold, analog multiplexer principles of operation
CAE design of circuits and integrated devices

Recommended reading

SE312 Control and Automation
10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: SE212, SM229
Assessment: Practical work, assignments and examination
A third year subject in the degree of Bachelor of Engineering (Electrical and
Electronic)

Objectives
• To develop techniques to formulate models to represent a linear dynamic
system;
• To predict the dynamic response of a linear system to a variety of inputs
using analytical tools;
• To introduce the concept of feedback in a linear system and to emphasise
its advantages using specialised analytical techniques.

Content
System Concepts: Introduction to the concept of a system as a connection of
elements; Electrical mechanical and thermal elements and their basic physical
relationship; Formulation of system equations to form a system model; The
linear system and open loop and closed loop systems.
Analysis of Linear Systems: The following analysis techniques are developed so
that the dynamic response of a single input single output system may be
predicted for a variety of inputs; Classical solution of differential
equations; Solution of differential equations using Laplace transform techniques;
Formulation of a system transfer function; The analogue computer and its
application to modelling dynamic systems; Frequency response
techniques - analysis from the s-plane and Bode diagrams; Steady state
performance; Criteria for stability; Determining stability from the s-plane
and from Bode plots, gain margin and phase margin.
Feedback Control Systems: Basic concepts of negative feedback and its
advantages; Analysis of feedback control systems using specialised techniques,
root locus diagrams and frequency response analysis; Steady state performance
using the final value theorem; Basic compensation techniques using techne-
feedback and proportional plus integral control to improve dynamic and steady
state performance; Criteria for stability; Determining stability from the s-plane
and from Bode plots, gain margin and phase margin.

Recommended reading
Dorf, R.C., "Modern Control Systems", Addison-Wesley, 1989 5th Ed.

SE314 Communication Principles
10 credit points • 4.5 hours per week • Hawthorn • Prerequisites: SM344 & SE212
Assessment: practical work, assignments and examination
A third year subject in the degree of Bachelor of Engineering (Electrical and
Electronic) and Bachelor of Applied Science (Multimedia Technology)

Objectives
To study the design and implementation of real-time and distributed
operating systems

Content
10 credit points • 4.5 hours per week • Hawthorn - Prerequisites: SE325
Assessment: CML tests, labs, assignments, laboratory
A subject in the Bachelor of Engineering (Electrical & Electronic) and
Telecommunications & Internet Technologies.

Recommended reading

SE325 Time & Distributed Systems
10 credit points • 4.5 hours per week • Hawthorn • Prerequisite: SE232
Assessment: CML tests, labs, assignments, examination
This is a subject in the Bachelor of Engineering (Electrical & Electronic Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Applied Science/Bachelor of Engineering (Multimedia Technology)
SE404 Multimedia Systems 1
10 credit points • 4½ hours per week • Hawthorn • Prerequisite: SE210
Assessment: CML tests, lab and examination
This is a subject in the Bachelor of Applied Science (Computing & Advanced Technologies)

Objectives
• To introduce students to a range of technologies used in multimedia systems.
• To make the students aware of existing standards and basic techniques related to the recording and reproduction of both sound and vision.

Content
• Storage technologies - CD-ROM, magnetic media, drives, disk formats
• Peripheral interfaces - eg. IDE, SCSI, PCMCIA
• Mechanical & tactile interfaces: keyboards, mice, joysticks, pens, touch screens, tablets
• Graphics generation hardware: principles & operations; industry standards
• Visual display hardware and characteristics
• Images and image file formats; static & animated video
• Capturing images: cameras and video systems, scanners
• Sound input/output hardware & characteristics
• Virtual reality hardware
• Teleconferencing systems
• Future technologies: brain interfaces, olfactory interface, emotional state determination

Textbooks

SE405 Neurophysiology
10 credit points • 4 hours per week Hawthorn • Prerequisite: Nil
Assessment: labs, assignments, examination
This is a subject in the Bachelor of Applied Science (Medical Biophysics & Instrumentation)

Objectives
To provide students with grounding in neuroanatomy, peripheral & central motor systems, tactile sensory systems, and recording & analysis of brain electrical activity.

Content
• Neuroanatomy: spinal organisation and structure, brain stem, pathways, structures, hemispheres, subcortical structures, gross and histological dissection.
• Somatosensory system: receptors-touch, pressure, pain, temperature.
• Generator potentials and frequency coding in the CNS.
• Major afferent pathways, subcortical and cortical regions, sensory homunculus, sensory areas S1, SII, SI, SV, psychophysics.
• Motor system: peripheral effectors, muscle spindle feedback, cortical regions, cerebellum, subcortical regions, motor pathways, control of movement disorders of movement, Parkinson’s disease, chorea.
• EEG & ERP: International 10-20 system, electrodes and recording arrangements. Spontaneous EEG, analysis, Event related potentials, recording and analysis techniques, integrity of pathways, sensory, motor evoked potentials. Applications of ERP techniques to attention and cognition.

Textbooks
To be advised
Content

Data compression
- Information theory, entropy and redundancy;
- Lossy vs lossless compression
- Industry standards, eg. ZIP, LZ77

Images
- Static image compression techniques and standards: JPEG, fractal
- Animated image compression techniques and standards: MPEG
- Image compression and regeneration hardware
- Image processing techniques: filtering, equalisation, etc.

Speech
- Signal processing of speech signals
- Speech compression techniques
- Speech recognition techniques
- Automatic adaptation to the user & environment

Textbooks/References

SE408 Emerging Medical Technologies
5 credit points • 2 hours per week • Hawthorn • Prerequisite: Nil • Assessment: labs, reports, examination
This is a subject in the Bachelor of Applied Science (Medical Biophysics & Instrumentation)

Objectives
To provide students with grounding in advanced and emerging technologies associated with specific medical and biomedical applications.

Content
Physical properties of biological materials
- Visco-elastic properties. Methods of static and dynamic testing of bone, skin, muscle, arteries.
- Functional electrical stimulation. Rehabilitation Technology: gait analysis
- Cell sorting
- Biomedical devices based on nanotechnology

Textbooks
To be advised

SE417 Photonics & Fibre Optics
10 credit points • 4 hours per week • Hawthorn • Prerequisites: SE128, SE314 • Assessment: CML tests, labs, assignments, examination
This is a subject in the Bachelor of Applied Science in Medical Biophysics & Instrumentation/Multimedia Technology, Computing & Advanced Technologies; double degrees in Medical Biophysics & Electrical Engineering, Multimedia Technology & Telecommunications & Internet Technologies and the Bachelor in Telecommunications & Internet Technologies and Electrical/Electronic Engineering.

Objectives
To study the principles and current practices in telecommunications including the applications of optical fibres.

Content
Light sources and Detectors
- Incoherent and coherent sources. Laser design and applications. Nonlinear frequency multiplication and photorefractive effects. Photodetectors: vacuum and solid state, including photomultipliers, photodiodes, PIN diodes, APDs, etc.

Holography
- Principles of holography, off axis transmission, reflection and white light holograms. Holographic optics, lenses, gratings etc. Vibration and motion testing, holographic storage.

Modulation of light
- Description of polarised light, polarisers, reflection from dielectric interfaces and Fresnel relations, propagation in anisotropic media, Optical activity, strain analysis, microscopy, Kerr, Pockels and Faraday effects, light modulation, including acousto-optics.

Application to Telecommunication
Telecommunication networks: services, telephone traffic, equipment, signalling, line characteristics, transmission technology, Australian telecommunication networks.

Fibre-Optic Systems
- Fibre optic communication systems: requirements, fibre types and manufacturing, propagation characteristics, modulation and multiplexing, subsystems and components, sources and detectors, amplifiers, switches, couplers, attenuators, connectors, transmission impairments, nonlinearity and solitons, standards, applications.

Optical Computing
- Site visits to industry will be arranged.

References
Green, P.E.Jr, Fibre Optic Networks, Prentice Hall, 1993

SE423 Neural Networks & Intelligent Instrumentation
10 credit points • 4 hours per week • Hawthorn • Prerequisite: Nil • Assessment: labs. Tests, assignments, examination
This is a subject in the Bachelor of Engineering (Electrical & Electronic), Bachelor of Applied Science (Medical Biophysics & Instrumentation), Bachelor of Applied Science/Bachelor of Engineering (Medical Biophysics/Electrical Engineering)

Objectives
- To introduce students to artificial neural networks and their applications to data processing.
- To introduce students to the concept of learned rather than algorithmic solutions.
- To introduce students to the design of dynamically modifiable instrument systems.

Content
- The artificial neurone. The concept of organising neurones into nets.
- The back propagation network.
- Practicalities when using networks.
- Specialist classification networks.
- Variations on back propagation networks.
- Self organising networks.
- More biologically plausible networks.
- An introduction to Visual Basic
- A review of data acquisition.
- Computer controlled data acquisition.
- Computer control of experimental instrumentation

Textbooks
IEEE488 bus,
I'C bus
Script languages and Expert systems.
- Virtual instruments

SE428 Cognitive Neuroscience
5 credit points • 2 hours per week • Hawthorn • Prerequisite: Nil • Assessment: labs, assignments, examination
This is a subject in the Bachelor of Applied Science (Medical Biophysics & Instrumentation)

Objectives
To introduce the study of higher cortical function, both the normal and abnormal function as a result of injury or disease.

Content
- Cognition and attention, interaction between arousal, vigilance.
- Memory, basic theories of memory, working memory, digit span, neuropsychology.
- Sleep, physiological manifestations, recording principles, major disorders.
- Neurological disorders, epilepsy.
• Mental disorders, schizophrenia, affective disorder, psychoses. Language, speech, production, aphasia, amnesia.

Textbooks
To be advised

SE429 Sensory Systems
5 credit points • 2 hours per week • Hawthorn • Prerequisites: Nil • Assessment: labs, assignments, examination
This is a subject in the Bachelor of Applied Science (Medical Biophysics & Instrumentation)

Objectives
To provide an understanding of the visual, auditory, olfactory and gustatory physiological systems.

Content
• Vision: gross anatomy, microstructure of retina, regulation of pressure, visual pathways, cortical and subcortical areas, evoked potentials, control of eye movements.
• Auditory & vestibular: gross anatomy of ear, cochlear hair cells, labyrinths, coding of auditory information, cortical subcortical areas, vestibular system, optokinetic reflex.
• Olfaction & taste: structure of mouth, nose, transduction at olfactory epithelium, pathway to cortex, taste receptors, classes of taste, interaction between smell & taste.

Textbooks: To be advised

SE430 Machine Drives
10 credit points • 4½ hours per week • Hawthorn • Prerequisites: SE312 • Assessment: labs, tests, assignment, examination
This is a subject in the Bachelor of Engineering (Electrical & Electronic)

Objectives
• To study the dynamic behaviour of electrical machines from the point of view of position and velocity control.
• The material will be presented as dynamic modelling including the power electronic drives, control strategies, and the effect on power system performance.

Content
• Dynamic models of AC and DC machines.
• Position and velocity control with compensation to meet a specification in a variety of applications. "Classical" control system components still in use (Ward Leonard system etc.)
• Generation of harmonics and effect on the power system, passive and active filters.

Textbooks: To be advised

SE431 Digital Electronics Design
10 credit points • 4½ hours per week • Hawthorn • Prerequisite: SE210 • Assessment: labs, assignments, examination
This is a subject in the Bachelor of Engineering (Electrical & Electronic)

Objectives
• This subject builds on the digital logic basics introduced in Electronics.
• Students will become familiar with the design of complex synchronous and asynchronous digital systems.
• Considerations of timing and hazards will be covered allowing the student to have confidence in their ability to design reliable digital circuits.
• The increasing complexity of digital systems mandates the use of appropriate CAE tools. Competence with these tools will be gained by the student.
• Practical applications will be emphasised in a design project allowing the student an opportunity for experiential learning.

Content
Family logic characteristics & interoperability
State machine analysis and synthesis, ASM models
• Mealy and Moore models
• Register transfer notation
Asynchronous circuits
Minimisation of functions, hazards
Field programmable gate arrays
CAE tools for simulation and design.
• Hierarchical design approach.
• CAE design overview.
• Device databases.
• Information available. (electrical, thermal, physical)
• Schematic capture.
• Description of features of a suitable tool.
• Modelling & simulation
• Component modelling (unit delay, timing extraction)
• Synthesis tools for FPGAs
• Introduction to tools and specific concepts

Text/References
Mentor Graphics Reference and Training Manuals.

SE750 Communication Systems
12.5 credit points • four hours per week • Hawthorn • Prerequisites: Nil • Assessment: laboratory, assignment and exam
A subject in the Master of Engineering/Graduate Diploma in Telecommunications and Computer Systems Engineering

Objectives
To develop an understanding of basic communications principles and techniques.

Content
Electrical/electromagnetic elements of communication
Spectrum, bandwidth, filtering and noise concepts.
Spectral analysis, time and frequency domains.
Signal transmission: transfer functions, amplitude, phase, frequency, hybrid.
Digital modulation basics.
Noise effect in modulation systems, detection performance.
Transmission lines.
Antennas.
Fiber optics.

Recommended reading

SK180 Computing
10 credit points • 5 hours per week • Hawthorn • Prerequisites: Nil • Assessment: laboratory assignments, OML tests, examination
A one semester subject for students in the first year of the Bachelor of Engineering course.

Objectives
• Introduces students to computing concepts; provides an appreciation of computer systems, their hardware, software and terminology.
• Provides training and insights into a selection of relevant software application packages;
• Fosters familiarity with personal computer operating systems, their commands and use;
• Fosters skills in using a high level of language to program personal computers

Content
Computer hardware overview of typical personal computers, peripheral devices and networks. Software tools: Operating systems overview, commands and use; relevant applications such as a word processor, spreadsheet, and a drawing package. Program development: problem analysis, algorithm design; implementation in high-level language covering: data types, input/output, branching, loops, procedures, functions, parameters, textfiles, arrays, sets, records, etc.
Recommended reading
Pacific Computer Weekly or similar publication.

The manuals supplied with your computer.
Manuals for or references to AutoDesk's AutoSketch and Microsoft's Windows, Word and Excel.

SK180 Computing Student Resource Package for the relevant year is a compulsory manual which should be obtained and read prior to the course. It gives full details of the subject and specifies the texts to be used.

SK190 Computer Science
10 credit points • 5 hours per week • Hawthorn • Prerequisites: nil • Assessment: laboratory assignments, examination

This is a first year subject of the Bachelor of Applied Science (Chemistry) and (Biochemistry).

Content
This is an introductory course in computing for students majoring in chemistry. Computing dominates the modern day practice of chemistry from computer aided automation in the laboratory to scientific research involving supercomputers. The aim of this course is to provide a good foundation in computing principles. No previous computing knowledge is assumed. An introduction to both computers and the DOS operating system is presented. A programming language, currently QBASIC, is introduced and applied to solve problems typically encountered in chemistry.

SK210 Introduction to Computing
10 credit points • 3 hours per week • Hawthorn • Prerequisites: nil • Assessment: laboratory assignments, examination

A first year subject for students in the Environmental Health and Psychology and Psychophysiology streams of the Bachelor of Applied Science.

Objectives
• Introduce students to computing concepts; provide an appreciation of computer systems, their hardware and software;
• Provide training and insights into a selection of relevant software application packages;
• Provide a brief exposure to programming.

Content
Computer hardware: typical Personal Computer systems, an overview of computer architecture, peripheral devices, communications and up to date means of input and output of data.
Software tools: Operating system commands and their use; relevant application packages such as a word-processor, spreadsheet, database etc.

An introduction to programming in a high-level language, including particular reference to its use in the software packages being studied.

Recommended reading
Manuals or texts referring to Microsoft Windows, Word and Excel.

SK280 Software Development
10 credit points • 4 hours per week • Prerequisites: SK180 • Assessment: laboratory exercises, assignments and examination

This is a second year subject of the Bachelor of Engineering (Electrical)

Objectives
• To introduce the principles of the software development process;
• To introduce the syntax and semantics of the C language;
• To introduce the fundamental data structures and algorithms.

Content
Dynamics of software development process, software tools, algorithm development, programming techniques, fundamental concepts of C language, data types, operators, control of flow, arrays, functions, string handling with standard libraries, structures and bitfields, dynamic memory management, basic data structures: lists, linked lists, queues, stacks, trees and operations, sorting and searching techniques.

Recommended reading
Deitel, H.M. and Deitel, P.J. C How to Program. 2nd edn, Prentice Hall, 1994

SK290 Introduction to Programming
10 credit points • 5 hours per week • Hawthorn • Prerequisites: nil • Assessment: examination and assignments

An introduction to computing for students majoring in the physical sciences. No previous knowledge of computing is required.

Objective
To provide a good foundation in the principles of computing necessary for contemporary practice of physics or chemistry.

Content
An introduction to computers, the DOS operating system, and applications of use to the scientist is presented. The C programming language is introduced and applied to solve problems typically encountered by physical scientists.

SM106 Mathematics
7.5 credit points • 3 hours per week • Hawthorn • Assessment: examination and assignment

This is a first year subject of the Bachelor of Applied Science (Psychology and Psychophysiology)

Content
Basic functions: linear, polynomial and rational.
Trigonometric, exponential and hyperbolic functions.
Differentiation: product rule, chain rule; applications to maxima and minima and graph sketching.
Integration: applications and methods.
Linear Algebra: Matrices, determinants, solutions of simultaneous linear equations
Vectors
Data Analysis and probability

Recommended reading

Prescribed calculators
Texas Instruments Advanced Scientific (TI-82) graphics calculator.

SM110 Mathematical Methods
10 credit points • 3 hours per week • Hawthorn • Assessment: tests/ examination and assignments • Prerequisites: nil

This is a first year subject for the Bachelor of Applied Science (Environmental Health)

Objectives
This subject is designed to introduce students to mathematical principles as they relate to environmental studies.

Content
Calculations
Reviews of basic mathematical operations; illustrations from environmental and health applications.

Numerical methods
Introduction to numerical methods; errors and their propagation, including rounding errors and loss of significance. Solution of equations in one variable; numerical solution of non-linear equations by iterative methods.

Linear algebra
Matrices and matrix algebra; determinants and their evaluation. Systems of linear equations; Gaussian elimination; matrix inversion; procedures for numerical solution by direct or iterative methods.

Functions of one variable
Standard functions and their graphs. Curves defined by relations or parametrically.

Calculus
Differentiation geometric interpretation; derivatives of standard functions; product, quotient and chain rules; implicit differentiation.
Applications of differentiation graph sketching, using first and higher order derivatives; related rates; optimisation in finite closed intervals.
Integration definite and indefinite integrals and their interpretations; fundamental theorem; integrals of standard functions; integration by
subject. Use of integral tables. Separable differential equations, with or without initial values. Functions of several variables: partial derivatives, maxima and minima.

**Recommended reading**
To be advised.

**SM111 Engineering Mathematics 1**
10 credit points • 4 hours per week • Hawthorn • Prerequisites: Nil • Assessment: Examination and tests
A common first year semester subject in the Bachelor of Engineering and Bachelor of Applied Science (Multimedia Technology).

**Objectives**
To provide students with a thorough grounding in mathematics and to help develop their ability to use mathematics with understanding to solve engineering problems.

**Content**
- Numbers and functions
- Complex numbers
- Vector algebra
- Matrix algebra
- Discrete mathematics

**Recommended reading**

**SM112 Modern Engineering Mathematics 2**
10 credit points • 4 hours per week • Hawthorn • Prerequisites: SM111 • Assessment: Examination and tests
A common first year semester subject in the Bachelor of Engineering.

**Objectives**
To provide students with a thorough grounding in mathematics and to help develop their ability to use mathematics with understanding to solve engineering problems.

**Content**
- Sequences, series and limits
- Differentiation and integration
- Further calculus of one variable
- Functions of more than one variable

**Recommended reading**

**SM119 Mathematics for Technology**
10 credit points • 4 hours per week • Hawthorn • Prerequisite: SM111 • Assessment: Examination and tests
A first year semester subject in the Bachelor of Applied Science (Multimedia Technology), (Computer Science) and (Computer Science and Software Engineering).

**Objectives**
To provide students with a sufficient mathematical basis for later subjects such as electronics, telecommunications and computer graphics.

**Content**
- Sequences, series and limits
- Differentiation and integration
- Fourier series and transforms
- Data handling and probability theory

**Recommended reading**

**SM131 Communication Skills**
10 credit points • 4 hours per week • Hawthorn • Prerequisites: nil • Assessment: individual assignments and participation
This is a first year subject of the Bachelor of Applied Science (Mathematics and Computer Science).

**Objectives**
- Develop and improve students written and verbal communication skills.
- Provide students with concepts and strategies for successfully managing their own learning.

**Content**
**Communication Skills**
In this component written communications skills will be developed with particular reference to situationally appropriate letters, memos, reports and essay writing. Study and research skills will be enhanced by increasing competence in note taking from oral and printed input and in using library technology.

**Managing your own learning**
This component introduces students to the skills and strategies necessary for developing self-managed learning. Topics will include goal setting and planning, team learning behaviour, time management, learning and memory strategies, motivation, evaluation and stress management skills.

**Recommended reading**

**SM180 Mathematics 1**
10 credit points per semester • 4 hours per week (semis 1 & 2) • Hawthorn • Prerequisites: nil • Assessment: tests, examinations and assignments
This is a first year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

**Objectives**
- To provide students with mathematical knowledge and skills essential for concurrent first year studies.
- To enable students with ability and interest to further develop their mathematical knowledge and skills.
- To reinforce and develop mathematical communication skills and problem solving skills.
- To provide students with additional mathematical understanding and background material which may be required.
- To demonstrate where mathematics can be applied to practical situations.

**Content**
- Vectors in 2- and 3-dimensional space.
- Introduction to numerical methods; errors; solution of equations by graphical and iterative methods.
- Coordinate geometry in Cartesian coordinates.
- Standard functions and their graphs; finite and infinite limits; indeterminate forms.
- Differentiation and its applications; optimisation; approximations; Taylor polynomials.
- Integration and its applications; numerical integration; improper integrals.
- Matrices and determinants; systems of linear equations.
- Polar co-ordinates.
- Ordinary differential equations of first and second order.
- Complex numbers.
- Three-dimensional space; quadric surfaces; lines and planes; calculus of curves and surfaces.

**Recommended reading**
Prescribed Calculator Texas Instruments Advanced Scientific TI-83 Graphics calculator or equivalent.

**SM185 Applied Statistics 1**
10 credit points • 4 hours per week • Hawthorn • Prerequisites: nil • Assessment: tests, examinations and assignments
A first year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

**Objectives**
- Provide methods for graphical and numerical summaries of data.
- Introduce the basic ideas of probability and random variables.
• Introduce both traditional and computer intensive methods for estimation and inference.

**SM193 Mathematics**

12 credit points (7 sem. 1) (5 sem. 2) • 3 hours per week (sem. 1) 2 hours per week (sem. 2) • Hawthorn • Instruction: lectures, tutorials • Assessment: examination and assessed work

A first year subject in the Bachelor of Technology (Building Surveying)

**Objectives**

• To provide students with the mathematical basis for many construction subjects.

**Content**

Topics include: vectors, trigonometry, calculus, matrices, algebra, statistics, financial mathematics and computer studies.

**Recommended reading**

Jones, M.K., Dobinson, J., SM233 Engineering Mathematics 3

Gottfried, B.S., Greer, A. and Taylor, GW., Content examination and assessed work


Lang, D.W., Critical Path Analysis. London, Teach Yourself Books, 1879

**SM233 Engineering Mathematics 3**

10 credit points • 4 hours per week • Hawthorn • Prerequisites: SM111 and SM112 • Assessment: examination and tests

A common mathematics semester subject in the Bachelor of Engineering.

**Objectives**

To provide students with a thorough grounding in mathematics and to develop their ability to use mathematics with understanding to solve engineering problems.

**Content**

• Ordinary differential equations
• Fourier series
• Laplace transforms
• Data handling and probability theory

**Recommended reading**


SM244 Engineering Mathematics 4

10 credit points • 4 hours per week • Hawthorn • Prerequisites: SM233 • Assessment: examination, assignment and tests

A common mathematics semester subject in the Bachelor of Engineering.

**Objectives**

To provide students with a thorough grounding in mathematics and to develop their ability to use mathematics with understanding to solve engineering problems.

**Content**

• Numerical solution of ordinary differential equations
• Functions of a complex variable
• Matrix analysis

**Recommended reading**


**SM255A Engineering Mathematics**

10 Credit Points • 4 hours per week • Hawthorn • Instruction: lectures, tutorials, laboratory work • Assessment: examination 70%, tests 30%

A third year subject in the Bachelor of Civil Engineering

**Objectives**

To provide students with a thorough grounding in mathematics and to develop their ability to use mathematics with understanding to solve engineering problems.

**Content**

Vector calculus: derivatives of a scalar point function; derivatives of a vector point function; topics in integration.

Partial differential equations: general discussion; solution of the wave equation; solution of heat-conduction/diffusion equation; solution of Laplace equation.

Applied probability and statistics: estimating parameters; joint distributions and correlations; regression; goodness-of-fit tests; moment generating functions; analysis of engine performance data; statistical quality control; Poisson processes and the theory of queues; Bayes theorem and its application.

**Recommended reading**


**SM255B Engineering Mathematics 5B**

10 credit points • 4 hours per week • Hawthorn • Prerequisites: SM233 • Assessment: examinations 70%, tests 30%

A common mathematics semester subject in the Bachelor of Electrical Engineering

**Objectives**

To provide students with a thorough grounding in mathematics and to develop their ability to use mathematics with understanding to solve engineering problems.

**Content**

• Vector calculus: derivatives of a scalar point function; derivatives of a vector point function; topics in integration.
• Fourier and z transforms: the Fourier transform, properties of the Fourier transform, the frequency response, transforms of the step and impulse functions, the Fourier transform in discrete time, the z transform, properties of the z transform, the inverse z transform, discrete-time systems and difference equations, discrete linear systems, the relationship between Laplace and z transforms.
• Applied probability and statistics: estimating parameters; joint distributions and correlations; regression; goodness-of-fit tests; moment generating functions; analysis of engine performance data; statistical quality control; Poisson processes and the theory of queues; Bayes theorem and its application.

**Recommended reading**


**SM278 Design and Measurement 2A**

16.5 credit points • 4 hours per week daytime or 3.5 hours evening per week • Hawthorn • Prerequisites: AT101 and AT102 • Assessment: hands on SPSS Computer test, SPSS and statistics written test and exam

A subject in the Bachelor of Applied Science (Psychology and Psychophysiology) and the BachelorArts (for students majoring in psychology)

**Objectives**

A first-semester subject in research design and statistical analysis planned to complement concurrent and future studies in psychology.

**Content**

In this subject the emphasis is on understanding the methodology of basic research design and how the associated statistical analysis can provide answers to research questions. Students also receive instruction in the use of the Statistical Package for the Social Sciences (SPSS). This computer package will be used to analyse data both in this course and in second and third stage courses in psychology.

Topics to be studied include an introduction to computer based data analysis, one- and two-way factorial design and the corresponding analysis of variance.

**Recommended reading**

To be advised.

**SM288 Operations Research: An Introduction to Problem Solving**

10 credit points • 3 hours per week • Hawthorn • Prerequisites: nil • Assessment: assignments and examination

A first year subject in the Bachelor of Applied Science (Mathematics and Computer Science)
Objectives
- Introduce students to the field of operations research.
- Help students to develop an approach to problem solving.
- Introduce students to using spreadsheets to model and analyse operations research problems.

Content
Development of operations research: inter-disciplinary team; methodology; role of techniques; problem formulation; model building; types of problems; testing; validating; design and data problems; implementation; operations research literature; operations research societies.
Applications of linear programming: formulation; graphical solution of two variable problems; sensitivity analysis; computer based solution using Excel.
Applications of Markov chains; formulation; n-step and steady state probabilities.
Definition of an heuristic; the travelling salesman problems and scheduling problems.

Using a spreadsheet to model the above problems.

Recommended reading

SM366 Engineering Mathematics
10 credit points • 4 hours per week • Hawthorn • Instruction: integrated instruction and practice • Assessment: subject to selection of topics

Objectives
To provide students with more advanced topics in mathematics according to their specialisation and to develop their ability to use mathematics with understanding to solve engineering problems.

Content
A selection of topics from:
Advanced computational methods
Advanced continuous and discrete transforms
Advanced mathematical programming
Analysis of algorithm
Calculus of random variables
Computational fluid dynamics
Decision and risk analysis
Fuzzy logic
Greens function methods
Multiple linear regression and experimental design
Operations research
Optimisation
Perturbation methods
Special functions and generalised Fourier series
Stochastic processes
Tensor analysis
Theory of partial differential equations
Variational calculus and finite element methods

Recommended reading

SM383 Mathematics 2
13 credit points • 3 hours per week • Hawthorn • Prerequisite: SM180 • Assessment: tests, examinations and assignments

A second year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

Objectives
- To provide students with mathematical knowledge and skills essential for concurrent and later studies;
- To enable students with ability and interest further to develop their mathematical knowledge and skills;
- To reinforce and develop mathematical communication skills and problem solving skills;
- To provide students with additional mathematical understanding and background material which may be required;
- To demonstrate where mathematics can be applied to practical situations.

Content
Ordinary differential equations of standard types; numerical methods of solution; difference equations; simple partial differential equations. Spaces of vectors and linear equations; rank, nullity and range of a matrix. Eigenvalues and eigenvectors; diagonalisation of simple matrices, applications. Infinite sequences; infinite series, tests for convergence. Power series; Taylor and MacLaurin series. Functions of several variables: linear and quadratic approximations; stationary points; Taylor polynomials.

SM387 Introduction to Optimisation
10 credit points • 3 hours per week • Hawthorn • Prerequisite: nil • Assessment: assignments and examination

A second year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

Objectives
This subject aims to enable students to:
- formulate and solve linear programming problems;
- perform sensitivity analysis on the solution to linear programming problems;
- formulate and solve integer programming problems;
- formulate and solve linear programming transportation and assignment problems;
- formulate and solve problems using dynamic programming.

Content
Linear and integer programming, simplex method, sensitivity analysis, transportation and assignment algorithms, branch and bound methods, deterministic dynamic programming.

Computer packages such as SAS/OR and Excel may be used.

Recommended reading

Swinburne University of Technology | 1998 Handbook
SM388 Forecasting and Regression
10 credit points • 3 hours per week • Hawthorn • Prerequisites: SM185, SM288 • Assessment: tests/examination and assignments
A second year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

Objectives
- Introduce students to time series forecasting and provide students with an introduction to different methodologies and computer packages;
- Introduce students to the method and applications of regression;
- Help students tackle real problems;
- Give students the opportunity to gain experience in team working.

Content
Introduction to time series forecasting, data patterns, moving average methods, exponential smoothing methods, calculation of seasonal indices using decomposition methods, and some forecasting methods, measures of accuracy.

Recommended reading

SM404 Project Management A
10 credit points • 3 hours per week • Hawthorn • Prerequisite: nil • Assessment: tests, assignments, verbal presentations and participation in tutorial classes and project teams
A second year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

Content
Applied research/project management
Project characteristics: project stages; project management, teamwork leadership and the project leader; responsibilities of the project leader; project planning; determination of tasks; scheduling project plan; monitoring and control of project; benefits of project management; when to use project management; senior management's responsibilities, the project leader and the project team. Guest speakers and management games may be used. Tutorial classes may be based on experiential exercises in organisational behaviour.

Internal project
Students, working in groups of four or five, will be required to undertake a project for a member of staff acting as a client. Each group will be totally responsible for managing the project and for bringing it to a successful conclusion. They will be expected to maintain team meeting notes, bar charts, etc., and to provide each staff member with progress reports. In addition, they will be expected to obtain formal approval for the work that they are undertaking from the appropriate staff member. Verbal and written reports will be required at the end of the semester reporting on the management process and on the results of the project.

Preparation for employment
Review preparation of resumes, behavioural interview techniques; participate in seminars presented by fourth year students returning from Industry Based Learning.

Recommended reading

SM484 Experimental Design and Multiple Regression
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SM388 • Assessment: tests/examination and assignments
A second year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

Objectives
- Introduce the concepts and methods of experimental design;
- Analyse designed experiments using the Analysis of Variance;
- Extend the method of regression to multiple linear regression.

Content
Analysis of variance for single-factor completely randomised designs, randomised block designs, and two-factor equally replicated designs. Non-parametric methods. Planned and unplanned comparisons. Design of experiments, blocking, the 2 x 2 factorial and 2x2 designs. Multiple Linear Regression: the linear model with several predictors.

Recommended reading

SM487 Queueing Theory and Simulation
3 credit points • 3 hours per week • Hawthorn • Prerequisites: SM185 • Assessment: assignments and examination
A third year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

Objectives
- Analyse designed experiments using the Analysis of Variance;
- Extend hypothesis testing to multivariate data;
- Introduce methods of data classification.

Recommended reading
Journal of the Operational Research Society

SM584 Multivariate Statistical Methods
3 credit points • 3 hours per week • Hawthorn • Prerequisite: SM484 • Assessment: tests/examination and assignments
A third year subject in the Bachelor of Applied Science (Mathematics and Computer Science).

Objectives
- Extend hypothesis testing to multivariate data;
- Introduce methods of data classification.
Content

Recommended reading
Everett, B.S. and Dunn, G., Advanced Methods of Data Exploration and Modelling. London, Heinemann, 1983

SM588 Industrial Applications of Operations Research
10 credit points • 3 hours per week • Hawthorn • Prerequisite: nil • Assessment: assignments and examination
A third year subject in the Bachelor of Applied Science (Mathematics and Computer Science)
Objectives
• Introduce students to various application areas where operations research is applied;
• Involve students in independent research;
• Give students experience in preparing and giving a seminar;
• Give students experience in writing a professional paper.

Content
Production, scheduling, distribution, inventory control, and networks. Computer packages such as SAS/OR may be used.

Recommended reading
Journal of the Operational Research Society

SM608 Industry Based Learning
50 credit points • Hawthorn • Prerequisite: satisfactory completion of all subjects in the first four semesters of the Bachelor of Applied Science (Mathematics and Computer Science) or approved equivalent. A third year subject in the Bachelor of Applied Science (Mathematics and Computer Science)

Content
A six-month period of industry based learning occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science. Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor.

SM609 Mathematics Project
10 credit points • Hawthorn • Assessment: written reports and verbal presentation • Prerequisite: satisfactory completion of all second year subjects in the Bachelor of Applied Science (Mathematics and Computer Science) A fourth year subject in the Bachelor of Applied Science (Mathematics and Computer Science)
Objectives
• To provide students with the experience of interacting within their own project team as well as with the industry in which the project is undertaken.
• Allow students to use some of the knowledge gained through their coursework to solve a real problem.

Content
In this subject students work in groups under the supervision of a staff member and apply the acquired knowledge from the course to a practical or research problem. The subject is assessed by presentation and a written report which is given to the client/organisation.

Recommended reading
Staff members in charge of project groups will guide students and recommend appropriate materials and texts according to the requirements of the projects.

SM688 Mathematical Programming
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SM487 • Assessment: assignments and examination
A fourth year subject in the Bachelor of Applied Science (Mathematics and Computer Science)
Objectives
• Provide students with skills in solving some types of problems in operations research.
• Extend students ability to model problems.

Content
Linear and integer programming, duality, parametric programming, non linear programming, geometric programming. Computer packages such as Excel may be used.

Recommended reading
Journal of the Operational Research Society

SM708 Industry Based Learning
50 credit points • Hawthorn • Prerequisite: SM688
A fourth year subject in the Bachelor of Applied Science (Mathematics and Computer Science) and (Management Science of Computing)

Content
A six-month period of industry based learning occurring as part of the fourth year of the course leading to the degree of Bachelor of Applied Science and following on directly from SM688. Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor.

SM732 Survey Research Methods
12.5 credit points • 3 hours per week • Hawthorn • Prerequisites: SM750, SM751 • Assessment: assignment and test
A first year subject in the Graduate Certificate and Graduate Diploma of Applied Science (Social Statistics)

Content
This subject aims to enable students to identify and understand some of the methodologies used in survey research. It includes an overview of the procedures used in survey research, a descriptive approach to methods of sampling and data collection methods including questionnaire design and interview techniques (personal and telephone) mail surveys and census methods survey report writing and presentation. Other topics may include data processing (including entering, coding, quality control and analysis of multiple response questions.

Recommended reading
To be advised.

SM733 Demographic Techniques
12.5 credit points • 3 hours per week • Hawthorn • Prerequisite: SM742 • Assessment: assignments
A second year subject in the Graduate Diploma of Applied Science (Health Statistics and Social Statistics)

Objectives
This subject aims to give an understanding of the basic methods of demographic analysis and to develop an awareness of the social implications of demographic data.
Content
It will include topics chosen from the following: sources of demographic data. Census data and use of CD ROM technology such as CDATA91. Population processes, births and deaths, size and distribution, mobility, spatial patterns and models for regional demographic analysis may be included. Indicators and benchmarks, projections and forecasts.

Recommended reading
To be advised.

SM735 Survey Sampling
12.5 credit points • 3 hours per week • Hawthorn • Assessment: assignments and test • Prerequisites: SM732, SM742
A second year subject in the Graduate Diploma of Applied Science (Social Statistics)

Objectives
• Introduce basic methods for sample survey design and analysis.
• Provide practical examples of designing simple sample surveys.

Content
The basic designs for sample surveys: simple random sampling, stratified sampling, systematic sampling and cluster sampling.
Estimators for the mean, total and proportion for simple random samples and stratified samples; variance estimation.
The design effect; sample size determination; EPSEM samples.

Recommended reading

SM742 Elementary Statistical Modelling
12.5 credit points • 3 hours per week • Hawthorn • Prerequisites: SM750, SM751 • Assessment: practical and theoretical tests
A first year subject in the Graduate Diploma of Applied Science (Social Statistics) and a second year subject in the Graduate Diploma of Applied Science (Health Statistics)

Objectives
Provide a computer based introduction to elementary statistical modelling.

Content
Analysis of variance and regression. Introduction to multiple regression. Introduction to analysis of categorical data.

Recommended reading
To be advised.

SM743 Multivariate Statistics 1
12.5 credit points • 3 hours per week • Hawthorn • Prerequisite: SM742 • Assessment: assignments and examination
A second year subject in the Graduate Diploma of Applied Science (Social Sciences)

Objectives
This subject aims to identify and apply the multivariate techniques most commonly used in social research and to understand the assumptions underlying their use.

Content
The course will include a selection of topics chosen from multiple regression, statistical inference for multivariate data, principal component analysis, factor analysis, discriminant analysis and cluster analysis, multivariate analysis of variance.

Recommended reading
To be advised.

SM744 Statistical Modelling
12.5 credit points • 3 hours per week • Hawthorn • Assessment: assignments • Prerequisites: SM743
A subject in the Master of Applied Science (Social Statistics)

Objectives
• This subject aims to make an in-depth study of several statistical modelling techniques for both categorical and higher level data.

Content
Topics will be chosen from: regression models for categorical data; log-linear models for multiway contingency tables; logistic regression for analysing binary response data. Causal modelling, structural equation models, using appropriate packages such as AMOS, LISREL and PRELIS. Introduction to multi-level modelling.

SM745 Project Planning
12.5 credit points • 3 hours per week • Hawthorn • Assessment: oral and written reports • Prerequisites: Requirements of the Graduate Diploma in Social Statistics with at least two distinctions in the second year
A subject in the Master of Applied Science (Social Statistics)

Objectives
In this subject students examine the role of the review of literature in published papers or theses. With their own topic in mind they prepare and present an annotated bibliography which will help to provide a foundation for the argument of their later thesis.

Recommended reading
 Depends on topic.

SM746 Multivariate Statistics 2
12.5 credit points • 3 hours per week • Hawthorn • Prerequisite: SM743 • Assessment: assignments
A subject in the Master of Applied Science (Social Statistics)

Objectives
This subject aims to make an in-depth study of a range of multivariate techniques used in social research which are involved with scales.

Content
A selection of topics will be made from reliability and validity analysis, unidimensional scaling methods, principle component analysis, conjoint analysis, correspondence analysis and scaling techniques such as multi-dimensional scaling.

Recommended reading
To be advised.

SM748 Research Methodology
12.5 credit points • 3 hours per week • Hawthorn • Prerequisite: SM745 • Assessment: assignments
A subject in the Master of Applied Science (Social Statistics)

Objectives
This subject aims to continue the work in project planning in SM745 by selecting the appropriate research methodology necessary to proceed and, if necessary, develop additional skills needed to complete the research.

Content
Students will develop a research plan for their thesis.

Recommended reading
To be advised.

SM749 Minor Thesis
25.0 credit points • 8 hours per week • Hawthorn • Assessment: thesis • Prerequisite: SM749
A subject in the Master of Applied Science (Social Statistics)

Objectives
This subject follows on from Research Methodology SM748 and aims to have students carry out an original piece of social research and report the findings.

Recommended reading
To be advised.
SM750  Basic Statistical Computing
12.5 credit points  3 hours per week  Hawthorn  Assessment: computer based tests and assignments  Prerequisite: nil
A first year subject in the Graduate Certificate and Graduate Diploma of Applied Science (Social Statistical) and (Health Statistics)

Objectives
This subject aims to develop competence in the use of personal computers and associated statistical packages and to acquire a level of statistical computing literacy necessary for data analysis in the social and health sciences.

Content
The subject includes an introduction to microcomputers, with special emphasis on windows based applications; a mainstream statistical package such as SPSS and mainsteam spreadsheet such as Excel.

Recommended reading
To be advised.

Statistical packages
Excel Version 5  SPSS for Windows

SM751  An Introduction to Data Analysis
12.5 credit points  3 hours per week  Hawthorn  Assessment: practical and theoretical tests  Prerequisite: nil
A first year subject in the Graduate Certificate and Graduate Diploma of Applied Science (Social Statistical) and (Health Statistical)

Objectives
Provide a computer based introduction to the concepts and practice of data analysis, statistical estimation and hypothesis testing.

Content
Exploring data, describing and summarising data, variability, levels of measurement, time series, drawing inferences from sample data, confidence intervals and testing hypotheses on means and proportions for two groups. Chi square and t-tests. Determination of sample size. Use of demographic and health data. Use of statistical packages such as Minitab and SPSS as appropriate.

Recommended reading
To be advised.

SM752  Advanced Statistical Computing
12.5 credit points  3 hours per week  Hawthorn  Prerequisites: SM750, SM751
• Assessment: practical assignments and tests
A second year subject in the Graduate Diploma of Applied Science (Social Statistics)

Objectives
• Expand the work done in Basic Statistical Computing by including further aspects of the packages already met and by introducing the students to other relevant statistical packages.

Recommended reading
To be advised.

SM753  Survey Methods
12.5 credit points  3 hours per week  Hawthorn  Prerequisites: SM751 and SM750
• Assessment: assignments and a test
A first year subject in the Graduate Certificate and Graduate Diploma of Applied Science (Health Statistics)

Objectives
• To describe and understand some of the methodologies used in survey research carried out in the health sciences.

Content
The subject will include an introduction to:
• Different purposes of surveys in health;
• How surveys fit into different research designs;
• Practical questionnaire design in a health context; Analysis of survey data and reporting;
• Basic concepts of sample design.

Recommended reading

SM754  Introduction to Health Statistics
12.5 credit points  3 hours per week  Hawthorn  Prerequisites: SM751 and SM750
• Assessment: class presentations, practical and theoretical tests
A first year subject in the Graduate Certificate and Graduate Diploma of Applied Science (Health Statistical)

Objectives
• To introduce students to statistical measures and techniques which are specifically relevant to the health sciences and to enable them to make reasonable conclusions from the measures.

Content
Topics will be chosen from:
• demographic disease measures including infant and death rates, fertility rates, infant mortality rates;
• rates and risks including prevalence versus incidence, point and period prevalence, cumulative incidence, person-time rates, age-standardised rates and standardised mortality rates;
• measures of association including risk differences, risk ratios, rate differences and rate ratios, odds ratios, attributable risks, population attributable risks;
• an introduction to epidemiological methods.

Recommended reading
To be advised.

Computer Packages
Excel Version 5  SPSS for Windows

SM756  Elementary Statistical Modelling
12.5 credit points  3 hours per week  Hawthorn  Prerequisites: SM751 and SM750
• Assessment: assignment plus practical and theoretical tests
A second year subject in the Graduate Diploma of Applied Science (Health Statistics)

Objectives
• To introduce students to statistical measures and techniques which are specifically relevant to the health sciences and to enable them to make reasonable conclusions from the measures.

Content
Topics will be chosen from:
• Analysis of variance and simple linear regression. Introduction to multiple regression. Introduction to experimental design and non-parametric methods.
• Determination of sample size. Analysis of categorical data and measures of association.

Recommended reading
To be advised.

Statistical packages
Excel Version 5  SPSS for Windows

SM757  Epidemiological Methods
12.5 credit points  3 hours per week  Hawthorn  Prerequisites: SM751 and SM750
• Assessment: assignments and a test
A second year subject in the Graduate Diploma of Applied Science (Health Statistics)

Objectives
• To develop critical skills in the evaluation of the health and medical literature involving epidemiology with an emphasis on statistical and methodological analysis.

Content
Topics will be chosen from:
• Epidemiological study designs: descriptive and analytical studies, observational versus experimental designs, cross-sectional surveys, cohort and case-control studies; clinical trials and intervention studies.
• Determination of sample size.
• Confounding: identifying potential confounding; stratification and adjusted estimates, regression and multivariate adjustment, matching.
• Diagnostic tests: repeatability and validity of tests for disease; sensitivity and specificity of tests, predictive value and prevalence. Bayes’ theorem.
SM158 Analysis of Risks and Rates
12.5 credit points • 3 hours per week • Hawthorn • Pre-requisites: SM754 and SM756 • Assessment: assignments and a test
A second year subject in the Graduate Diploma of Applied Science [Health Statistics]

Objectives
To develop critical skills in the evaluation of health and medical literature on risks and rates with an emphasis on statistical and methodological analysis.

Content
Topics will be chosen from:
- Analysis of risks: the binomial distribution, risk estimates, confidence intervals for proportions, risk differences, z-test and chi-square test, confidence interval for a difference, risk ratios, odds ratios, confidence interval for an odds ratio. Logistic regression. Determination of sample size.

Recommended reading
To be advised.

Computer packages
To be advised.

SM760 Epidemiology for Health Psychologists
3 hours per week • Hawthorn • Pre-requisite: • Assessment: assignment (50%), exam (40%), attendance and participation (10%)

Objectives and content
The aim of this subject is to provide health psychology students with an understanding of some of the methodologies used in epidemiological research and to develop critical skills in the evaluation of health and medical literature related to rates and risks. Topics include:
- Epidemiologic criteria for causality
- Measurement of exposures and outcomes
- Demographic Measures: birth and death rates
- Case-Control and Cohort Study designs
- Intervention studies: clinical trials and community interventions
- Rates: prevalence and incidence
- Ratios: SMR and PMR
- Risks: Odds ratios and relative risks

Recommended reading

SM1208 Mathematics
10 credit points per semester • 4 hours per week (2 sems) • Hawthorn • Assessment: tests, examinations and assignments • Prerequisites: nil
A first year subject in the Bachelor of Applied Science (Chemistry and Biochemistry)

Objectives
Introduction to numerical methods; errors; solution of equations. Coordinate geometry in Cartesian coordinates. Standard functions and their graphs: finite and infinite limits. Differentiation and its applications; optimisation; approximations; Taylor polynomials. Integration and its applications; numerical integration. Linear algebra, first order differential equations and functions of several variables. Descriptive statistics, the MINITAB computer package, probability, binomial, Poisson and normal distributions. Hypothesis tests and confidence intervals, regression and correlation, applications to chemistry.

Recommended reading

SM1215 Mathematical Methods
10 credit points per semester • 4 hours per week (2 sems) • Prequisite: nil • Hawthorn • Assessment: tests, examinations and assignments
This is a first year subject of the Bachelor of Applied Science (Medical Biophysics and Instrumentation)

Objectives

Recommended reading
To be advised.

Prescribed Calculator:
Texas Instruments Advanced Scientific TI-83 Graphics Calculator or equivalent.

SM2100 Applied Statistics
8 credit points • 3 hours per week • Hawthorn • Assessment: tests/examination and assignments
This is a first year subject of the Bachelor of Applied Science (Environmental Health)
Content

Introduction to health statistics: morbidity and mortality, vital statistics, standardisation, life tables.

Probability: concepts and basic formulas. Probability distributions: discrete, including binomial and Poisson; continuous, including normal. Sampling distributions of mean, variance and proportion.

Estimation of means, variances and proportions from single samples. Tests of hypotheses in means, variances and proportions; comparisions of two groups and of several groups (analysis of variance). Introduction to experimental design.

Chi-squared tests on goodness of fit.

Correlation and regression. Selected non-parametric methods.

Introduction to epidemiology: types of study; measures of risk and of association.

Recommended reading

To be advised.

SM3400 Mathematical Methods

10 credit points per semester • 3 hours per week • Hawthorn • Prerequisite: SM1200 or SM1215 • Assessment: tests, examinations and assignments

A second year subject in the Bachelor of Applied Science (Computing and Instrumentation)

Objectives

To broaden students mathematical techniques and apply to physics.

Content

A selection of topics from the following:

- Real analysis, fourier series of general periodic functions.
- Vector analysis
  - Basic vector manipulation including calculus of vector functions. Space curves Serret-Frenet formulas. Special emphasis on gradient of a scalar field, directional derivative, divergence and curl of a vector field.
- Complex analysis
  - Algebra and geometry of complex numbers. Functions of a complex variable.
- Modern algebra with applications

Recommended reading

- Semesters 1 and 2
  - Semester 2 only

SP108 Physics

10 credit points • 5 hours per week • Hawthorn • Prerequisites: nil • Corequisites: nil • Assessment: practical work, assignments and examination

A first year subject in the Bachelor of Applied Science (Chemistry/Biochemistry and Environmental Health)

Objectives

- To provide a basis for specialist scientific disciplines through rigorous development of essential physics principles.
- To provide a coherent and balanced account of the fundamentals of physics.

Content

- Forces and energy kinematics, linear and circular dynamics, gravitation, kinetic theory, heat.
- Modern physics atomic structure, radioactivity, quantum theory, special relativity.
- Electricity and magnetism magnetic and electric fields, Coulomb's Law, electromagnetic induction-Lenz and Faraday's laws, DC circuits.

Recommended reading

- Giancoli, D.C., Physics with Applications, 4th edn, Prentice Hall, 1995

SP124 Engineering Physics

4th edn, Prentice Hall, 1995

Objectives

- To provide a basis for specialist engineering disciplines through rigorous development of essential Physics principles.
- To provide a coherent and balanced account of the fundamentals of physics.

Content

- Linear mechanics: laws of motion; work and energy; conservation of energy and momentum.
- Rotational mechanics.
- Electricity and magnetism: electric fields; direct current; magnetic fields; electromagnetism.
- Geometric optics.

Recommended reading

- Serway, R.A., Physics for Scientists and Engineers with Modern Physics, 4th edn, Saunders, 1996

SP125 Engineering Physics

10 credit points • 5 hours per week • Hawthorn • Prerequisite: VCE Mathematical Methods Units 3 and 4 • Assessment: practical work, assignments and examination

A first year subject in all disciplines of the Bachelor of Engineering

Objectives

- To provide a basis for specialist engineering disciplines through rigorous development of essential Physics principles.
- To provide a coherent and balanced account of the fundamentals of physics.
Thermal physics: kinetic theory of gases.

To develop a coherent and balanced account of the fundamentals of physics.

Content
Vibrations, Waves and Sound: vibrations; waves; superposition and standing waves.

Physical optics: interference; diffraction;

Thermal physics: kinetic theory of gases;

Modern physics: relativity; quantum physics; nuclear physics.

Recommended reading
Serway, R.A., Physics for Scientists and Engineers with Modern Physics, 4th edn, Saunders, 1995

SP132 Introductory Psychophysiology

A first year subject in the Bachelor of Applied Science/Bachelor of Arts co-major (Psychology and Psychophysiology)

Objectives

To provide a basis for measurement systems used in physiological recordings.

To provide an introduction to elementary biological and physiological systems.

Content

Physical concepts and monitoring techniques, including subjects, principles, conversions, accuracy, quantitative measures.

Cell membranes and tissues, receptors, cell communication.

Introduction to organ systems, methods of monitoring, physiological importance, aspects of control..

Nutrition, digestion, and absorption, genetics, and immunology.

Recommended reading

SP222 Industry Based Learning

A third year industrial based learning subject of the degree of Bachelor of Applied Science (Medical Biophysics and Instrumentation)

A six-month period of work experience occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science (Medical Biophysics and Instrumentation)

Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor.

SP233 Psychophysiological Concepts

A first year subject in the Bachelor of Applied Science/Bachelor of Arts co-major (Psychology and Psychophysiology)

Objectives

To extend the monitoring concepts to include measurement from real physiological systems.

To provide the necessary physiology underlying measurements.

Content

Basic monitoring instrumentation and technology, including recorders, plotters, displays, amplifiers, and filters.

Physiology of nerve and muscle systems, heart, cardiovascular, and respiratory systems.

Biofeedback systems and their uses in psychophysiology.

Recommended reading


SP235 Instrumental Science

A first year subject in the Bachelor of Applied Science (Applied Chemistry/ Biochemistry)

Objectives

To provide a basis in science and technology required by the specialist discipline.

Content

Principles of scientific instrumentation.

Electrical technology: DC/AC circuits.

Tranducers: mechanical and electrical devices with applications.

Radiation sources: materials and detection.

Acoustics.

SP236 Physics

A first year subject in the Bachelor of Applied Science (Environmental Health)

Objectives

To provide a basis in science and technology required by the specialist discipline.

Content

Principles of scientific instrumentation.

Electrical technology: DC/AC circuits.

Tranducers: mechanical and electrical devices with applications.

Radiation sources: materials and detection.

Acoustics.

SP331 Neurohumoral Bases of Psychophysiology

A second year subject in the Bachelor of Applied Science/Bachelor of Arts co-major (Psychology and Psychophysiology)

Objectives

To provide a foundation in neuroanatomy, of both structural and functional aspects.

To provide understanding of endocrinological systems.

Content

Comparative and human neuroanatomy, with a study of the functional aspects of structure.

Neurophysiological recording techniques, including EEG and electrode recording technology.

Hormonal and pharmacological bases of normal body function, including biorhythms, and behaviour.

Physiology of olfaction and taste.

Recommended reading

SP333 Industry Based Learning

A third year industrial based learning subject of the degree of Bachelor of Applied Science (Medical Biophysics and Instrumentation)

A six-month period of work experience occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science (Medical Biophysics and Instrumentation). Students are supervised by a member of the academic staff, and are required to submit a report to their employer and to their supervisor.
SP431  **Psychophysiology of Perception**  
Subject to reaccreditation  
17 credit points • 8 hours per week • Hawthorn • Prerequisites: SP233, SP331 • Assessment: examination and laboratory reports  
A second year subject in the Bachelor of Applied Science/Bachelor of Arts co-major (Psychology and Psychophysiology)  
**Objectives**  
- To provide a knowledge of the physiology of peripheral and central mechanisms of perception.  
- To provide a knowledge of the motor system.  
- To provide a working knowledge of psychophysics and measurement.  

**Content**  
Anatomy, physiology and pathophysiology of the visual, auditory, vestibular and tactile sensory systems. Central and peripheral aspects of sensation and perception.  
Anatomy, physiology and pathophysiology of motor systems. Central and peripheral aspects of control of movement, and integration of motor and sensory systems.  
Psychophysics, measurement theories, measurement of reaction time and sensitivity of measurement.  
**Recommended reading**  

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SP523  **Industry Based Learning**  
50 credit points • Hawthorn • Prerequisites: nil  
A third year industrial based learning subject of the degree of Bachelor of Applied Science (Computing and Advanced Technologies)  
A six-month period of industry based learning occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science (Computing and Instrumentation). Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor. This program is normally followed end-on by SP623.  
**Objectives**  
- To provide a knowledge of the processes underlying mental disorders, brain injury, and degenerative diseases.  

**Recommended reading**  

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SP527  **Neurophysiology of the Normal Brain**  
7.5 credit points • 4 hours per week • Hawthorn • Prerequisites: SP431 • Assessment: examination and assignments  
A final year subject in the Bachelor of Applied Science/Bachelor of Arts co-major (Psychology and Psychophysiology)  
**Objectives**  
- To provide a knowledge of the physiological and behavioural processes underlying normal sleep, dreaming, attention and disorders of these states.  

**Content**  
Attention: mechanisms, neurophysiology, models. Assessment and disorders of attention. Interaction with other cognitive behaviour.  
Sleep: consciousness, coma, stages of sleep, desynchronisation of EEG activity, functional models of sleep, sleep monitoring, sleep disorders.  
**Recommended reading**  

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SP528  **Higher Cortical Functions**  
10 credit points • 5 hours per week • Prerequisite: SP431 • Assessment: examination, assignments and seminar presentation  
A final year subject in the Bachelor of Applied Science/Bachelor of Arts co-major (Psychology and Psychophysiology)  
**Objectives**  
- To provide a knowledge of the neurophysiological and behavioural processes of attention memory, speech and language, and purposive behaviour, and disorders of these states.  

**Introduction to Behavioural Neuroscience**  
Basic Techniques in Neuroscience; Problems in Relating Brain and Behaviour; Anatomical and Histological; Brain Lesion and Stimulation; Biochemical; Radiographic brain imaging; Electrophysiological; Optical Imaging; Behavioural Analysis.  
**Recommended reading**  

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SP623  **Industry Based Learning**  
50 credit points • Hawthorn • Prerequisites: SP523 Industry Based Learning  
A third year industrial based learning subject of the degree of Bachelor of Applied Science (Computing and Advanced Technologies)  
A six-month period of industry based learning occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science (Computing and Instrumentation). Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor. This program is normally taken end-on from SP523.  
**Objectives**  
- To provide a knowledge of psychophysics and measurement.  

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SP631  **Neurophysiology of Mental Disorders**  
Subject to reaccreditation  
20 credit points • 6 hours per week • Hawthorn • Prerequisite: SP527 • Assessment: examination and assignment  
A final year subject in the Bachelor of Applied Science/Bachelor of Arts co-major (Psychology and Psychophysiology)  
**Objective**  
- Provides a knowledge of the processes underlying mental disorders, brain injury, and degenerative diseases.  

**Content**  
Disorders of affect: theories of depression, monoamines and depression, mechanisms of action of antidepressants, anxiety and benzodiazepine—GABA interactions.  
Schizophrenia: causation, abnormal metabolism—monoamine systems, symptomatology, diagnosis, hemispherical lateralisation, frontal lobe dysfunction, investigative techniques.  
Brain injury: causes, specific deficits, diagnosis. Ageing effects on brain function: normal degeneration, cerebrovascular disease, decreased sensory stimulation, metabolic indicators.  
Pathological degeneration—Parkinson’s disease, neurological disorder Alzheimer type dementia.  
**Recommended reading**  

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SP632  **Psychophysiology Project**  
12.5 credit points • 5 hours per week • Hawthorn • Prerequisite: SP526 • Assessment: report and seminar  
A final year subject in the Bachelor of Applied Science/Bachelor of Arts co-major (Psychology and Psychophysiology)  
**Objectives**  
- To provide skills for research project within the area of psychophysiology.
Subject gives students the opportunity to apply techniques and skills introduced in the psychophysiology and psychology courses in an investigation of a topic of interest. Students may select the topic at an early stage of the third year of the course, which can be adequately supervised, investigated and reported on within the time constraint. The project work may involve physiological or psychological data collection, literature research, or a combination of these. Projects will usually be individual but may sometimes involve shared aspects. Students will make a short verbal presentation on their project topic and submit a final written report.

**SP704 Psychophysiology**

12.5 credit points • 4 hours per week • Prerequisites: Students must have achieved a high standard in the Bachelor of Applied Science (Psychology and Psychophysiology) Program • Assessment: assignment and examination
A subject in the Bachelor of Applied Science (Honours)

**Objectives**
To critically investigate the case for mental states being comprehensible in terms of neurobiological status.

**Content**
Introduction to the philosophy of science with particular emphasis on epistemology and the development of theory;
Philosophy of mind: Topics include substance and property dualism, reductionism, revisionist materialism, consciousness, free will, and the inductivist fallacy; Marr's metatheory.
Introduction and revision of relevant functional neuroanatomy and neurophysiology;
Localisation, specialisation and lateralisation as pre-theoretical empirical clues to brain function and brain theory;
Functional Neuro imaging;
PET/SPECT;
MR locally localised spectroscopy;
Cognitive Electrophysiology; The cellular generators of scalp recordable brain electrical activity. Taxonomy of electrically recordable brain events; Outline of theories of cortical electrophysiology. Clinical applications and basic research;
Smooth pursuit and saccadic eye movement measurements and the relationship to cortical dysfunction; Assessment of eye movements using EOG and infrared oculography.

**Recommended reading**
Chalmers A.F. What is this thing called science: as assessment of the nature and status of science and its methods. University of Queensland Press, St. Lucia 1982

**SP718 Cognitive Neuroscience**

12.5 credit points • 4 hours per week • Hawthorn • Prerequisites: SP527 or SP624 or equivalent • Assessment: assignments • Instruction: lectures, laboratory exercises and tutorials
A subject in the Bachelor of Applied Science Honours (Medical Biophysics and Instrumentation or Psychophysiology)

**Objective**
To provide an overview of techniques for recording and analysis of electric and magnetic neurophysiological signals.

**Content**

**Recommended reading**

**SP722 Research Thesis**

12.5 credit points • 4 hours per week • Hawthorn • Prerequisites: • Assessment: report, seminar
A subject in the Bachelor of Applied Science Honours (Medical Biophysics, Scientific Instrumentation, Medical Biophysics and Instrumentation and Psychophysiology)

**Content**
An individual research project. Projects require a literature survey. Results, conclusions and recommendations are presented in a written report, and a seminar presentation.

**SP822 Research Thesis**

37.5 credit points • 16 hours per week • Hawthorn • Assessment: report or thesis
An advanced subject in the Bachelor of Applied Science (Medical Biophysics, Scientific Instrumentation, Medical Biophysics and Instrumentation and Psychophysiology).

**Content**
A major individual research project assessed by report or thesis. Projects are usually associated with school research interests, but can be suggested by students.
Projects require a literature survey. Results, conclusions and recommendations are presented in a written report, and a verbal report may also be required.

**SP4190 Occupational Hygiene and Safety**

9 credit points • 4 hours per week • Hawthorn • Assessment: examination and assignments
A final year subject in the Bachelor of Applied Science (Environmental Health)

**Objectives**
This subject aims to engender:

- an awareness of the types and nature of environmental hazards prevailing in particular work situations;
- an understanding of the specific effects these effects have on the human body;
- an acquaintance with the legal requirements on employers to ensure safe working conditions;
- an acquaintance with relevant government authority regulations;
- an understanding of the principles of safe working practice and the rationale of safety codes.

**Content**
Environmental hazards accident prevention. Work-related injuries;
Noise and vibration;
Heat and ventilation. Measurement of dusts and fumes;
Radiation ionising and non-ionising;
Electrical power and electrical appliances;
Toxic substances: mechanisms of action and pathogenic effects;
Routes of ingestion of toxic substances;
Evaluation and control measures;
Safety technology;
Machine safety, Hazard identification;
Fire and explosion;
Chemical safety, Handling, hazard identification.

Recommended reading
Mathews, J., Health and Safety at Work, 2nd edn., Leichart, NSW, Pluto 1993

SO411 COBOL Programming
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SQ210, SQ100 or ES100 • Instruction: lecture and practical classes • Assessment: assignments and exam
A second and third year subject in the Bachelor of Applied Science

Objectives
To introduce the COBOL language and its problem solution domain.

Content
Introduction to structured programming; COBOL overview; file, record and data definition; file processing; modularity; perform; arithmetic; move, editing, if; validation, testing, debugging; control groups; tables; strings; subprograms; indexed files.

SQ500 Concurrent Programming
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SQ300 • Instruction: lectures and laboratory sessions • Assessment: assignment and examination
A subject in the Bachelor of Applied Science.

Objectives
For students to understand and appreciate the main logical problems and techniques of concurrent and real-time programming.
To master programming using the concurrent parts of the Ada language.

Content
The logical problems of concurrency; mutual exclusion; safety and liveness; mechanisms to control concurrency; semaphores; monitors; shared memory and message passing; the rendezvous model; concurrent programming in Ada; concurrency in real-time and distributed systems.

Recommended reading

SQ503 Software Practice 3
10 credit points in semester one and 20 credit points in semester two • 4 hours per week in semester one, and one hour per week in semester two • Hawthorn • Instruction: lectures and practical work (in first semester) and group project assessment
A final year subject in the Bachelor of Applied Science (Computer Science and Software Engineering)

Objectives and Content
This subject requires that students, working in large teams, undertake a large scale software development project, preferably industrially based. Software development, documentation and system evaluation must be completed. The project will require students to exercise advanced management and technical development skills.

SQ519 Soft Computing
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SQ310 or SQ300 • Instruction: a combination of lectures and laboratories • Assessment: assignments, laboratory reports and examination
A third year subject in the Bachelor of Applied Science

Objective and Content
Soft Computing is an emerging new discipline that combines computational methods which share similar inexact, approximate reasoning approaches in attempting to solve complex problems. The basic components of soft computing are artificial neural networks, fuzzy techniques, evolutionary computation.
environments; evaluation of multimedia systems - evaluation techniques and methods; current research and future directions.

**Recommended reading**

**SQ606 Computing in the Human Context**
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SQ310 or SQ314 and SQ336 • Instruction: lectures and practical work • Assessment: assignment and examination
Within the Bachelor of Applied Science, this is a fourth year subject in the Computer Science and Software Engineering course and a third year subject in the Computer Science (conversion) course and a final year elective for the Computing and Instrumentation course.

**Objectives**
To provide students with a framework for the development of personal and corporate ethics appropriate for the information technology professional, and to allow students to explore the uses in and implications for society of contemporary developments in computing.

**Content**
Ethical and legal issues in computing, and their relationship to the computing profession; a selection of other topics, exemplified by: philosophy and artificial intelligence; computers and the arts; futures.

**Textbooks**
To be advised

**SQ613 Computer Science Team Project**
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SQ310 or SQ314 and SQ336 • Instruction: lectures and practical work • Assessment: assignments
A subject in the Bachelor of Applied Science (Computing and Instrumentation) and (Mathematics and Computer Science).

**Objective and Content**
In this subject, students will apply the software engineering skills acquired throughout the degree, to a substantial group software development project. Students will choose from a range of projects and will then have to analyze the project's requirements, design and then develop the system to the best of their ability in the time available. Subject to the approval of the lecturer, students may generate their own project.

**SQ618 Computer Graphics**
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SQ310 or SQ300 • Instruction: combination of lectures and tutorial sessions • Assessment: assignment and examination
A subject in the Bachelor of Applied Science.

**Content**
Computer graphics hardware for computer graphics; basic 2-D and 3-D graphics drawing, transformations; data structures for graphics; windowing and clipping, ray-tracing.

**SQ619 Expert Systems**
10 credit points • 3 hours per week • Hawthorn • Prerequisite SQ419 • Instruction: a combination of lecture and tutorial sessions • Assessment: project and examination
A subject in the Bachelor of Applied Science

**Objective and Content**
The subject covers the techniques and issues of knowledge, acquisition and building expert systems.

**SQ623 Industry Based Learning**
50 credit points
A six-month period of industry based learning occurring as part of the third year of the course leading to the degree of Bachelor of Applied Science (Computer Science and Software Engineering). Students are supervised by a member of the academic staff and are required to submit a report to their employer and to their supervisor. This program is normally taken at the end of SQ520.

**SQ628 Windows Programming**
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SQ310 or SQ300 • Assessment: assignments and examination
An elective subject in Bachelor of Applied Science.

**Objectives**
To provide students with a good understanding of Microsoft Windows visual development environments, event driven and component based programming and the benefits of using an object oriented language to build Windows programs.

**Content**
Specific topics include GUIs, Windows executables, visual development environments, object oriented application frameworks, (Object) databases, graphics and printing, debugging, DDE and OLE, Dynamic Link Libraries.

**SQ752 Systems Programming**
12.5 credit points over one semester • 4 hours per week • Hawthorn • Prerequisite: nil • Instruction: lectures and laboratory sessions • Assessment: assignments and final examination
A first year subject in the Master of Engineering (Open Systems).

**SQ628 Windows Programming**
10 credit points • 3 hours per week • Hawthorn • Prerequisite: SQ310 or SQ300 • Assessment: assignments and examination
An elective subject in Bachelor of Applied Science.

**Objectives**
To study the implementation of the UNIX system by a consideration of a selection of the system calls; to study the development of network-aware software.

**Content**
Low level I/O; file system access and manipulation; time under UNIX; process control; accessing user information; signals and interrupts; interprocess communication and networking; remote procedure calls (RPC) and distributed computing environment (DCE) services; I/O to terminals and device control.

**Recommended reading**

**SQ754 The Personal Software Process**
12.5 credit points over one semester • 3 hours per week • Hawthorn • Prerequisite: nil • Instruction: lecture and laboratory sessions • Assessment: assignments and reports.
A first year subject in the Master of Engineering (Open Systems).

**Objectives**
To establish the need for discipline in software engineering; to guide students to discover the methods of software development which make them personally most effective (e.g., time and defect recording, coding standards, size measurement, size estimating, task planning, schedule planning, design reviews, design templates, code reviews); to provide students with the knowledge base required to manage their own personal software process and to come to believe that the methods are of benefit to them.

**Content**
The course follows closely the "Personal Software Process" course developed by Watts S. Humphrey, Software Engineering Institute, Carnegie Mellon University, USA. It addresses: the baseline personal process (time/defect recording, coding standards, size measurement); the personal planning process (size estimating, task planning, schedule planning); personal quality management (baseline reviews, design templates, code reviews); cyclic personal process (cyclic process improvement).

**Recommended reading**

**SQ757 Local Area Networks**
12.5 credit points over one semester • 3 hours per week • Hawthorn • Prerequisite: nil • Instruction: lecture and laboratory sessions • Assessment: assignments and final examination
A first year subject in the Master of Engineering (Open systems).

**Objectives**
To study the operation of common LAN topologies and protocols; to study the functionality of LAN components such as repeaters, bridges and routers; to...
study some representative network operating systems.

**Content**
Data communication networks and open system standards; protocol basics; ethernet, token ring and token bus networks; high speed and bridged LANs; internetworking; transport protocols; application specific protocols: DNS, NIS, NFS; network operating systems: Novell's Netware, Windows NT; network management: SNMP; security aspects.

**Recommended reading**

**SQ952 Advanced Windows Programming**
12.5 Credit Points • 4 hours per week • Hawthorn • Prerequisite: SQ952 Windows Programming • Assessment: assignment and final examination
This is a subject for the Masters of Engineering in Open Systems.

**Objectives**
- To cover those aspects of programming relevant to the Win32 API for both Windows 95 and Windows NT.
- To introduce ideas of distributed object technologies and component based architectures.

**Content**
Distributed Object Technology concepts; Component based architectures (OLE, COM, DCOM, Activex and CORBA)

**Recommended reading**

**SQ957 Wide Area Networks**
12.5 credit points • one semester, 4 hours per week • Hawthorn • Prerequisite: SQ957 Local Area Networks; an introductory communications subject ie. SQ407 Data Communications • Assessment: assignments and final examination
This is a subject for the Masters of Engineering in Open Systems.

**Objectives**
To provide an introduction to the operation of various wide area Technologies, protocols and theory.

**Content**
Data communication networks, open system standards and Open Systems Interconnection [OSI] model; queueing theory and performance analysis of computer networks; Characteristics of wide area networks, public data networks; Packet-switched data networks; Circuit-switched data networks; Integrated Services Digital Networks (ISDN); Internetworking, internetwork architectures, routers, bridges; Internet protocol standards, the ISO Internet Protocol, ISD routing protocols; Transport protocols, User Datagram Protocol (UDP) and Transmission Control Protocol (TCP); High speed networking; High-speed Ethernet, Fiber Distributed Data Interface (FDDI-I) and Distributed Queue Dual Bus (DQDB); Future trends and emerging technologies in networking (Broadband ISDN, multimedia networks, Asynchronous Transfer Mode (ATM) networks).

**Recommended reading**
Halsall, F., Data Communications, Computer Networks and OSI, Addison-Wesley, 1992.

**SQ955 Database for Client-Server 2**
Not offered in 1998

**SQ956 Multimedia Technology**
Not offered in 1998
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