Please note

The text in this file has been automatically extracted and may contain minor errors. For the original version please consult the paper copy held in the Swinburne Library.
## 1993 Calendar

### January
1. New Year's Day
4. Swinburne re-opens

### February
1. Australia Day
3. H.Ed. enrolment period begins for Round 1 offers through VTAC
8. TAFE semester 1 begins
15. H.Ed. teaching begins: Engineering (alternate entry) and Arts (Honours)
16. H.Ed. enrolment period begins for Round 2 offers through VTAC
22. H.Ed. teaching begins: Engineering (final year only)

### March
1. H.Ed. teaching begins: Applied Science, Arts, Business, Engineering (years 1-4)
8. Labour Day (H.Ed. teaching day)
18. TAFE award presentation ceremony
31. H.Ed. last day for withdrawal from a first semester subject, unit or course without penalty of failure*
H.Ed. Census date for HECS (semester 1)
H.Ed. and TAFE last day for applications for refund of General Service Fee

### April
7. H.Ed. classes end for Easter break
8. TAFE classes end for Easter break
15. H.Ed. classes resume after the Easter break
25. Anzac Day
26. TAFE classes resume after the Easter break
28. H.Ed. Graduation ceremony

### May
26. H.Ed. Graduation ceremony
31. H.Ed. last day for application for awards for students completing courses in semester 1, 1993

### June
10. TAFE award presentation ceremony
11. H.Ed. Business semester 1 examination period begins
14. Queen’s Birthday
15. H.Ed. and TAFE semester 1 examination period begins
25. H.Ed. and TAFE examination period ends
28. TAFE non-teaching period begins
30. TAFE last day for applications for awards for students completing courses in semester 1, 1993

### July
5. H.Ed. and TAFE inter-semester break begins
H.Ed. Engineering (alternate entry) semester 2 classes begin
12. TAFE classes resume for semester 2
19. H.Ed. classes resume for semester 2 (except Design)
26. H.Ed. Design classes resume for semester 2

### August
31. TAFE last day for subject variations to enrolments for semester 2
H.Ed. last day for withdrawal of a second semester subject, unit or course without penalty of failure*
H.Ed. Census date for HECS (semester 2)

### September
17. H.Ed. and TAFE classes end for mid-semester break
23. Show Day
24. H.Ed. last day for application for awards for students completing courses in December 1993
27. H.Ed. Design classes resume after mid-semester break

### October
4. TAFE and H.Ed. (except Design) classes resume after mid-semester break
13. H.Ed. Graduation ceremony

### November
2. Melbourne Cup Day
5. H.Ed. Business semester 2 examination period begins
8. Semester 2 examination period begins for:
H.Ed. Applied Science, Arts and Engineering
TAFE VCE and Foundation Year
19. H.Ed. semester 2 examination period ends
22. TAFE Associate Diplomas and all certificates semester 2 examination period begins
30. TAFE last day for application for awards for students completing courses in December 1993

### December
3. TAFE semester 2 examination period ends
16. TAFE closes for Christmas break
24. Swinburne closes for Christmas break

---

* Students should be aware that some faculties have an earlier deadline for addition of new subjects. Students should consult their faculty, office.
The information given in this Handbook is intended as a guide for persons seeking admission to Swinburne University of Technology and shall not be deemed to constitute a contract on the terms thereof between Swinburne University of Technology and a student or any third party. The Higher Education Division and the TAFE Division of the University both reserve the right to cancel, suspend or modify in any way the matters contained in this document.

In 1982, the Freedom of Information Act was passed by the Parliament of Victoria. The Act, which applies to Swinburne and other tertiary institutions, came into effect on 5 July 1983. The Act gives (with certain exemptions), legally enforceable rights of access to information. It is the policy of Swinburne to conform with the spirit and intention of the Act in the disclosure to the public of any information they may seek. Enquiries should be made to the Registrar:

Equality of educational opportunity is Swinburne policy.

There is a total ban on smoking in all Swinburne buildings and vehicles from January 1, 1991.

Swinburne University of Technology
Incorporating the
Higher Education Division and the
Technical and Further Education Division
John Street, Hawthorn 3122
Australia
P.O. Box 218, Hawthorn 3122
Telephone: (03) 819 8911
Telex: Swinbn AA37769
Facsimile: (03) 819 5454
ISSN 0705-1964

Typed by Roger's Typesetting Services, Pty. Ltd., Maryborough, Victoria
Printed in Australia by The Book Printer, Maryborough, Victoria
sections

general information

swinburne
TAFE division

business studies

engineering and
industrial science

further education and
community services
Introduction .......................................................... 2
Coat of Arms .......................................................... 3
Swinburne Council ................................................... 3
Chancellery ............................................................. 3
  staff ........................................................................ 4
    - Higher Education Division .................................. 4
    - TAFE Division .................................................. 4
    - Swinburne Services ............................................ 5
    - Corporate Division ............................................. 5
Eastern Campus .......................................................... 5
Prahran Campus .......................................................... 6
Swinburne Services ..................................................... 6
Learning Services ...................................................... 6
Library ................................................................. 6
Student Services ....................................................... 8
Campus Location and Opening Hours ......................... 9
  - Counselling ......................................................... 9
  - Careers ............................................................. 9
  - Health ..................................................................... 9
  - Housing/employment/financial advice ....................... 10
  - Disabilities .......................................................... 10
  - Financial assistance schemes ................................ 10
Scholarships and Awards ............................................. 11
Hire of Swinburne Facilities .......................................... 11
Access Education Department ...................................... 11
Advising Centre for Women ........................................ 11
Chaplaincy .............................................................. 11
Child-care Centre ..................................................... 11
Computer Centre ...................................................... 12
Equity Unit .............................................................. 12
International Student Unit .......................................... 13
Publicity and Information Unit ..................................... 13
Student Parking ........................................................ 13
Student Bookshops ..................................................... 13
Student activities ....................................................... 14
Student Union .......................................................... 14
  - Membership ........................................................ 14
  - Clubs and societies .............................................. 15
  - Personal accident insurance scheme ....................... 15
  - Contact/Information Desk .................................... 15
  - Reading room/photocopying service ...................... 15
  - Radio Station ...................................................... 15
  - Tool Library ........................................................ 15
  - Cafes .................................................................... 15
  - Legal Adviser ...................................................... 15
  - Student publications ............................................ 16
  - Campus typing ..................................................... 16
  - Computer centre .................................................. 16
  - Eastern Campus .................................................. 16
  - Prahran Campus ................................................... 17
  - Education, Welfare and Research Department .......... 16
Sports Association ..................................................... 17
Swinburne

The proud past

On 1 July 1992 Swinburne was proclaimed a university by the Parliament of Victoria, a significant accomplishment in Swinburne's metamorphosis from a small technical college in Hawthorn to a University of Technology.

Swinburne was established in 1908 as the Eastern Suburbs Technical College. The first students were enrolled in 1909, when classes began in carpentry, plumbing and blacksmithing. The institution grew and prospered. 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 largely responsible for the initial establishment of the college.

In 1965 Swinburne affiliated with the Victoria Institute of Colleges which was established that year by an Act of the Parliament of Victoria to "foster the development and improvement of tertiary education in technical, agriculture, 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 today

Swinburne has two teaching divisions under the control of one Council. They are:

Higher Education Division

This division offers professional qualifications (diploma and degree of Bachelor) and graduate qualifications (diploma and degrees of Master and PhD). Enrolments in 1992 were 4580 full-time and 3661 part-time students.

Technical and Further Education Division (TAFE)

This division offers courses at professional and para-professional level, covering associate diploma, advanced certificate, apprenticeship, VCE and access programs. A number of specialist courses are also provided for industry and the community. Enrolments in 1991 were 2126 full-time and 13434 part-time students.

Hawthorn Campus

Hawthorn is Swinburne's original campus. The foundation stone of the first building was laid in 1908. The city of Melbourne is seven kilometres away and the campus covers an area of approximately four hectares. It is close to Glenferrie railway station, is well served by other means of public transport and is close to parklands.

Eastern Campus (Lilydale)

In 1992 Swinburne commenced undergraduate and postgraduate studies at its Eastern Campus (Lilydale), offering the same excellence of academic programs as already established on the Hawthorn Campus.

This campus provides a small friendly environment, easily accessible and directly serving the tertiary education needs of the outer eastern metropolitan region, with all the amenities of a modern university in a natural bushland setting.

Prahran Campus

Prahran Campus (formerly Prahran College of TAFE) joined Swinburne in 1992. The roots of this campus are deeply entrenched in the history of the local area and originated from the activities of the Prahran Mechanics Institute (circa 1854). The campus is easily accessible by train, tram and bus and is situated in cosmopolitan Prahran.
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 century, 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 Swin Burn, 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 royalists. 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 coat of arms, divided horizontally red and silver, and the Mullets (Stars) are what are known heraldically as 'differences', which may often serve to indicate an association with another armigerous body or family. The four Mullets in Cross symbolise the Southern Cross.

The motto: the College of Arms' translation of the motto is: Achievement through learning.
Swinburne University of Technology
Vice-Chancellor
Professor J.G. Wallace, MA, MEd(Glas), PhD(Brist), FASSA

Higher Education Division
Faculty of Applied Science
Dean of Faculty
Professor J.G. McLean, BVSc(Syd), HDA(Hons), PhD(Melb)

Head, Department of Applied Chemistry
I.K. Jones, BAgSc, DipEd, PhD(Melb), FRACI

Head, Department of Computer Science
Associate Professor D.D. Grant, MSc(Melb), PhD(Reading)

Head, Department of Mathematics
J.R. Iacono, BA, MEd(Mon), TPTC

Head, Department of Physics
Professor R.B. Silverstein, BSC(Hons)(Mon), PhD(Melb)

Faculty of Arts
Dean
Professor L.A. Kilimartin, BA(Qld), MA(ANU), PhD(Lat)

Associate Dean
F.X. Walsh, BA(Melb), BEd(Mon)

Chair, Asian Languages and Culture
A. Skoutaris, BA(Hons), PhD(Mon)

Chair, Italian Languages and Culture
L.A. Hougaz, MA(Melb), DipEd(Melb)

Chair, Media, Literature and Film
Associate Professor T. Barr, BA(Adel), BEd(LeT), MA(SIT)

Chair, Philosophy and Cultural Inquiry
M. Harney, BEd, DipEd(Melb), PhD(ANU), GradDipArt(ApprF&TV)(SIT)

Chair, Political Studies
D.Y. Mayer, BA, LLB(Melb), MA(Mon), GradDipEd(Haw)

Head, Department of Psychology
Associate Professor K.J. Heskin, BA(Hons)(Queens), MA(Dub), PhD(Duneln), CPsychol, AFBPsS, MAPsS

Chair, Sociology
K. Betts, BA(Hons), PhD(Mon)

Faculty of Business
Dean of Faculty
M.C. Frazer, BSc(Hons)(Mon), GradDipEdTert(DDIAE), MAdmin(Mon), PhD(Camb), AImM, MAIP, MACE

Head, Department of Accounting
W.C. Nash, BCom, DipEd(Melb), MBA(CranIT)

Head, Department of Economics
J.B. Wielgosz, BCom(Hons), MA, DipEd(Melb)

Head, Department of Information Systems
D.G. Adams, BCom(Melb), MAdmin(Mon), TSTC

Head, Department of Law
P. Holland, DipEd, BCom, LLB(Hons)(Melb), MEnvSc(Mon), Barrister & Solicitor(Vic) Supreme Court

Head, Department of Marketing and Organisation Behaviour
Associate Professor C. Christodoulou, BAgSc(Melb), MSc, MAdmin, PhD(Mon)

Faculty of Engineering
Dean of Faculty
Professor L.M. Gillin, BMetE, MEngSc, MEd(Melb), PhD(Cantab), ASMB(Ball’l’t), FIEAust, FAIM, FACE, FWACE

Deputy Dean (Administration)
N. Zorbas, BE(Hons)(WAust), MEngSc, MEd(Melb), FIEAust

School of Civil Engineering and Building
Associate Dean
R.B. Sandie, BCE, MEngSc(Melb), FIEAust, CPEng

School of Electrical Engineering
Associate Dean
B.A. Neyland, BEE(Melb), ME(Melb), TPTC(Mon)

School of Innovation and Enterprise
Director
Professor L.M. Gillin, BMetE, MEngSc, MEd(Melb), PhD(Cantab), ASMB(Ball’l’t), FIEAust, FAIM, FACE, FWACE

School of Mechanical and Manufacturing Engineering
Associate Dean
W.G. Teague, DipMechEng(CIT), BComm, BE(Mech), MEngSc(Melb), MIEAust

School of Design
Head of School
D.G. Murray, BA(Graphics Design)(SIT), TTTC

Head, Department of Graphic Design
R. Macfarlane, DipArt(SCOT), TTTC(Graphic Design)

Head, Department of Industrial Design
G. Lewis, DipA&D(ID)(Prahran)

Centre for Animation and Interactive Multi-media
Manager of Centre
J.E. Bird, DipArt(SIT), TTTC

Head, Eastern Campus
Associate Professor B.C. McDonald, BCom, DipEd(Melb), FCPA

TAFE Division
Director
P. Veenker, DipBBus(ACC)(PCEA), BBus(SIT), MEDStud(Mgt)(Mon), TTTC(HIE), CPA, MACE

Deputy Director (Operations)
G. Harrison, DipMechEng(CIT), BSc(Melb), TTTC

Deputy Director (Policy and Planning)
Dr. C. Woodrow, CBS(WillAng), BSc, MEd(UWA), PhD(Tor)

Hawthorn Campus
School of Business Studies
Head
R.W. Conn, BBus(SIT), DipEd(Mon), CPA

Head, Finance and Information Technology Department
M.J. Joyce, BBus(SIT), DipEd(Haw), CPA

Head, Marketing and Administration Department
I.M. Walker, BCom(Melb), MtkingPrac(RMIT), DipEd(MSC), MA(Psych)(ILL), AFAMI

Manager, Centre for Business Development and Training
J. Torbiner, BEd(Melb), GradDipBus(HRD)(Deakin), AIMM

School of Engineering and Industrial Science
Acting Head
R. Fallu, BSc, DipEd(Mon)

Head, Electrical and Electronics Technology Department
A.G. Hampton, TechCert(Electronics), BEd(Deakin)

Acting Head, Industrial Sciences Department
J. Cashion, BSc, DipEd, DipCompSc, GradAIP

Head, Mechanical and Manufacturing Technology Department
J. Brennan, CEng(IME, Ireland), DipEng(NavalArch)(RMIT), BEng(Mech)(RMIT), DipEd(Haw)

Manager, Centre for Engineering Technology
L.J. McLaughlan, TTRlC, DipT(TTH)

Manager, National Scientific Instrumentation Training Centre
J. Hall, BSc(Hons), PhD(LaT), ARACI

School of Further Education and Community Services
Acting Head
R.M. Carmichael, BA(Mon), BEd(LaT)

Head, General and Community Studies Department
G. Arnott, BEd(Mon), GradDipBusAdmin(SIT)

Head, Access Education Department
R. Thomas, BA, MEd(Sit(Mon)
Director, English Language Centre
A. Redpath, BA, DipEd, GradDipTESL
Manager, Workplace Skills Unit
S. Naylor, TPTC, TSpT
Senior Curriculum Development Officer
R.M. Carmichael, BA(Mon), BEd(LaT)
Manager, Computer Services Unit
M. Waterhouse, BEd, DipEd(Tas)

Swinburne services
Computer-based Developments and Information Systems
Manager, Computer Centre
M. Plunkett, BEd(Adel)
Learning services
Director (Acting)
K. Anderson, DipEE, TTTC, BSc(Melb), MA(Phil)
Library
Swinburne Librarian
F. Hegarty, BA(UNewEng), DioLib(QIT), BEd(LaT), AALIA

Corporate Division
Deputy Vice-Chancellor
F.G. Bannon, BCom(Melb), FCPA, ACIS, ACIM, LCA
Buildings, Grounds and Services
Manager
C. Pantazis (Acting), BEd(Qld)
Maintenance Officer
S. Blackburn
Management Services Officer
D. Sharp
Central Technical Workshops
Manager
G. Nettleship, CEng, MIMarE
Catering Department
Manager
E.M. Briant, DipBus(RMIT)
Council Secretariat
Executive Officer
A.J. Miles, BSc(Melb), BEd(Mon)
Manager, Equity Unit
M. Jones, CertEd(Wales), BEd(Vic), MEdThesis (Mon)
Finance Department
Manager
J. Vander Pal, DipAccy(PTC), BBus(SIT), AASA, CPA, RCA
Systems Accountant
J.F. Rayner, BSc(Melb), DipEd(Melb)
Divisional Accountant, TAFE Division
P. Wilkins, BBus(Vic), GradDipALS(CIT), AASA
Divisional Accountant, Higher Education Division
P. Hotchin, BA(Deakin), GradDipBusAdmin(SIT), AASA, CPA
Freedom of Information Officer
S.P. Jervis, BA(Adel)
Human Resources Department
Manager
P.D. Mudd, BE(NSW), AFAIM
Safety Co-ordinator
A. Skeltoni, BAppSc(FIT), GradDiplndHygine(Deakin)
Planning and Information Systems
Manager
R.D. Sharma, BSc(Tas), DipEd(Tas), GradDipOpsRes(RMIT)
MEdAdmin(New Eng), PhD
Promotion and Development
Manager
Associate Professor B.C. McDonald (Acting), BCom, DipEd(Melb), FCPA

Publicity and Information Unit
Head
N. Manning
Swinburne Press
Manager
A.D. McNaughton
Registrar’s Department
Registrar
G.L. Williamson, BSc(Adel), GradDipAppSc(SIT)
Assistant Registrar (Applied Science)
J. Berry
Assistant Registrar (Arts)
T.M. Kilsby, BSc(LaT)
Assistant Registrar (Business)
M. Conway, BA(Griffith)
Assistant Registrar (Engineering)
A.L. Dew, BBus(SIT), ARMIT
Assistant Registrar (Services)
L. Scheuch-Evans, BS in Foreign Service (G’town)
Assistant Registrar (Student Administration)
H.J. Uffindell, GradDipEdAdmin(Haw)
Security Department
Chief Security Officer
N. Burge
Swinburne Student Services
Manager
Z. Burgess, BA(Mon), MEd(Couns)(LaT), GradDipEdPsych, MA(Mon), MApS, VAFT, AIM

Eastern Campus at Lilydale
Edinburgh Rd, Lilydale
Head
Associate Professor B.C. McDonald, 728 7100
General enquiries: 728 7102
Situated on the site of the former MDA Grammar School in Edinburgh Rd, Lilydale, the new Swinburne Eastern Campus provides courses in the Business, Applied Science, Arts and Engineering Faculties. The courses offered in the Bachelor of Business are in Accounting, Marketing and Economics and the Bachelor of Applied Science course in Mathematics/Computer Science is also offered, with students undertaking the same programs as students at the Hawthorn Campus. Arts majors in the Bachelor of Arts are Psychology, Media Studies, Sociology, Philosophy and Cultural Studies, Economics (taught by Business Faculty), Literature, and Political Studies. A distinctive aspect of the Eastern Campus degrees in Business and Arts is that there is the opportunity to cross faculty boundaries which allows the construction of tailored programs which combine aspects of Business and Arts. Students wishing to study a language (Japanese, Italian, Korean, Vietnamese) currently must secure a place on the Hawthorn Campus. The Engineering Faculty offers the common first year of its degree courses in Electrical (Power, Communications and Computer Systems), Civil, Manufacturing and Mechanical Engineering. Later years in the Electrical Engineering program will be offered at the Eastern Campus as well as post-graduate programs in Computer Systems Engineering and Information Technology. The degrees of Master of Engineering and Doctor of Philosophy are also available. This establishes a complete and fully accredited tertiary environment by having in place programs ranging from first year undergraduate to Masters and PhD studies. The first student intake at the campus was in 1992 and totalled approximately 260 students across four faculties. Student numbers will grow to a maximum of 620 by 1994 and will remain at this level for the foreseeable future.
Prahran Campus
144 High St, Prahran
General enquiries — Publicity Department, 522 6700.
The Prahran Campus joined Swinburne University in 1992.
Through its schools of Business Studies and Information Technology, Planning, the Arts and Furniture Studies and Community Services and Access, the campus offers diploma, advanced certificate and certificate courses via full-time or part-time enrolment. External study options are also available through the Off-Campus Department.
Courses include: Accounting, Credit Management, Credit Procedures and Practices, Computer Programming, Information Technology, Real Estate, Insurance, Records Management, Office and Secretarial Studies, Management, Library and Information Studies, Child Care Studies, Residential and Community Services, Aboriginal Child Care, Performing Arts, Applied Art/Finished Art, Art and Design, E.S.L., Literacy, Furniture Studies for indented apprentices, Year 11 and Year 12 VCE.
Over 600 fee-for-service short courses are offered embracing the entertainment industry, short hobby, skill enhancement, language, business and computing.
A four-year, full-time Bachelor of Arts course is offered in Graphic Design and Industrial Design.
All course details are available in a separate handbook. Please call the above number for enquiries regarding this handbook.

Swinburne Services
Learning Services
Director, Learning Services (Acting)
K. Anderson, DipEE, TTTC, BSc(Melb), MA(Adel)
Administration
M. Pledger, BA(Lib'ship)(SAIT)
Instructional Communications Unit
A. Young
Learning Resources Production Unit and Classroom and Technical Support Unit
R. Philp, ABC TechCert
G. Dudley, CertTech(AV)(RMIT)
K. Salehi, BA(CIT), DipSP(RMIT)
M. Clarke
G. Hay
T. Young, BAppSci(Pho)(RMIT)
G. Thomson
N. Alwis, City & Guilds FultechCert(Lond)
N. Vargis
Staff Development Unit
B. Hawkins, BA(NewEng), MEd(Melb)

Swinburne is committed to providing courses which provide flexible access, accelerated progression and flexibility of learning methods including home and workplace based learning and studying in local study centres or at a traditional campus. Such an approach requires a range of supporting services, for which Learning Services has been established.
Learning Services provides the following learning or instructional technology services to Swinburne:
• learning resources production;
• instructional technology and curriculum advise;
• interactive multimedia learning facilities;
• learning resources management;
• instructional communications;
• staff development;
• classroom and technical support; and
• teaching/learning research.
As resources are made available, Learning Services is expanding and organising into functional units, one for each of the above items. Four units currently operate.

Classroom and Technical Support Unit
The Classroom and Technical Support Unit is responsible for equipping teaching spaces with facilities which permit the presentation of computer, video and audio output, overhead transparencies, 35mm slides and 16mm motion films. It also provides audiovisual equipment for loan to teaching staff. To maintain and repair these facilities and equipment, the Classroom and Technical Support Unit operates an extensive, well equipped workshop. Staff are available to assist with setting-up, operating, repairing and booking equipment as necessary.

Instructional Communications Unit
The Instructional Communications Unit is responsible for installing, operating and maintaining Swinburne-wide communications network which is an integral part of Swinburne’s multi-modal approach to delivering higher education.

Learning Resources Production Unit
The Learning Resources Production Unit is the largest component of Learning Services. It is responsible for producing:
• tutorial, documentary, drama, animation and graphics type material for distribution on videotape, videodisc, in digitised form on multimedia computers broadcast or delivered via ISDN-type facilities;
• tutorial, documentary, drama and music type material for distribution on cassette tape, compact discs, in digitised form on multimedia computers or delivered via ISDN-type facilities;
• computer based learning materials (eg. tutorials and simulations to run on personal workstations or on larger machines accessible via the network), computer managed learning software (eg. item banks for test generation, course management databases), software for interactive multimedia courseware, software for educational software:
• still images for delivery as 35mm slides, as overhead transparencies, in printed form, or as part of a computer based learning program, videotape, videodisc or multimedia presentation;
• animated graphic sequences for use in video programs and computer based learning materials.

The Learning Resources Production Unit also provides photographic, film processing, off-air recording, dubbing and post-production services. When funds permit, it will operate a classroom studio from which lectures will be transmitted live to one or more remote centres, with audio talkback available.

Staff Development Unit
Staff training is central to an integrated approach to instructional technology. The purpose of the Staff Development Unit is to organise and present staff development programs for all staff of the University. Staff of other units will serve as trainers as necessary and the Staff Development Unit will utilise Learning Services facilities to conduct training, eg. computer skills will be learned largely in the Interactive Multimedia Learning Centre.

Library
Swinburne Librarian
F. Hegarty, BA(UnNewEng), DipLib(QIT), BEd(Lat), AALIA
Deputy Librarian
P.C. Simmenauer, BA(Melb), DipLib(NSW), AALIA
Collection Management
C.L. Ellison, BSoCS(Sch'ship)(RMIT), GradDipAppSci(Town Planning)(RMIT), AALIA
Staff Development
B.J. Donkin, DipArts(SIT), GradDipEd(Hawthorn), AALIA
Administration
E. Turner, CertAppSoCSci(LibTech), CompBusApplCert
Secretary
A. Jenkin

Systems and Research
I.A. Douglas, BA(’n’cle), MSc(’Strath)
S. Chapman, BSoScLib’ship(RMIT), GradDipBus(Comp)(VicCAE)

Technical Services
D. Doherty, BA(Qld), AALLIA
K. Apiituley, BEd(InstT&EdSci, Jakarta), GradDip(PAdm)(GradSchPAdm), GradDiplib(H’inaCAE)
J. Balharrie, BA’ship(BUC)
J. Butera, BA(’n’Urban Stud)(FIT), GradDipLib(BCAE)
M. Delaney, CertIReg(RMIT)
A. Jankowska-Janiak, MLib&Scinfo(U.B.Bierut, Poland), GradDipllibServ(RMIT)
J. Saul, BA(’ship’(BAE)

Hawthorn Campus

Campus Librarian
B.J. Nichol, BSoScLib’ship(RMIT), BA(Melb), AALLIA

Audiovisual
A. Davies, BA(Melb), GradDiplib(MCAE)

Circulation Librarian
E.A. Carter, BSoScLib’ship(RMIT)

Periodicals
K. McGrath, BA(Mon), GradDiplib’ship(RMIT), AALLIA
C. Barnes, BA(UNE)
H. Hazard, BA(Syd), DiplLib(Mon)

Senior Reference Librarian
J.M. Ager, BA(Melb), GradDiplib’ship(CCAE)

Reference Liaison Librarians

Applied Science Faculty
B.A. Camfield, BA(SIT), AssocDiplib’ship(RMIT)

Arts Faculty
S. Whelan, BA(Lat), GradDiplib(MCAE)

Business Faculty
B. Jones, BSoScLib’ship(RMIT), AALLIA

Design School
G. Turnbull, BEd(Lat), GradDiplib’ship(RMIT), GradDiplibTeach(BrisCAE), AssDiplFineArts(QCA), CertCommIII(QCA)

Engineering Faculty
P. Taylor, BA(Mon), DiplLib(NSW), TPTC, AALLIA

TAFE
R. Wallis, BA(Mon), GradDiplib’ship(RMIT)

Reference Librarians
A. Copeland, BSoSc(RMIT)
A. Muir, BEd(Lib’ship)(Mon), TC(W’gong), DipIt(W’gong)
M. Rose, BSoScLib’ship(RMIT)

Inter-library Loans
M. Wilkinson, AssocDiplAppSoCSci(BibTech)

Eastern Campus
T. Olson, BA(Mon), GradDiplib’ship(RMIT)

Prahran Campus

Campus Librarian
R. Humphries, BA(Hons)(Birm), GradDiplib’ship(RMIT)

Senior Reference Librarian
M. Fox, BEd(Lat), AALLIA

Access Librarian
E. Dunstan, BA(Melb), DipEd(Melb), GradDiplib’ship(MCAE)

Reference Librarians
S. Moreton, DipIt(Primary)(VicCAE), GradDiplibinfoServ(Melb)
M. Thorney, BA(Mon), DiplEd(Mon), GradDiplib’ship(RMIT)

Circulation
J. Pearson, CASS(LibTech)

Administration
L. Fry
R. Clements

Libraries in 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 a shared online catalogue, and an inter-campus loan service. The range of resources available is extended through reciprocal borrowing arrangements with most other university and TAFE libraries, and a number of networked access arrangements to electronic databases.

Library staff work closely with teaching staff to develop 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 several service desks on each campus during the extensive opening hours. A range of printed guides to resources and services is also available.

Opening hours during teaching periods are:

Hawthorn Campus: Monday-Thursday — 8.45am-10pm
Tel.: 819 8330
Friday — 8.45am-8.30pm
Most Saturdays, some Sundays, ANZAC Day, Queen’s Birthday, Show Day, Melbourne Cup Day.

Prahran Campus: Monday-Thursday — 8.30am-8.30pm
Tel.: 522 6998
Friday — 8.30am-5pm
Queen’s Birthday, Melbourne Cup Day.

Eastern Campus: Monday-Friday — 8.45am-5pm
Tel.: 728 7115

Check library guides and notice boards for weekend and public holiday times, non-teaching periods and changes.

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 each library on payment of a membership fee to the Swinburne Library Information Service.

The Swinburne Librarian, Campus Librarian, 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 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 a reciprocal borrowing agreements. Registered members of the Swinburne Library Information Service. Such other persons or organisations as the Swinburne 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 borrowed must be recorded at appropriate issue points before the patron enters the security gate to leave the library. The due date is stamped on the item or on a transaction slip when it is borrowed. The borrower accepts responsibility for the care of any item borrowed and for its return in good condition on or before the due date. The library reserves the right to recall any item on loan before the expiration of the normal loan period.

Books with a 14 day period or greater can be returned to any of the campus libraries. All other items must be returned to the campus library from which they are borrowed. Audiovisual materials, periodicals and computer software should be returned to the loans desk from which they were 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 replaced immediately.

Borrowing periods
Students: the normal loan period for students is a fortnight. This period may be extended for a further fortnight 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 most library material is four weeks. This period may be extended for a further four weeks 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 loan outside the library
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.

Reservations
Items on loan may be reserved at any of the campus libraries. Reservations for items on loan will not be accepted from a person who already has the item or another copy of the item on loan.

Lost or damaged material
If an item is lost or damaged this must be reported immediately to the library from which it was borrowed. If the item cannot be found after a reasonable search the borrower is responsible for the replacement cost plus a processing charge or the cost of repair.

Penalties
Each campus library issues loans subject to the imposition of penalties for late return and non-return of items. Suspended borrowers are debarred from borrowing from any campus library. 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 result certificates and eligibility for re-enrolment is dependent upon all outstanding library penalties being resolved by the end of the academic year. For staff, all material on loan to them must be returned and all penalties resolved before they leave employment with Swinburne.

Rules for general conduct
Eating, drinking and smoking are not permitted in areas of the library open to the public.

Playing games is not permitted in the library.

Bags and cases may be brought into the library and must 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 areas so designated.

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 include exclusion from the library and suspension of borrowing privileges. If a student 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 recommendations of the Swinburne Librarian.

At the discretion of the Swinburne 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.

Student Services
Manager
Z. Burgess, BA(Mon), MED(Couns)(LaT), GradDipEdPsych, MA(Mon), MAPsS, VAET, MAIM

Administrative Officer
E. Jolley

Advising Centre for Women
(For further information see page 11)

Student Counselling staff
Head
J. Shopland, BSc(Melb), GradDipEdCouns(RMIT), GradDipHumanServicesResearch(Phillip), EdD(UMass), MAPsS, VAFT

Student Counsellors
B. Jenkins, BEd(MCAE), GradDipAppPsych(Couns)(SIT)
R. Kelly, BA(Melb), DipEd(Mon), MA(Linguistics)(Lanc), MA(Couns)(Auck)
R. McDonald, BA(Melb), DipEdPsych(Mon), MAPsS
C. McLeod, BBethSc(Hons)(LaT), DipEd(LaT), MAPsS

Receptionist
J. Ralph

Housing, Part-time Employment and Financial Advice
B. Graham, BAppSc(Pharm)(TCAE)

Careers Services Staff
Head
R.ware, BA(LaT), DipEd(MSC), GradDipCareers(VicColl)

Careers Counsellor
R.C. Waite, BA, DipEd(Flinders), DipEdCouns(Sai)

Schools Liaison Officer
L.E. Baron, BA(RMIT), DipEd(LaT)
Careers Information Officer
K. Weeden, BA(Ballarat), GradDipAptSc in Prof.
Psych(Ballarat)

Employment Program Officer
S. Davis

Student Health Service staff
Head
J. Fischer, RN, RM(Vic)(UK), RN(USA)

Medical Director
S. Clarke, MB, BS(Lond)

Sister
A. Hart, RN(Vic)

Administrative Assistant
J. Wright

Eastern Campus staff
Co-ordinator
M. Manel, BSc(Stirl), BEd(Couns)(Lat)

Prahran Campus staff
Co-ordinator
D. Balogovind, BA(Hons)(Queensland),
GradDipEd(Melb), MAPsS

Student Counsellors
R. Black, BA(HonsPsych), BEd, DipEd(Melb)
M. Galante, BA(Mon), BSoCWork(Mon), AASW

Administrative Officer
S. Morgan

The following services are available to all students:
Careers — course information
graduate employment
schools liaison program
counselling
careers library and resources

Counselling — psychological
educational
cross-cultural
library resources for learning and life

Health
Housing
Part-time employment
Financial advice — Austudy
loans
budgeting

The majority of services listed below at the Hawthorn
Campus are available at the Eastern Campus and the
Prahran Campus also. Swinburne students can use
services at any campus. For more detailed information
phone the numbers listed below.

Hours of opening and location at each campus are as
follows:

Hawthorn Counselling, Housing, Employment, Finance
Business and Arts Building, Ground Floor, BA206
Mon., Tues., Thurs., Fri. — 9.00am-5.00pm.
Wed. — 9.00am-8.00pm.
Housing, Employment and Finance: 819 8882
Counselling: 819 8025

Hawthorn Careers Services
EW108, Enter through Conference Centre, Swinburne Walk
Mon.-Fri. — 9.00am-5.00pm.
Phone: 819 8521

Hawthorn Student Health
Mon.-Fri. — 8.45am-5.00pm.
Doctor by appointment — 4 hours daily.
Nursing staff available at other times.
Phone: 819 8483

Eastern Campus Student Services
Administration Building MA7
Mon.-Fri. — 9.00am-5.00pm.
Phone: 728 7103

Prahran Campus Student Services
Building U, Level 2
Mon.-Fri. — 9:00am-5:00pm.
Tues., Wed., Thurs. — 9:00am-6:00pm.
Counsellors, Housing and Employment Officer, International
Student Adviser, Legal Officer (by appointment).
Phone: 522 6734

Hawthorn Campus

Student Counselling
The Student Counselling Service is available to students, staff,
former students, parents and partners of students. The service
is free and strictly confidential. Services include individual
counselling and small group workshops for students and staff.
Counsellors help in areas such as loneliness, adjustment to
life at Swinburne, subject choice, deferment, choosing a
course, examination anxiety, learning skills, vocational choice,
studying part-time, leave of absence, academic and learning
difficulties, concern about others, study problems, marital and
pre-marital counselling, relationships, disabilities, sexuality,
family, and student allowances. A specialist cross-cultural
counsellor is also on staff to assist international students at
Swinburne. Our service offers thousands of consultations
each year. No problem is considered too small.
The Student Counselling Service endeavours to develop and
support procedures which will increase the general welfare
of students and enhance their education at Swinburne. To this
end, the service seeks representation at relevant levels
throughout Swinburne. When appropriate, counsellors act as
advocates for students within Swinburne, and with relevant
external organisations such as the Department of Social Sec-

urity and the Commonwealth Department of Education and
Training. The service operates on both a fixed appointment
and ‘drop-in’ basis.

Careers Services
The Careers Service is available to Swinburne students,
prospective students, graduates and staff. The service is free
and offers comprehensive career, course and employment
information and counselling. Computer resources including
job and course explorer and CISCL are also available for use
by students.

The Careers Library is maintained with up-to-date information
about courses from TAFE to postgraduate levels, careers
news, and graduate employment. Students can receive
assistance in processing and understanding the information
available. A computer package to assist students in their
course/careers choices, is available when students seek

counselling.

Careers Counselling is available for all those requiring
professional assistance in exploring the many issues involved
in career and course planning. Demand for this service is high
so it is necessary for an appointment to be made.

Graduate placement and student employment advice is also
available for students and graduates seeking full-time
employment. Services include vacation employment,
employer visits, campus interview programs, assistance with
job applications, interview techniques and resumes. These
are offered individually or in group workshops. An employment
register is also maintained for the use of students and
graduates.

The Schools Liaison Program is an integral part of the service
and facilitates communication between secondary schools
and Swinburne. Through this program prospective students
are asked to explore the educational opportunities available
at Swinburne.

Student Health
The service is available to all students. It is free and strictly
confidential. The service is available to staff for emergency
treatment only. Although this is a free service, it is
recommended that students have their own medicare cards
or booklets (overseas students) for use should X-rays or
pathology be necessary.
The service offers to all students the opportunity to seek help and answers to their problems in a confidential and non-judgemental atmosphere; and to promote a positive and confident attitude towards their health maintenance. We offer emergency treatment, general first-aid, medical consultation by appointment, nursing and medical counselling on such issues as contraception, sexually transmitted diseases, sports injuries, nutrition, immunizations, health insurance advice. Classes in cardio pulmonary resuscitation and first-aid are also offered as well as eye tests and hearing tests (audiograms) and referral information (e.g. physiotherapy, dental care and local doctors).

**Student housing, part-time employment and financial advice**

The housing service provides addresses of a wide range of accommodation, including full board, single rooms, houses, flats and hostels. Many students also use the service to find other students to share accommodation. Advice on living away from home, and the legal and financial problems associated with renting is also available to all Swinburne students. Assistance is also provided for students seeking part-time, and casual employment. This service includes advice on techniques of obtaining part-time work, and information on specific vacancies. Students are notified of available work via the part-time employment notice-board.

**Students with a disability**

Students with a disability are encouraged to first advise their department. They may also wish to make contact with the Student Counselling Service. The counsellors can advise or act as advocates on specific study needs, career planning, examination arrangements, access to buildings, use of lifts, telephones and parking facilities, etc. Responding to the various needs of students is a continually developing process. It is important, therefore, that you make your particular needs known. Swinburne is a participant in the State and Federal Governments' equal opportunity program.

Other campuses also have assistance at Students Services for disabled students.

**Student assistance schemes**

**AUSTUDY**

Generally, AUSTUDY provides financial help, on an income and asset-based basis, to students who are 16 years of age or over and who are studying approved full-time secondary and tertiary studies.

Some part-time students receiving a sole parent pension may also receive the education supplement. Helpful hints about AUSTUDY:

- Pick up your application form and information booklet from AUSTUDY, a CES office or from your campus.
- Read the information booklet carefully.
- If having read the booklet you still have questions, then seek help from the Financial Adviser on 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.
- Don't assume that you are not eligible, if in doubt put in 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 March 31, 1993, if you want to receive backpay to the First of January.
- Don't accept a decision from AUSTUDY if you think it is inaccurate or unfair. Ask your Financial Adviser on campus for assistance.

**Student loans**

With approval of the Loans Fund Committee, financial assistance may be obtained for full-time students from the following loan funds:

- Commonwealth Help for Needy Students Loan Fund
- Special Assistance for Students Program
- Student Aid Fund
- Rotary Swinburne Bursary Fund
- Overseas Student Loan Fund
- Emergency, short term loans are available to full and part-time students from the student union aid fund.

**Dependent Spouse Allowance**

If you qualify for living allowance at the independent rate and you have a spouse and child who are dependent on you, you may receive an additional allowance.

The allowance is also payable for a dependent de facto spouse if there is a natural or adopted child of the relationship who is dependent on you.

Some students are eligible for a fares allowance.

**Health Care Card**

Students who qualify for AUSTUDY may also be eligible for a Health Care Card from the Department of Social Security. The major benefit of this card is access to low cost pharmaceutical prescriptions. You can obtain more information about the Health Care Card by contacting your local DSS office.

**Child Care Assistance for Sole Parents**

Contact the Department of Health, Housing and Community Services for information.

**Aboriginal Secondary Assistance Scheme (ABSTUDY)**

ABSTUDY provides financial help for Aboriginal and Torres Strait Islander students who want to stay at secondary school or go on to further education. It can help school children and also adults returning to study.

This scheme is administered by Department of Employment, Education and Training.

**Young Homeless Allowance**

This scheme was introduced by the Commonwealth Government on 1 July 1986 for full-time secondary or tertiary students or people receiving a Social Security benefit. Ask at Student Services for more information.

**Family Allowance Supplement**

Students who are eligible for a living allowance and who have a dependent child may receive Family Allowance Supplement (FAS) from the Department of Social Security.

FAS will be paid to eligible clients at the maximum rate, free of any income test and in addition to family allowance. It is not taxable.

You can find out more details and how to apply from your local DSS office.

**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. 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.
Scholarships and Awards
Scholarships are available in the areas of Mining, Metallurgy, Geology, Accounting, Mechanical, Chemical, Electrical Engineering and Environmental Sciences. These scholarships have a value of $5,000 per annum (1992). Further enquiries should be made to Brian Roberts, Manager — Personnel Services, Renison Goldfields Consolidated Ltd, Goldfield House, 1 Alfred Street, Sydney, NSW 2000.

There are a number of scholarships and awards for which Swinburne students may be eligible. Enquiries about these awards should be directed to the Registrar or relevant faculty, division or department. Other scholarships and awards are listed under the relevant faculty or school.

Postgraduate awards
Commonwealth postgraduate awards assist people studying full-time for higher degrees by research. Contact the Office of Research and Graduate Studies, room AD204, telephone 819 8238.

Hire of Swinburne facilities
Outside groups wishing to use Swinburne facilities should contact Planning and Information on 819 8686 to discuss their requirements. Swinburne lecture theatres and classrooms may be booked for use by outside organisations.

Swinburne Conference Centre
The Swinburne Conference Centre is located at the north-west end of the campus. It is a pleasantly situated centre, ideal for small conferences, seminars and training courses. It comprises a large seminar room, one smaller discussion room and a dining room, all available for outside hire. Enquiries about the facilities available or booking of the centre should be directed to the office staff on 819 8686.

Access Education Department
Acting Head
R. Thomas, BA, MEd(Mon), 819 8816
Secretary
C. Boykett, 819 8634

Compensatory Education
Individual assistance in English and mathematics is available to students of all 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.

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

Community Access Programs
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. 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.

The department operates from the houses located at 42 and 44 William Street. Understanding staff are available to discuss people’s problems in English and/or mathematics and follow-up with appropriate tuition.

The Advising Centre for Women
Co-ordinator
J. Learmont, 819 8633
Convenor, Applied Science
Jennifer Lindley
Convenor, Business
Alison Spencer

The Swinburne Advising Centre for Women aims to provide support to women already studying Applied Science, Business and Engineering. As a student, a range of services are available, such as career and course advice, skills improvement in communications, maths and computer technology as well as a place where you can drop in to chat to someone about your studies at Swinburne.

We are located in a shop front at 463 Burwood Road, between John and William Street. The centre is open Monday to Friday 10.00-5.00pm, and Wednesday night 6.30-9.30pm.

Telephone: (03) 819 8633.

Chaplaincy
Chaplain
Rev. D. Rathgen, DipPublicSpeaking(NZSB), LTh(JBTBS), BA(Cantab)
Location: 473 Burwood Rd, room 201, beside the Student Health Centre
Telephone: 819 8489

Hours: Tuesday, Wednesday, Thursday 9.00am-5.00pm

David Rathgen is the Chaplain at Swinburne, and although an ordained Anglican priest, he is available to all students (and staff) regardless of their religious affiliation (or lack of it). David can arrange weddings, especially for those who find the traditional church setting difficult, or who have had a previous marriage. David will also arrange to celebrate a baby’s birth (a ‘christening’), an engagement, or assist with bereavement, grief and funerals (if necessary).

As a pastor, he is able to support those in any need, or who wish to work through the basic issues of life, and who wish to find a purpose or sense of direction. David will help clarify whatever is happening in life and where God might be at work in it.

David is interested in clarifying the religious and spiritual aspects of daily living and their impact upon social issues. New students are particularly invited to call in and introduce themselves. David is in contact with all denominations in the Hawthorn area, and is able to supply information about them upon request.

Visiting Chaplains
For specific religious denominations, visiting chaplains are available, e.g.: Catholic, Jewish, Lutheran.

Overseas students may also contact visiting chaplains of their own language groups: Korean, Japanese, Chinese, Indonesian, etc.

Child-care Centre
Co-ordinator
S. Somerville, 819 8519

A co-operative 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 aims of the Centre revolve around encouraging a beneficial contact that will produce an understanding of the needs of the individual child and their family.

The Centre’s two houses 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 in existence.

Computer Centre
Manager
M. Plunkett, BEc(Adel)
Enquiries
S. Allan, 819 8509

The Swinburne Computer Centre provides computing and data processing facilities for teaching, research and administrative applications.

In 1990 the Computer Centre will have two processors available to students who require access to Swinburne’s central computing facilities. These machines will be located in the Computer Centre’s main computer room.

(a) IBM 3090/120E
The largest of these systems is the IBM 3090 Model 120E. The 3090 represents a closer association with the mainstream requirements of the computing industry. This association is reflected in the curriculum of the new Bachelor of Information Technology degree and Swinburne’s association with IBM which sees Swinburne staff members involved with IBM in the presentation of training programs to industry.

The 3090 is configured with 32 Mb main memory, 16 channels, 15 giga bytes of disc storage and a communication subsystem to support asynchronous and synchronous terminals, local area and wide area networks and several remote user sites. Local terminal facilities are distributed through the Applied Science, Art, Arts, Business and Engineering faculties and the TAFE Division.

Users have access to a range of programming languages, (including COBOL, FORTRAN, PASCAL, RPG, APL, C, Modula 2, BASIC and Assembler) and software packages (including SPSS, SIR, SAS, IMSL, NASTRAN, CADAM and CATIA). Data base products available on the 3090/120 are CICS/DB2; support for artificial intelligence applications is provided by IBM’s Expert System Environment (ESE) and the operating systems available include MVS/ZA.

Swinburne has entered an arrangement with McCormack and Dodge which has resulted in that company’s financial software being included in Swinburne’s undergraduate accounting programs. Along with our arrangements with IBM (Aust) Limited this is further evidence of commitment to the provision of industry standard computing facilities for our students.

(b) UNIX
The UNIX operating system is supported at the Swinburne Computer Centre on an Encore Multimax 310. The parallel architecture of the Encore will facilitate low cost upgrades which in turn will ensure our ability to expand the configuration, at a reasonable cost, in line with the growth in demand for UNIX resources.

(c) Network
The Computer Centre also administers an extensive LAN among other communication facilities. The LAN currently joins all Computer Centre facilities as well as most of those from other departments using a fibre optic backbone.

PC facilities are also on this LAN and the Computer Centre administers a large Banyan Vines PC network to which all Computer Centre PC facilities are joined. There is a wide range of DOS software available as well as access to other computing facilities via the network, using TCP/IP protocols.

The Computer Centre is also responsible for the development, maintenance and production of a number of systems used by the non-teaching sector of the Institute. The major applications are Student Administration, General Ledger and the Library circulation and cataloguing systems. Basic maintenance of the Institute’s terminal network is also administered by staff of the Computer Centre.

Most of a student’s computing requirements can be satisfied by using a PC connected to either the UNIX or IBM systems and the different teaching departments maintain their own internal booking procedures to allow access to those terminals.

Assistance to students is provided through a duty programmer service for those problems that cannot be solved by the teaching staff. In addition, seminars are conducted specifically to ensure that teaching staff and students use the computing facilities in an efficient and co-ordinated manner. The Computer Centre produces a publication ‘User News’ several times throughout the academic year. Designed to assist and acquaint users in the application of Swinburne’s hardware and software facilities ‘User News’ is commended to all students.

Students may, on application to the centre, be allocated an account and budget for computer facility usage. The allocation controls disc space, input, output and central processor facilities and is determined according to the requirements of the student’s course.

The accounts are allocated only for the direct requirements of a student’s course of study. Any student who uses the facilities for game playing or matters not associated with a course, or who interferes with other users through manipulation of passwords or files, can expect, at minimum, immediate suspension of their usage rights to Swinburne computing facilities as well as any other penalties which may be determined from time to time.

Equity Unit
Manager
M. Jones, CertEd(Wales), BEd(VicC), MEd(Man)
Administrative Officer, Special Programs
J. Spuch
Administrative Assistant
J. Ng

Location
463 Burwood Road
It is the policy of Swinburne to provide an educational environment of equal opportunity for all.

Discrimination on the grounds of sex, race, marital status, impairments, religious or political beliefs, sexual preference, and being a parent, childless and de facto spouse is forbidden.

Admissions to courses and assessment of student performances will be conducted according to merit only.

Swinburne is committed to providing an environment free from sexual harassment as well as pursuing a policy of affirmative action.

For further advice or assistance please contact Mary Jones, Manager on 819 8855.
**International Student Unit**

**Associate Dean (International Students)**
I.A. McCormick, BCom(Melb), MAadmin(Mon), FASA, CPA

**Overseas Student Advisors**
C. Chu, BA(Mon)
I. Lee, BA(Mon)
M. Liu
S.H. Lee

**Secretary**
D. Pun, DipComm(HKBC)

**Location**
473 Burwood Road, Hawthorn 819 8151

The International Student Unit was established to provide a focal point for Swinburne's international activities. This includes being responsible for all matters relating to the implementation of Swinburne's international program and coordinating academic links with overseas tertiary institutions. All enquiries for study at Swinburne by non residents of Australia should be directed to the unit to ensure that Australian government admission policies are followed. The co-ordinator of the ongoing welfare of overseas students is also a responsibility of the unit. The unit also operates a student hostel for international and Australian students.

**Publicity and Information Unit**

**Head**
N. Manning, 819 8847

**Handbook and course brochures**
S. Niner, BA(VicColl), GradDipBIT(SIT), 819 8548

**General enquiries**
R. Boesch
E. O’Brien, 819 8444

The role of the Publicity and Information Unit is to publicise, both internally and externally, the activities of Swinburne University. The specific functions of the unit include the provision, production and distribution of information relating to Swinburne courses, staff and campus activities. This is achieved through media liaison and advertising, specific course brochures and external publications such as Swinburne News, the annual Swinburne handbooks, an internal staff newsletter and the staffing and resourcing of the Enquiries Office.

One of the unit's highest priorities is to actively promote Swinburne's public profile and the quality and range of education offered. To this end, the unit plays a major role in the coordination and organisation of exhibitions which includes Swinburne's annual Open Day.

**Student parking**

**Enquiries**
Buildings, Grounds and Services, 819 8243 or 819 8760

Limited off-street car parking facilities are provided for students, part-time and full-time. No charge is made.

**Conditions of use**
Use of these facilities is strictly at the car 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 parking bay; and
- the driver's observance of directions given by any of Swinburne's Parking or Security Officers.

**Parking permits**
Available free of charge from Buildings, Grounds 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 are opened at 7.45am and close at 10.00pm.

**Infringement of parking rules**
Failure to comply with parking regulations could incur a Parking Infringement Notice of up to $40. 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 Buildings, Grounds and Services Department, 819 8760.

**Motorcycles and bicycles**
Convenient parking for motorcycles is available in John Street, while the Business and Arts Building and Applied Science Building car parks offer undercover racks for bicycles.

**Location of car parks**
On-campus parking areas are indicated on the map on the inside back cover of this Handbook. In addition, the staff car parks in Wakefield Street (except for marked reserved bays) and Paterson Street may be used by students after 5.00pm only.

Additional parking areas which can be used are located immediately behind the Hawthorn Football Ground, accessible from Linda Crescent (off Glenferrie Road). Only 7 minutes walk from Swinburne, that area offers ample parking.

**Student Bookshop Co-operative Limited**

**Manager**
R. Wilkens, 819 8225

**General enquiries:** 819 4266

**Hawthorn Campus**

**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. By members buying shares and patronising the bookshop they are in turn ensuring the Bookshop has an inflow of share capital for growth and the patronage 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.

- Text and references, novels, and general interest books.
- Secondhand 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.
- Graphic and artist supplies.
- Calculators and accessories.
- 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, that 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. Top up orders can then be placed where necessary to ensure the book arrives in a time to be of use for that semester.

If you find the book is unavailable ask the staff when it will arrive and place a personal order at the information counter to secure a copy when supplies become available.

**Co-operative hours**

**Hours of opening**

Normal hours of opening for the bookshop during terms and semesters are:

- **Monday to Thursday inclusive**
  - 8.30 am to 7.30 pm
- **Friday**
  - 8.30 am to 5.00 pm

**Public holidays**

Closed

**During vacations**

Mid-semester and term breaks:

- Monday to Friday — 9.00 am to 5.00 pm with a lunch break between 12-1.00 pm

**Christmas vacation:**

Closed mid-December to early February

**Services**

The bookshop offers a variety of services to students and staff and is receptive to any new ideas.

Further information, rules and regulations can be sought from the Registered Office of the Co-operative, situated in the Union Building, John Street, Hawthorn.

**Student Bookshop Co-operative Limited**

**Prahran Campus**

The bookshop is located on the first floor of the Student Union Building of U Building above the cafeteria.

The hours of opening for the bookshop during teaching periods are:

**Normal hours:**

- Monday to Thursday — 8.30 am to 5.00 pm.
- Friday — 8.30 am to 3.00 pm.

**Public Holidays:**

Closed.

**During vacations:**

- Mid-semester and term breaks
- Monday to Friday — 9.00 am to 3.00 pm.

Unless otherwise advised.

**Christmas vacation:**

Closed mid-December to late January.

**Student activities**

**Student Union — what is it?**

The Student Union is a legal expression of the student body identified with Swinburne. The primary function and focus of the organisation is to represent the members in the common context of their relationship with Swinburne and the Union — students, and in their education. The second focus of the Union is to provide services for the members within the framework of effectiveness, convenience and need.

The Union in representing the members operates within the realms of the consumer advocate and lobbyist. Successful outcomes on behalf of the membership has been dependent on good student representation and a core of professional staff working together, developing policy and precedent through careful implementation. Policy developed and decisions implemented are mindful of past and future membership. Incorporation has breathed life in perpetuity, into this organisation which has become increasingly effective by the year in servicing the membership.

**Membership and its aims**

Membership to the Union — based on enrolment and payment of the General Service Fee. The purposes for which the Union is established are:

1. to advance the social, educational and general welfare of the student body of Swinburne and to provide services for the student body;

2. 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;

3. to promote, encourage and co-ordinate the activities of student committees and societies;

4. to promote and foster a corporate spirit amongst the student body;

5. to strive for wider recognition and greater appreciation of the standard of all academic awards of Swinburne.

The 1993 Executive of the Union consists of:

- **President**
  - Simon Rayward
- **Vice-President**
  - Marilyn Giunta
- **Activities Director**
  - Susan Yip
- **Education Director**
  - Fiona Scott
- **Media Director**
  - Narelle Phelan
- **Finance Director**
  - Ian Dais

The role of the Executive is to control and manage the business and affairs of the Union. The meetings of the Executive occur at least once a month from February to November and are open to all members.

The affairs of the Union fall principally into the following areas: education and welfare services, social activities, and media. These areas are governed by management committees, whose responsibility it is to develop policies of the Union in the areas of their activity. The management committees consist of: the relevant Executive member as Chairperson, two to three members for the Union Executive, two to four persons elected from the student body. The Executive at the monthly meeting receives and considers the policy submitted by the management committees.

In March or April of each year the Executive calls an Annual General Meeting to present the preceding year’s audited financial statement. In October or November of each year the Executive convenes a Budget Meeting. At this meeting the proposed Budget for the next financial year is presented by the Executive to the student body for their approval. Further, the Executive reports on the activities of the Union for the period since the preceding Budget Meeting.

All student members are eligible to stand and vote in elections and all have the same rights in respect to the Union and thus are entitled to use the services provided by it.
Orientation Week
Orientation occurs during the first week of academic classes. During orientation a diversity of entertainment is provided to encourage students to become involved and participate in the campus activities. Orientation week provides the opportunity for students to familiarise themselves with services and to establish friendships with other new and returning students. A program of activities for the week is available prior to the commencement of Orientation.

Activities
This department is a sub-unit of the Contact Centre and the responsibility of the Activities Office. In conjunction with the management committee the Activities Office develops, organises and presents the social programmes for the year. This unit works closely with Clubs and Societies in order to promote activities jointly between clubs and the Union. The Activities Office is located at The Corner.

Clubs and Societies
Another unit of Contact, the Clubs and Societies office is located in the Contact Centre. This unit's responsibility is to promote the involvement of students in the Swinburne community through participation in groups with a common interest. The Clubs and Societies office will assist with queries regarding the starting of Clubs, affiliation and support with resources.

Union Bus
The Student Union provides a Toyota Hiace (12 seater) van for use by clubs and societies for their functions if required. Bookings can only be made at the Contact Desk.

Personal Accident Insurance Scheme
All students enrolled in Swinburne who have paid their union fees are automatically covered by accident insurance. This insurance scheme covers accidents, 24 hours a day on or off campus, in the event it relates to activity associated with Swinburne. For further details, please contact the Accountant in the Union Office.

Union Office
This is situated on the 4th level of the Union Building. Various services are provided here including room bookings, Legal Advisor bookings, insurance claims, facsimile and general information. Union personnel that are located in the Union Office include the President, Secretary, Manager and Accountant.
Telephone numbers: 819 2156, 819 2656, 819 2966, 819 8520, 819 8553.

Contact/Information Desk
The Contact/Information Desk located in the Contact Centre is the 'nerve centre' of the Student Union for information on Union services, activities and coming events - in effect a directory of all Union services. Students will find a 'Friendly Contact Worker' who will provide assistance on how to survive at Swinburne. The desk also has listings of various off-campus groups which you may wish to become involved with.
The Desk operates as the ticket sales point for Union activities, and sells t-shirts, windcheaters, and other Union memorabilia. The Australian Buying Advisory Service (ABAS) is available at no charge to students. This service guarantees that the price you have been quoted is in fact an unbeatable offer. So if you are considering buying a camera, television, stereo, etc., see us. Feel free to drop in anytime if you need help, direction, or for any enquirers.

Reading Room/Photocopying Service
The room is designed for quiet reading and discussion, in a non-smoking environment. Newspapers, magazines and information on various groups, issues and organisations are located in this area. Also located adjacent to the lounge are a bank of photocopiers. The copiers produce good quality A3/A4 copies at a very competitive price. It is located in the Contact Centre.

Tool Library
The Tool Library is located in the Contact Centre, telephone 819 8291. As the library is a non-profit operation, its hire rates are very reasonable. All equipment hire requires a deposit and student ID. Library catalogues are available from the Contact/Information Desk, Tool Library and the Union Office.

Equipment available includes: lawn mowers, engine tune-up kit, arc welder, brush-cutters, wallpaper remover, auto tools, orbital sanders, percussion drills, belt sanders, barbeques, PA system, tents and rucksacks.

The Greenhouse Coffee Lounge
Situated on the third level of the Union Building, this is a comfortable and popular lounge which serves tea, cappuccinos, iced coffee, fresh fruit juices, and quality cakes and pastries. Ideal for those who only want a 'cuppa' without queuing in the cafeterias with the noisy lunch and dinner crowds. Seats 100.

Union Cafe
The 'Caf' provides an extensive range of foodstuffs including hot and cold drinks, sandwiches, salads, cakes and pastries, hot take-away food and confectionery. With prices designed for student pockets, and home of the famous 'Budget Meal', the Union Caf is conveniently located on the ground floor of the Union Building (next to the Bookshop).

The Corner
Situated on the corner of John St. and Wakefield St., The Corner specialises in a range of upmarket foods and snack foods at a reasonable price. The Corner provides a clean, pleasant environment in a convenient location.

The College Caf
The cafeteria on the 3rd floor level of the Union Building provides a range of hot and cold meals, catering for a variety of diets and tastes including vegetarian.
The College Caf also has a large amount of table space for large groups of students to chat over coffee or lunch.

Ethel Hall
Clubs and Societies can use the hall for their functions. Bookings must be made at least two weeks in advance. All bookings must be made on prescribed forms available from the Student Union Office.

Radio Station
3SSR — Swinburne Student Radio.
Location: fourth level of the Union Building.
The Radio Station is run by a committee which consists of:
• Programme Director
• Publicity and Promotions Director
• Station Manager
• Technical Officer
3SSR provides students with a variety of music and other programs which are broadcast to a number of outlets. Students are involved in various activities at the station including production of 'on air' programs (DJ'ing) and the general running, management and organisation of station activities.
Facilities at 3SSR include a comprehensive record library, cartridge production facilities, an 'on air' broadcast studio, and various related equipment including an eight-channel mixing desk, a four-track reel to reel, a half-track mastering reel to reel and an assortment of microphones and leads.
Anyone interested in becoming involved in any 3SSR activities should contact the station's supervisory staff in the radio station offices located on the fourth level of the Union Building.

Legal Adviser
The Student Union provides a free legal service for full and part-time students. The solicitor is available every Tuesday during the academic year. Appointments must be made at the Union Office, on 819 8520.
Education, Welfare and Research Department
All matters pertaining to the quality of education and the socio-political welfare of students on campus are handled by this department. The Union employs a Co-ordinator (on a full-time basis) who oversees the activities of this department. The Co-ordinator is available for consultation, on any facet of their education, or welfare, the co-ordinator is available on the 4th floor of the Union Building. There are three sections within this department:

Student Appeals and Advocacy Unit
This is designed to assist students who believe that they have been subject to any discrimination or injustice, including coursework, assessment, teacher relationship, enrolment process, or whatever. The unit can also help prepare students, who are called to appear before the Progress Review Committee or an Exclusion Board, on the best manner in which to present their case.

Students seeking assistance can discuss their concerns, in total confidence, with the Student Advocacy and Liaison Officer, or the Union President. Both are located in the 4th floor of the Union Building.

Education and Welfare Research Unit
This evaluates Student Services and also conducts the Course Evaluation Survey. The latter helps assess the quality of education that students are receiving in various subjects. The subjects covered depend entirely on those Course convenors who allow the Union to enter their classes and distribute the questionnaires. The information collected is processed, and the results are published in booklet form. The results are also forwarded to convenors and Heads of departments for further analysis and comment.

The Union employs an Education Research Officer to undertake this program. This person is situated in the Education Unit.

Campaigns and Pressure Group Co-ordination Centre
The Union undertakes actions against those organisations/institutions (e.g., the Government) which implement policies seen as deleterious to the welfare of students. To meet the organisational requirements of such campaigns, students volunteer their time, and the Education, Welfare and Research Committee assist these students in regard to rallies, marches, lobbying, etc. Examples of such actions are: Anti-Tuition Fees, and Stop the Closure of the TAFE College.

All students interested in participating in social action to achieve beneficial change and progress can attend the Management Committee meetings by contacting the Union Desk (Union Office) and ringing same on 819 2966.

Student Publications
The Student Union publishes one weekly newspaper called "The Swine", which covers broader news and entertainment. It provides a forum for students to present and discuss their views on all matters.

The Student Union also publishes "Scam" on the basis of once or twice a semester. "Scam" is less news, more creative writing than "Swine" and often has a theme. There is also a yearly publication which is produced solely by female students called Bella Donna.

These publications are produced by the Student Union Media Office. Contributions by students including graphics, cartoons and articles are welcomed. If you want to learn how it's done, contact the Student Union Media Director or come to the Office. The Student Union also produces a free diary and Year planner which are available from the Contact Desk and at re-enrolment.

Club Printing
Clubs and Societies can have their publicity material printed by the Student Union Contact Centre at minimal cost.

Campus Typing
Campus Typing is a quick efficient typing service available to help you complete your assignments and gain the best possible results.

We will word process your assignments, job applications, resume, letters and thesis, all printed out on a high quality Laser Printer.

Student Computer Centre
Desperately Seeking Computers
Now there is a solution, students have access to an ergonomically designed Computer Centre, consisting of 24 computers and access to popular software packages, such as Microsoft Word 5 and WordPerfect 5.1.

For further information contact Campus Typing, 4th floor Student Union Building or telephone 819 2966 or 8553.

The Winning Edge Can Be Yours

Campus Bind
Campus Bind, perfectly bound documents, are the hard wearing, functional, simple and cost effective way to present your valuable assignments, computer printouts, manuals and reports of all kinds.

For excellent presentation, Campus Bind will give your assignments the professional edge.

Covers are A4, white, clear plastic with cardboard backing. Available at Campus Typing, 4th floor Union Building for a mere $2.50.

Tax Return Lodgement Adviser
Prior to the period when tax returns have to be completed for lodgement, the Union organise a Tax Accountant who has a specialist knowledge regarding students, to give seminars free of cost to full and part-time students. Special one-to-one sessions are held at a small cost for those who need extra advice.

Eastern Campus
The Student Union resides at Contact in the Union Building, at the Eastern Campus. Contact aims to provide Eastern Campus students with access to all of the services which are currently operating at Hawthorn, either by providing them on campus or by networking with the Student Union at Hawthorn. Contact is open from 9.00am to 4.00pm, Monday to Friday.

Contact operates a bookshop which stocks all the books, stationary and accessories necessary for students. The bookshop also offers a special request system so students can purchase items such as novels which are not normally stocked. By joining the Bookshop Co-operative for $5, students will receive a 10% discount on the already low prices offered.

The staff at Contact will assist students in gaining access to the services which operate from the Hawthorn campus. For instance, students can borrow items from the Tool Library based at Hawthorn, or have essays typed by Campus Typing, by either using the courier which runs daily between the two campuses, or by going into Hawthorn.

The Union Building also has a Student Lounge with a pool table and a wide range of publications and games, to create a relaxing and sociable atmosphere for students. There is a meeting room with a capacity of twelve which students can book at Contact.

Activities are run at the Eastern Campus on a regular basis and these are planned and run by the Eastern Campus students, in conjunction with staff and students based at Hawthorn. Eastern Campus students are encouraged to join already established clubs and societies, or to start new clubs, especially for students at the Eastern Campus. In 1992 two clubs were formed. The Film and Media Club aims to facilitate student input into the media as well as run a small cinema. The Brewers Club provides students with the facilities for brewing beer and getting together to drink it!

Students are represented through the Student Committee, which has students who are elected from each faculty. This Student Committee has a direct link into the Student Union Executive, as well as representation on the Eastern Campus Management Committee.
Students with any queries or concerns related to their education can talk to the staff at Contact for assistance. The Contact staff can either help resolve the situation on campus, or refer the student to Student Union advocates at the Hawthorn campus.

**Prahran Campus**

1993 is the first year of operation for the Swinburne Student Union (SSU) on the Prahran Campus. SSU intends to improve the quality of campus life and monitor the education its members receive. This will be achieved in an environment of change and diversity, due to the recent amalgamation of the Prahran College with Swinburne.

Members can find the SSU offices located on the 1st floor of the Union Building. Here, members can gain access to the full range of services provided by SSU. Members can participate in the SSU by running for one of the positions of the Executive or Management Committees, or joining a club or society. Members are also encouraged to contribute articles to the Swine, Bella Donna or Scam and to participate in regular activities which the SSU provides.

The SSU endeavours to serve the interests of its members in a professional manner, whilst remaining friendly and sensitive to their needs. Besides the office, there is also a student lounge with a range of reading material to ensure students can relax and socialise outside of the classroom. The SSU, Prahran office can be contacted on 522 6729.

Further information on the Student Union activities, services or facilities are available from the Student Union Diary given out free of charge during enrolment.

**Sports Association**

**Executive Officer**
A. Clarke, BAppSci(FIT), DipEd(Haw), 819 8018

**Physical Education/Recreation Officer**
D. Shanahan, BAppSci(FIT)

**Administrative Assistant**
K. O’Donnell

**Receptionist**
P. Kennedy

Swinburne Sports Association is located in the Sports Centre in John Street, central to the Institute and TAFE areas of the campus.

The Association is run by students and aims to meet the sporting and recreational pursuits of all students and staff. All currently enrolled students are members of the Association.

Sports Centre facilities include four glass backed squash courts, a well equipped weight training area, locker, shower and change facilities, multi-purpose clubs and aerobics room, fitness appraisal and meetings room. The Sports Store and Reception/Administration Office areas are also located in the Centre.

Currently, over twenty sports clubs exist at the Association, all of which are run by students. Members are encouraged to involve themselves in the clubs of their choice.

The Sports Association employs four full-time staff to oversee the day to day administration of the Centre. The qualified Physical Education Officer offers members advice on weight training and health as well as conducting fitness appraisals. The Recreation Officer ensures a wide variety of recreation activities that are not offered by any of the existing sports clubs.

Clubs and Recreations offered to members include: Aerobics, Athletics, Badminton, Bowling, Car, Circuit training, Cycling, Football, Golf, Hanggliding, Hockey, Horseriding, Indoor cricket, Indoor soccer, Meditation, Motorcycle, Netball, Nordic skiing, Orienteering, Sailing, SCUBA diving, Skydiving, Snowski, Soccer, Squash, Surfing, Tai Chi, Tae Kwon Do, Tang Soo Do, Tennis, Volleyball and Waterskiing.

Swinburne competes in many intercampus sports and recreation events throughout the year. Affiliation with Victorian and Australian university sports associations create a calendar of over twenty events that give ample opportunity for students to compete for Swinburne.

Further information on the Swinburne Sports Association’s facilities, clubs, services and recreations are available from their information Handbook, available free of charge at the Sports Centre.
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior staff</td>
<td>4</td>
</tr>
<tr>
<td>Board of TAFE</td>
<td>20</td>
</tr>
<tr>
<td>Board of Technical Studies</td>
<td>20</td>
</tr>
<tr>
<td>Application Procedure</td>
<td>20</td>
</tr>
<tr>
<td>Prior Learning</td>
<td>20</td>
</tr>
<tr>
<td>---TAFE interchangeable subjects</td>
<td>20</td>
</tr>
<tr>
<td>---Exemptions</td>
<td>20</td>
</tr>
<tr>
<td>---Recognition of prior learning</td>
<td>21</td>
</tr>
<tr>
<td>---Articulation</td>
<td>21</td>
</tr>
<tr>
<td>Student Administration Office</td>
<td>21</td>
</tr>
<tr>
<td>---Academic statements</td>
<td>21</td>
</tr>
<tr>
<td>---Reports</td>
<td>22</td>
</tr>
<tr>
<td>---Students nearing completion</td>
<td>22</td>
</tr>
<tr>
<td>---Awards</td>
<td>22</td>
</tr>
<tr>
<td>Enrolment regulations</td>
<td>22</td>
</tr>
<tr>
<td>---Conditions</td>
<td>22</td>
</tr>
<tr>
<td>---Amendments to enrolments</td>
<td>22</td>
</tr>
<tr>
<td>---Identity Cards</td>
<td>23</td>
</tr>
<tr>
<td>---Fees</td>
<td>23</td>
</tr>
<tr>
<td>General Policy and Procedure for Student Discipline</td>
<td>23</td>
</tr>
<tr>
<td>General Grievance Procedure for Students</td>
<td>24</td>
</tr>
<tr>
<td>Examinations — general</td>
<td>27</td>
</tr>
<tr>
<td>---Internal</td>
<td>27</td>
</tr>
<tr>
<td>---External — State Training Board</td>
<td>30</td>
</tr>
<tr>
<td>TAFE Centres and Units</td>
<td>32</td>
</tr>
<tr>
<td>Centre for Business Development and Training</td>
<td>32</td>
</tr>
<tr>
<td>Computer Services Unit</td>
<td>32</td>
</tr>
<tr>
<td>Curriculum Development Unit</td>
<td>32</td>
</tr>
<tr>
<td>Centre for Engineering Technology</td>
<td>32</td>
</tr>
<tr>
<td>National Scientific Instrumentation Training Centre</td>
<td>32</td>
</tr>
<tr>
<td>English Language Centre</td>
<td>32</td>
</tr>
<tr>
<td>Schools of TAFE</td>
<td>33</td>
</tr>
<tr>
<td>---Business Studies</td>
<td>51</td>
</tr>
<tr>
<td>---Engineering and Industrial Services</td>
<td>87</td>
</tr>
<tr>
<td>---Further Education and Community Services</td>
<td>87</td>
</tr>
</tbody>
</table>
Board of TAFE

The function of the Board is to administer the affairs of the TAFE Division of the University under authority delegated by Council. Membership of the Board of TAFE as at 1 October, 1992:

Ten members who represent the wide community, who are associated with an industry or field served by the TAFE Division but are not members of staff or students of Swinburne:

Mr. K. Adamson, GradDipManagement, MIFE
Mr. T. Bruce, LLB
Ms. K. Brown, CertProfMedLabTech(NZ), TTIC(HIE), GradDipOrgBehav(SIT)
Ms. K. Deutsch, BSc, BEd
Ms. W. Dietman, BA, BSoWork
Assoc. Prof. M. Dietz, BEd, MSc, EdD(Chair)
Mr. C. Gahan, OAM, JP, DDA
Mr. S. Guilfoyle, FCIS, FCPA
Mr. J. Hughes, BMechEng, MBA
Ms. A. Stressac, LLB

Four members elected by and from the teaching staff of the TAFE Division of the University:

Ms. J. Bissland, GradDipChDev, MA, MEdStud
Dr. M. Elliott, BA, MA, MEd, PhD
Ms. M. Hoffman, BA, HDT, ARMIT, ALAA, BEd
Mr. J. Schulze, DipAppChem(RMIT), DipEd(HIE), ARACI

Two members elected by and from the general staff:

Ms. R. Humphries, BA(Hons), GradDip(LIB)
Mr. P. Wilkins, BBus(VicColl), GradDipAccInfoSyst(CIT)

Two members elected by and from the students of the TAFE Division:

Ms. P. Menere, AdvCertFACS(Youth Child Stream)
Mr. S. Rayward

Director, TAFE Division, Swinburne University of Technology, Vice Chancellor, Swinburne University of Technology

Membership of Board of Technical Studies

Members ex-officio
President of Council
Vice Chancellor
Director, TAFE Division

Heads of Schools and Centres (6)
Senior Curriculum Development Officer

Elected members

6 heads of teaching departments elected by and from the heads of teaching departments, with one to be elected from each school or centre.

4 teaching staff elected from and by the teaching staff, with 2 from each campus.

3 students, one elected by students at Hawthorn campus, one elected by students at Prahran campus and one elected by students of both campuses.

5 members from the general staff as follows:
Swinburne Librarian (or nominee)
Manager, Student Services (or nominee)
Two members drawn from and elected by the general staff at each of the two campuses.

Application procedure

Entrance requirements

The entrance requirements for courses are described within the respective school entries in the handbook.

Special entry

It should be noted that there are two categories of applicants who may be given special consideration. These are: mature-age applicants, and socially or physically disadvantaged applicants.

In relation to the latter, a number of places are reserved for such applicants, in particular for applicants who are in the following categories:

- hearing impaired,
- women in non-traditional courses,
- sole-supporting parents,
- recently de-institutionalised people.

Please note: Some, but not all courses, have places reserved for people from particular disadvantaged groups.

Closing dates for applications

Full-time study

For consideration in the first round of offers:

- Industrial Sciences 31 December 1992
- Business Studies
  - Associate Diploma 15 January 1993
  - Certificate 14 December 1992
- General and Community Studies 27 November 1992
- Engineering 31 December 1992

(Further applications received after these dates will be accepted if places are available).

Part-time study

Applicants should contact the appropriate department for information on application procedures.

Prior learning

All students contemplating a TAFE course should read the following as it may affect how your course is structured.

As from the 1 August 1992 a national framework will exist for the recognition of training. An interstate and territory agreement will exist that includes a common set of processes and principals for recognition of training.

TAFE system of interchangeable courses and subjects

If any TAFE certificate, advanced certificate, or associate diploma subjects have been passed at an institution other than Swinburne it is not necessary to apply for an exemption. The subject(s) will count towards a qualification regardless of where it was studied. When applying for your award, i.e. to graduate, simply provide Swinburne with result statements from the colleges where you studied other necessary subjects. This will also apply if you first study at Swinburne and then transfer to another TAFE institution.

Exemptions due to other academic studies

Exemptions can be granted on the basis of evidence of studies that are passed at an equal or higher standard at other places. The head of the relevant department should be consulted if the student requires advice.

Students seeking exemptions should complete an Application for Exemption form available from Student Administration or from the department controlling the subject. The purpose of granting exemptions is to establish the equivalence of alternative studies. If there is doubt as to whether an exemption should be recommended, the matter should be referred to the appropriate head of department.
General rules for granting exemptions

(1) Credit will not be given for subjects which are at or below Australian university entrance standard, i.e. the equivalent of the Victorian Certificate of Education.

(2) Credit will be given only if there is a substantial overlap of topics, except where alternative subjects provide a suitable basis for study in an area of specialisation then exemptions may be granted for introductory specialist units even though the content of the alternative subject does not overlap.

Early application

It is advisable to apply for exemptions as soon as possible after enrolling. At re-enrolment, this will allow the selection of appropriate subjects necessary to complete the course; it also avoids problems caused by possible changes in the rules for granting exemptions.

Approval time

Applications are checked by heads of departments before being recommended to the school board which meets monthly. After approval, letters of notification are prepared and forwarded to students. Students should expect this process to take approximately two to three months.

Provision of additional information

If the alternative subject is not part of a widely recognised course the provision of results will not be sufficient. Applicants should also provide details of:
- syllabus content,
- length of course,
- assessment procedures.

Sighting of original documents

Photocopied documents supporting applications must be marked 'certified original' by an officer of Swinburne. Students are advised to submit applications in person to Student Administration (photocopies can then be marked immediately on sighting of original) so that original documents need not be handed in.

Recognition of prior learning (RPL)

Swinburne gives recognition to course applicants for relevant experience and prior formal and informal learning obtained through training and education, by an RPL assessment process. The recognition may result in the granting of a pass. At enrolment time students should consult with departmental staff regarding the relevance of their experience, education, and training. Students must notify their intention to apply for RPL on the enrolment forms.

Articulation

There are formal articulation arrangements in place. Students who plan to undertake subsequent studies in TAFE or the Higher Education sector are advised to contact the head of department or school in which they are enrolled, in order to discuss the course articulation and credit transfer opportunities which may be available to them.

For all associate diplomas offered by the TAFE Division, arrangements have been negotiated for entry with credits into related degree programs. Details of credit transfer arrangements will be available to students, through the respective departments' enrolment time. Updated information will also be provided to students during their courses.

For further information on any of the above issues contact the appropriate head of department listed in the staff lists at the beginning of each school's chapter.

Changes in course structures

Due to a regular review of all TAFE courses it is extremely important that students obtain up-to-date information on course structures before they enrol.

If a course is altered, students may continue on their original course or elect to adopt the new course structure. The only acceptable course structures are the ones current in the year the student first enrolled or any subsequent structure. Any student who elects to adopt a new course structure should obtain advice as to what credit will be given for completed units.

This handbook only lists the current course structures (and subjects). Students needing information on previous course structures should consult earlier handbooks which are available in the Library.

Student Administration Office

The Student Administration Office provides information for students on admissions, enrolment and examination regulations and procedures. Other functions include processing, maintenance and storage of students' academic records and personal details.

A more detailed description of the various enrolment and examination regulations and procedures is outlined as follows.

Location and office hours

The Student Administration Office is located in Room AD109, Administration Building (AD), John Street, opposite the Business and Arts Building (BA) and the Library. (See map inside back cover).

Office hours are as follows:

During teaching weeks
8.30am — 6.30pm Monday to Thursday
8.30am — 5.00pm Friday

During non-teaching weeks
9.00am — 5.00pm Monday to Friday

Note:
The Office is closed on public holidays.

Academic statements

1. Students receive automatically the following records of their academic progress:
   (a) result certificates are posted to each student at the end of each semester;
   (b) a consolidated statement of all subjects so far attempted is printed on the student's re-enrolment form. (The student keeps a receipted copy of this form when re-enrolling.)

2. Other statements are available, on request, at the fees shown:
   (a) List of all results
       $10.00*
       *There is a surcharge of $5.00 if results are prior to 1983 as a manual search is then required.
   (b) A list of all results and a statement indicating completion of course
       $15.00
   (c) A list of all results plus a list of those remaining to be passed for the completion of the course
       $15.00
   (d) A special letter indicating some matter requested by the student
       $10.00
   (e) A statement certifying enrolment at Swinburne at date of certificate
       No charge
Report
A detailed report of (final) examination $40.00
Access to examination scripts and marks for each question is available on request and without fee.
Enquiries regarding marks or access to scripts should be made directly to the appropriate school or departmental office.

Students nearing completion of their courses
Students nearing completion of their courses may obtain a statement indicating all results to date and those subjects required to complete their courses. Fee $15.00.
Any student who has been involved in a change of syllabus (e.g. from the 1974 syllabus to the 1974 syllabus revised 1978, or to the 1979 syllabus, etc.) and who has not previously obtained a statement, would be wise to do so before starting the final semester.

Awards
Students eligible to receive qualifications are required to apply on the form prescribed, available from Student Administration. Applications close on 30 September each year and for applicants who anticipate completing the academic work in the following December exams, the conferring ceremony will be held in the following year.
Any request for exemption(s) must be approved in writing by the TAFE Division before an application for an award can be made in order to prevent delays in granting of the award. Original evidence of same subject(s) completed elsewhere must be supplied with applications together with an additional photocopy which will be retained by Student Administration. For more information refer to section on exemptions included in the Prior Learning section on page 20.

Enrolment regulations
Definitions
In this section:
Enrolment includes ‘re-enrolment’.
Enrolment form includes ‘re-enrolment form’.
Subject means any area 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 Student Administration section of the Registrar’s Department; the singular includes the plural.
Awarding department means the department responsible for the particular course.
Amendment to enrolment means the addition, deletion or changing of subject enrolments in a student’s course of study.
Abandonment means the discontinuation of enrolment without formal notification.

Conditions of enrolment
Enrolment at Swinburne, TAFE Division, is conditional upon:
• the information which is supplied by the applicant upon which an offer of a place in a course is based, being accurate;
• the approval of the head of the awarding division (or a nominee) of the subjects concerned;
• the completion of the requisite enrolment and statistical information forms required by Swinburne;
• the undertaking of the student to abide by the regulations, procedures and standards of conduct of Swinburne and to grant to the Registrar the power to provide appropriate authorities with a particular student to enrol at the TAFE Division, details of that person’s academic progress as may be required as a condition of approval by that department or authority;
• the payment of any prescribed fee (unless exempt);
• the payment of the prescribed general service fee;
• the establishment of viable class numbers.
Note:
Enrolment is not completed until the fee is paid.
Students whose fees are to be paid by an employer or other body must bring written evidence at the time of enrolment so that Swinburne may send to the body an invoice for fees.
Swinburne reserves the right to withdraw any class which does not attract viable student numbers.

Late enrolment fees
Students who do not attend for enrolment (including any required review of second semester subjects) on the date and at the time specified by their school or awarding department, will be required to pay a late fee of $20.00 (where re-enrolment is complete before the commencement of the following semester’s teaching); or $40.00 (where re-enrolment is complete after the commencement of teaching for the semester).

Additional fees
A part-time student who adds any subject to those for which he or she was enrolled and thereby increases the number of contact hours involved in his or her course to more than 75% of the full-time course load, will be required to pay the difference between the part-time and the full-time general service fee.

Amendment to enrolment details
Change of subjects
If any of the subjects, after the initial enrolment, have been dropped, or any new subjects added, the student must complete an Amendment to Enrolment form (available from Student Administration and departments) which must be presented to the head of department for approval, then lodged at the Student Administration Office immediately.
Students must notify the Student Administration Office of any withdrawal and/or additions of subjects:
(a) by 31 March 1993 for subjects with a mid-year final examination/result, and
(b) by 31 August 1993 for subjects with an end of year final examination/result.
Failure to notify will affect the student’s examinations and results in those subjects.
Note:
If a class has been cancelled by the department due to insufficient enrolments after a student’s official enrolment, students are still required to lodge an Amendment to Enrolment form.

Adding subjects
No subject may be added to a student’s enrolment without the approval of both the teaching and the awarding departments. Students should be aware that some schools have restrictions on the period during which subjects can be added.
Notwithstanding any department rules, after 31 March 1993 (for subjects concluding at the end of the first semester) or 31 August 1993 (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 head of department concerned and the Registrar has been given. A fee of $100.00 per subject will be charged. Students not enrolled in a subject during examination period must seek approval of the department concerned. A fee of $50.00 per subject added will be charged.
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 at the Cashier’s Office.

Withdrawal from all study
A student who is withdrawing from all study for the year — whether or not leave of absence is being sought — should complete an Amendment to Enrolment form.
A form is available from Student Administration. Students are strongly urged to discuss a proposed withdrawal from studies with the head of the department or contact teacher before taking any action. Failure to notify withdrawal will result in enrolled subjects remaining on the record and failing grades being recorded.

Refund of fees as a result of cancellation
Application for refund of fees is provided for on the same form, and is valid until 31 March 1993 for semester one and 31 August 1993 for semester two. Applications received after this date will be considered in exceptional circumstances only. A service fee is deducted from the refund. Students must provide a copy of their enrolment receipt with their application.

Enrolling in an additional or a different course
Students who enrol for a course and then later decide to do extra subjects or a different course should complete a new enrolment form. Additional fees are not required to be paid except in circumstances where enrolment changes from part-time to full-time status, where a student continues to study in semester two and has only paid fees for semester one, or where the additional subject is part of a fee paying short course.

Residential address for correspondence
Throughout the year information regarding courses, examination results and other special notices are sent to students. Students must provide a correct address so that they may be contacted at a moment’s notice, otherwise they may jeopardise their chances of meeting deadlines and observing other special requirements.
If a student changes a name, an address, or employer, an Amendment to Personal Details form must be completed and lodged immediately at the Student Administration Office.

Identity cards
When on campus, all enrolled students are required to carry, and to produce on request of 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 Student Administration 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 will be issued for a fee of $10.00.
No refund of the general service fee will be made unless the identity card is returned to Student Administration with the notice of withdrawal from a course.

Fees
Students will be required to pay a fee on enrolment which is made up of an enrolment fee and a general service fee*. The actual amounts will be available prior to enrolment or by contacting Swinburne. Some fee exemptions and concessions exist.

Note: All students enrolling at Swinburne for the first time will be required to pay an additional $20.00 towards the Student Union Capital Reserve Fund.
* The General Service Fee has two components: (1) Student Union (2) Sports Association.

General Policy and Procedure
Student Discipline

Introduction
The following sets out the Swinburne policy for a campus wide student discipline procedure and appeals process in order to regulate acceptable standards of student behaviour within the TAFE Division. This is to ensure that the advancement of education is maintained at the highest level, by promoting communication between students and staff on this issue.
The policy is based on natural justice principles and as such is consistent with the United Nations Charter of Human Rights, and Acts of Parliament such as Victorian Equal Opportunity Act, Commonwealth Sex Discrimination and Racial Discrimination Acts.

1. Requirements of students
Every school in the TAFE Division has developed rules and regulations concerning such things as attendance, social behaviour, and compliance with course and college regulations for the programs under its jurisdiction. Students will be informed of these requirements at the time of their initial enrolment by the enrolling school.
Any activity that is in breach of the requirements of the school in which a student is enrolled, and which have been circulated and authorized heads of schools or departments, will be considered as misbehaviour, and thus be subject to disciplinary action.

2. Informal and formal procedures
This section contains the following:
- Definition of misbehaviour which could result in disciplinary action
- Procedure to follow to consider misbehaviour
- Degrees of Punitive Action

2.1 General definition
Any activity within the TAFE Division precipitates that harms or threatens to harm the well being and the educational welfare of a person or persons or is likely to bring the TAFE Division into disrepute may be considered as misbehaviour.
Furthermore, misbehaviour will be defined as any activity which is in breach of the requirements of the school in which the student is enrolled.
Any person or persons who are considered to be in breach of the above will be subject to the following procedure:

2.2 Procedure — conciliation and resolution
PHASE (1) INFORMAL PROCEDURE
(Stages One, Two and Three)
Stage — One
2.2.1 On the instance of an act being reported or identified as unacceptable, the teaching or administrative staff member will attempt to resolve the matter on a one-to-one or one-to-many basis.
Stage — Two
2.2.2 If the first action does not resolve the matter then the staff member concerned will raise the matter with the immediate supervisor who will attempt an informal discussion with both parties with the aim of resolving the concern.
Stage — Three
2.2.3 If the second action (stage two) is not successful, then the staff member concerned will raise the matter with the head of department. If the staff member involved in the first and second stage is the head of department the head of school will act as the conciliator in the third action (stage three).
PHASE (2) FORMAL PROCEDURE

Stage — Four

2.2.4 If the action at stage three fails to achieve a resolution, then the head of department or head of school (see paragraph 2.2.3) will:
   — speak to the complainant
   — speak to the person or persons against whom the complaint has been made
   — raise the matter with the Student Union
   — make a decision on punitive action to be taken after all parties have been heard
   — make a written report outlining the complaint, the action (Stages One, Two and Three) and the decision taken
   — forward a copy of the report to the following:
     • the complainant
     • the person or persons against whom the complaint has been lodged
     • the Student Union
     • the head of the school in which the student is enrolled or Director, TAFE Division if appropriate.

2.3 Degrees of punitive action

2.3.1 Warning on the first instance.
2.3.2 Suspension for a set period of time from class or all classes.
2.3.3 Exclusion from Swinburne.

3. Appeals

3.1 If the Complainant or the person or persons the decision is against is dissatisfied with the decision or the punitive action, then the aggrieved party has a right of appeal. The appeal should be in writing and directed to the head of school or the Director, TAFE Division if appropriate.

3.2 The head of school will assemble an impartial panel consisting of:
   — the head of school or nominee, as chair of the panel
   — an independent staff member who is a nominee of head of department
   — the president of the Student Union or nominee.

3.3 The terms of reference of the panel will be to:
   — hear evidence from the Appellant
   — call for other witnesses or evidence
   — decide if there has been an injustice or breach in procedure
   — communicate their decision to the Director, TAFE Division for further action.

4. Confidentiality

All proceedings pursuant to this policy and all material brought forward in connection with such proceeding shall be treated as confidential.

5. General grievances procedure

At any point in the execution of the procedures the student may wish to make an official complaint and thereby have the issue considered in accordance with the “General Grievances Procedure for Students”.

General grievance procedure for students

1. Policy

1.1 Swinburne Council adopted an Equal Opportunity Policy in 1984. The policy affirms commitment to the principles of equal opportunity with regard to employees of, and applicants for employment within Swinburne, and to students admitted to, and prospective students of Swinburne.

1.2 The policy and its successive amendments stipulate that there shall be no discrimination on the grounds of sex, marital status, disability, race, religious or political beliefs, age, sexual preference, or being a parent, childless or a de facto spouse.

2. Definition of terms used in grievance procedure

2.1 Grievance: a complaint presented by an individual, or a group, based on the opinion that they are, or have been, receiving treatment that differs from the treatment received by other individuals or groups.

2.2 Discrimination:
   a) Direct Discrimination — any decision or action which specifically excludes a person or group of people from a benefit or opportunity, or significantly reduces their chances of obtaining it, because a personal characteristic irrelevant to the situation is applied as a barrier.
   b) Indirect Discrimination — attitudes and assumptions which are incorporated into rules, policies and practices, that appear to be neutral or to treat everyone equally, but may in fact disadvantage one group.

2.3 Status or Private Life: The Victorian Equal Opportunity Act 1984 stipulates that no person shall experience discrimination on the grounds of that person's status or private life. ‘Status’ refers to a person’s sex, marital status, race, impairment, being a parent, childless or a de facto spouse. ‘Private Life’ refers to the holding or not holding of any lawful religious or political beliefs and engaging or refusing to engage in any lawful religious or political activities. The Act applies to education and employment.

2.4 Complainant: person who lodges a grievance.
2.5 Respondent: person who is alleged undertook the behaviour which resulted in the grievance.
2.6 Grievance Procedure: a prescribed set of actions to be followed when a grievance is presented.

3. Behaviours or actions which give rise to a grievance

3.1 A grievance arises when a student cannot obtain redress through normal channels for what he/she considers to be unfair or different treatment. Such treatment may occur in course assessment, or in classroom behaviour and interactions.

3.2 A grievance may include behaviour outlawed by the Victorian Equal Opportunity Act, the Federal Racial Discrimination Act or the Federal Sex Discrimination Act, such as discrimination on the basis of sex or marital status, or racial harassment.

A separate grievance procedure exists to handle cases relating to sexual harassment.
4. Resolving a grievance

Informal procedure

4.1 In the first instance, the student should discuss the complaint where relevant, with the lecturer (Higher Education Division), member of teaching staff (TAFE Division) or member of administrative staff in an attempt to resolve the complaint.

4.2 If the grievance cannot be resolved in this way, the student may then raise the matter with the head of department.

4.3 Where a student has a complaint against a member of staff who is also the head of department, or in a case where the student feels that to approach the head of department is not appropriate, the student may take his/her complaint to the dean or head of school. The dean or head of school will carry out the role otherwise assigned to the head of department, in these grievance procedures.

4.4 The head of department will discuss the complaint with the student and advise the student where documentation describing the grievance procedure is available.

4.5 If the student’s preference is for internal resolution of the complaint, the head of department will take a written record of the complaint on a pro forma grievance form.

It will contain:
- a) the name of the complainant;
- b) the name of the person(s) against whom the complaint is made;
- c) the date the complaint is made;
- d) the date(s) the behaviour resulting in the grievance took place;
- e) a brief description of the nature of the complaint;
- f) a summary of follow-up actions taken.

The complainant will read and sign the grievance form as being a true record, after making any appropriate alterations.

4.6 No written record shall be taken nor any further action initiated, if the complainant is not willing to name the respondent or does not permit the head of department to enter into a conciliation process with the respondent.

4.7 In cases where complaints are made by a class (two or more students) concerning academic or teaching staff, the complainants will not be named and the head of department may proceed with conciliating and resolving the complaint.

4.8 With the agreement of the complainant, the head of department will then attempt to resolve the grievance with the member of staff named in the complaint through informal discussion and conciliation.

5. Conciliation and resolution

5.1 The head of department will meet informally with the respondent for the purposes of:
- a) outlining the grievance and naming the complainant (except as covered by Clause 4.7);
- b) making a written record of the respondent’s reply to the complaint, which is signed and considered a true record;
- c) attempting to reach an agreement with the respondent that is acceptable to the complainant;
- d) attempting to ensure that there are no reprisals taken against a student who has made a complaint in good faith;
- e) outlining the requirements of State and Federal Government anti-discrimination legislation or Swinburne Council policy, where relevant;
- f) advising the respondent that another staff member will be nominated to re-assess the student’s written work in complaints relating to course assessment.

5.2 If the grievance is successfully resolved to the satisfaction of the complainant the informal procedure will cease at this point.

5.3 The written record of the informal complaint will be retained for a period of 12 months in a confidential file in the office of the head of department.

6. Re-assessment of submitted work or exam paper

6.1 If the complaint concerns assessment of written work which includes assignments, reports or exam papers, the head of department may after discussing the complaint with the staff member named as the respondent, nominate another staff member to re-assess the student’s work.

6.2 In the case where the respondent is also the head of department, the dean or head of school, acting as the student’s contact person may nominate a member of staff from another discipline or a member of staff from the same discipline in another institution to undertake a re-assessment of the student’s work.

7. Follow-up actions

7.1 The head of department will meet with the student each semester for a period of 12 months following successful resolution of the complaint, to ensure that retaliatory actions were not taken against the student by virtue of the complaint.

7.2 The head of department will ensure wherever practically possible, that work presented by the complainant will be marked independently for the period of one year, following successful resolution of the complaint.

7.3 Where the student is subjected to retaliation he/she may appeal to the head of department or head of school or dean where appropriate and an investigation will be instituted.

7.4 Where a member of staff is found to have retaliated against the student, disciplinary procedures will be instituted.

Such disciplinary action may be taken against the member of staff complained of in the original complaint or any other member of staff undertaking retaliatory action.

8. Formal procedure

8.1 If a grievance cannot be successfully conciliated by the head of department to the satisfaction of the complainant, the complainant may instruct the head of department to proceed with a formal complaint.

8.2 All formal complaints will be presented to the Appeals Committee.

8.3 The Appeals Committee will comprise:
- a) the Vice-Chancellor’s nominee from within the Chancellory, who shall act as the Chair;
- b) a representative of either the TTUV, SASO, or ACUSA, depending upon the constituency of the respondent; and
- c) a representative of the Student Union.
8.4 The written reports, compiled by the head of department and signed by the complainant and the respondent will be forwarded by the head of department to the Chair of the Appeals Committee.

8.5 The complainant or the respondent may submit any other written material to the Committee in support of their case. Any additional evidence so provided, should first be submitted to the other party or parties named in the complaint.

8.6 The Chair of the Appeals Committee will advise the Equal Opportunity Officer if the grievance includes allegations of behaviour outlawed under State or Federal Government anti-discrimination legislation or Council Policy on Equal Opportunity.

9. Investigation of complaint

9.1 The Appeals Committee will investigate the grievance in the following manner:
   a) the Committee will meet within seven working days of the date the formal complaint is made and consider all written documentation including the written statements of the complainant and respondent and the written statements of witnesses;
   b) the Committee may call the complainant or the respondent to attend the meeting to explain any aspect of their written statement. If the complainant is required to appear before the Appeals Committee, he/she may be accompanied by his/her Head of Department. If the respondent is required to attend he/she may be accompanied by his/her staff association or union representative. The complainant and respondent would not normally appear before the Appeals Committee at the same time;
   c) the Committee may call any witnesses who have submitted written statements concerning the grievance to appear before the Appeals Committee;
   d) if the complaint contains allegations of behaviour outlawed by Federal or State Government anti-discrimination legislation or Council Policy on Equal Opportunity, the Equal Opportunity Officer will attend the Appeals Committee meeting and advise the Committee accordingly. The Equal Opportunity Officer will not have voting rights.

9.2 Following deliberations the Committee will make appropriate recommendations. Committee decisions will be achieved through consensus or agreement reached between all members.

9.3 The Committee will forward its written recommendation to the Vice-Chancellor together with documentation of the grievance.

Actions which may be taken are limited to:
   a) not upholding the case;
   b) upholding the case and stating that the following be considered, where relevant:
      — preparation be made to the complainant for any loss of academic credit or achievement suffered as a consequence of the behaviour
      — re-admitting a student who has been excluded from a course
      — directing the respondent to undertake appropriate staff development programs
      — reprimanding the respondent
      — ensuring that the complainant is not subjected to retaliatory action by virtue of the complaint

   c) in the case where a grievance which concerned discrimination against a student on the grounds of status or private life being upheld, the following action may also be recommended:
      — suggesting that the respondent undertake counselling.

9.4 All grievances shall have undergone the process of a formal resolution within a period of three months of the receipt by the Chair of the Appeals Committee of the formal written complaint.

9.5 The complainant and the respondent will be advised in writing by the Chair of the Appeals Committee of the decision made within seven days of submission of the Appeals Committee's recommendation to the Vice-Chancellor.

10. Appeals

10.1 Either party shall have the right of appeal. The appeal should be submitted in writing to the Vice-Chancellor within seven days of the receipt of the Committee's decision. The appellant shall be entitled to present new evidence or to re-argue his/her case.

10.2 The finding of such an appeal shall be communicated to the appellant within fourteen days of the appeal being lodged.

11. Complaints of discrimination — external procedures

11.1 In the case of a grievance being concerned with allegations of discrimination against the complainant on the grounds of that person's status or private life, the complainant has the right to present a complaint to the appropriate external authority.

11.2 Where internal grievance procedures are being followed, the complainant may wish to refer the matter to the appropriate external authority at any stage of the process, and in particular:
   a) when no further action is taken;
   b) when he/she may wish to appeal against the Committee's decision.

11.3 Where the matter is taken up with the external authority, the internal grievance procedure shall cease to apply in the case.

11.4 The appropriate external authority in the case of discrimination complaints is the Office of the Commissioner for Equal Opportunity in Victoria.

12. Confidentiality

12.1 Confidentiality will be strictly observed throughout the conciliation and resolution process. Information and records related to complaints will be considered exempt documents under Freedom of Information legislation.

13. Record keeping and storage

13.1 The written record of the complaint will be retained for a period of 12 months in a confidential manner.

13.2 Where all appeal mechanisms are exhausted or where the complaint is not sustained, written documentation of the case will be destroyed.

13.3 The Equal Opportunity Officer shall have access to statistical information concerning discrimination related complaints.
14. Conflict of interest
14.1 If the head of department feels that to undertake conciliation of a complaint would place him/her-
self in the situation of a conflict of interest, the
head of department will direct the student to take
the grievance to the dean or the head of school.
14.2 A complainant may at any stage of the informal
procedure seek the assistance of the dean or
head of school if he/she believes a conflict of
interest exists or may arise as a result of the
complaint.

15. Resources
15.1 The complainant may at any stage of the grievance
procedure approach where relevant:
a) Student Union;
b) Swinburne Student Services;
c) Equal Opportunity Office.
15.2 Members of staff so contacted are advised to
direct the complainant to his/her head of
department.
15.3 The respondent may approach the staff
association or union for advice and support.


Examinations

General

1. Timetables
Approximately half-way through each semester, a provi-
sonal examination timetable is displayed on the
examinations notice-board. Students should note their
examination times and immediately report any clashes to
the Examinations Officer who is located in the Student
Administration Office.
The final timetable is displayed on the examinations notice
board approximately two weeks before the commencement of
examinations.
The final timetable is printed and copies are available to
students. They are distributed from several points,
including the Student Administration Office.
It is the responsibility of students to obtain a copy of the
timetable and to be aware of their examination commit-
ments. No information is given by telephone.

2. Identity cards
Students must take their identity cards into the examination
room.

3. Absence from examinations
The Assessment Regulations (Section 6) make specific refer-
cence to absence from examinations due to genuine
inability to attend. Misreading the examination timetable
is not regarded as "inability to attend".

4. Publication of results
Examination results will not be given over the telephone.
Results are displayed on the window of the Ethel Swin-
burne Hall in Burwood Road on the date or dates
announced by the Registrar.

Internal examinations
Swinburne TAFE Division
Examinations and Assessment
Regulations

1. Scope
1.1 The following rules apply to all courses and sub-
jects taught and examined by the Swinburne TAFE
Division, except where external examinations may
require otherwise.

2. Definitions
2.1 An examination is a formal assessment undertaken
during the period proclaimed for examinations by
the Board of Technical Studies and which is subject
to the control of the Registrar through a designated
officer.
2.2 A test is an assessment scheduled at any time
during the course of a subject by the subject panel.
2.3 An assignment may cover the following: — labora-
tory work, field work, projects, class problems,
theses, folios, design reports and general reports.
2.4 A final result is a formal notation of achievement
derived from one or more the above definitions.
2.5 The Chief Examiner is the Vice-Chancellor of
Swinburne. Responsibilities of the Chief Examiner
are, for the time being, delegated to the Deputy
Director, TAFE Division.
2.6 The awarding school board is the School Board
responsible for making recommendations to the
Swinburne Council for the grant of a particular
award.
2.7 An irregularity is the unauthorised use or attempted
use by or for any student of any means to gain an
unfair advantage in any examination, test,
assignment, essay or other work, the marks for
which form part of the final assessment. It includes
taking actions contrary to the instructions for such
examination or work; taking into an examination
any material with the intention of using it to obtain
an advantage.

3. Subject panels
3.1 The head of department shall appoint a subject
panel for the necessary subject areas comprising
at least two members of the teaching staff of the
TAFE Division, one of whom shall be appointed the
convener.
The head of department shall notify the appropriate
division board of the panel's composition no later
than the April meeting.
3.2 The panel shall, when required, draft the appro-
priate material and submit same through its con-
venor to a moderator appointed by the head of
department.
3.3 A moderator shall be responsible for final submis-
sions to the head of department.
3.4 The convener of each panel shall be responsible for:
3.4.1 In the case of examinations and tests, the
allocation of questions, the final balance of
the paper and the distribution of scripts for
marking;
3.4.2 In the case of continuous assessment, the
method of assessment and the main-
tenance of the register of requirements, tests
and performance.
3.5 Each examination or test paper shall be provided
with written solutions or a statement of basic skills
to be attained. The panel must be in agreement
with the solutions, statement and assessment.
3.6 The convener shall arrange for appropriate proofreading and checking of papers and assignments. All examination papers must be forwarded to the Examinations Officer accompanied by a completed Examination Face Sheet.

3.7 The subject panel must check the times and rooms allocated for examinations in the subjects for which it is responsible, and notify the Examinations Officer of any irregularities.

3.8 The subject panel must ensure that one of its members be on campus and immediately available to the Examinations Officer for the duration of those examinations for which the panel is responsible.

3.9 The panel shall carry out any further duties as required by the head of department.

4. Conduct of examinations

4.1 General
Unless otherwise stated on the timetable, morning examinations will commence at 9:00am and afternoon examinations at 1:30pm. Students will not be permitted to enter the examination room after 30 minutes have elapsed from the commencement of the examination, and will not be permitted to leave during the first 30 minutes nor during the last 30 minutes of the examination.

At the end of the examination students are required to remain seated until the room supervisor has collected all scripts and Swinburne material. Unless expressly prohibited by the subject panel, electronic calculators may be used. Such calculators must be battery operated.

Students are required to provide their own calculators and drawing instruments. Students will not be permitted to borrow or lend any equipment or material during an examination.

4.2 Specials provisions for students with disabilities
Special examination arrangements may be made for students with temporary or permanent disabilities. Applications for special arrangements are to be made to the head of departments, if necessary in consultation with the Integration Committee, who will recommend appropriate arrangements to the Examinations Officer who will be responsible for their implementation.

4.3 Collection and despatch of papers
The Examinations Officer is solely responsible for redirecting all completed examination scripts to the appropriate marking authority. Internally marked examination scripts will be available at the Examination Centre when all relevant documents have been cleared but, in any case, not before the afternoon of the day following the examinations.

4.4 Examination discipline

4.4.1 When an apparent irregularity is observed in an examination room, the student will be informed immediately by the supervisor but will be permitted to finish the examination paper. The Examinations Officer will immediately report the circumstances to the Chief Examiner, the subject convener, and the head of the teaching department.

4.4.2 At the conclusion of the examination the Chief Examiner shall convene a meeting of the subject convener, the student concerned and the head of the teaching department to determine:
(a) whether there has been a breach of examination discipline;
(b) whether there is a need for assistance with communication with the student; if it resolves that there is such a requirement it shall adjourn the meeting and arrange for the presence of appropriate professional services when the meeting is reconvened;
(c) if it resolves that there has been a breach of examination discipline, the penalty to be imposed upon the student.

When an irregularity is suspected in an examination which has not been conducted under the control of the Registrar, the member of the teaching staff who detects the apparent irregularity will inform the Chief Examiner, the subject convener and the heads of the awarding and teaching department.

The Chief Examiner will decide whether or not there has been an irregularity. If it is the decision of the Chief Examiner that there has been an irregularity a meeting of the following persons will be convened:
(a) the student(s) concerned,
(b) the subject convener, and
(c) the heads of the awarding and teaching departments;
to decide whether any penalty shall be imposed upon the student(s).

4.4.3 The maximum penalty for cheating or other examination irregularity is that the student be permanently excluded from further study at Swinburne, TAFE Division and if any penalty is imposed the student shall be notified in writing.

4.4.4 The student shall have the right of appeal as to the finding of a breach of examination discipline and/or the penalty imposed.

Such appeal shall be determined by a committee appointed for the purpose by the Vice-Chancellor.

The Appeal Committee shall consist of five persons of whom:
(a) one shall be the nominee of the Chief Examiner;
(b) one shall be a student of the TAFE Division nominated by the President of the Student Union;
(c) one shall be the nominee of the subject convener;
(d) two shall be members of the academic teaching staff of the TAFE Division nominated by the head of the teaching school;
provided that no member of the Appeal Committee shall have been a party to the original investigation.

5. Processing results

5.1 The convener shall within 14 days of the completion of the examination period, submit to the head of the teaching department the following:

5.1.1 The result recommended for each student and for the subject.

5.1.2 A signed subject report in form approved by the awarding school board, including:
(a) certification that these regulations have been carried out;
(b) a statement of the assessment procedure followed;
6. Absence from examinations

Students who are absent from an examination due to illness or other reason may apply through the Student Administration Office for a special examination. Such application must be accompanied by evidence of a genuine inability to attend the examination, and must be lodged no later than midday of the third working day after the examination.

7. Deferred results

7.1 A deferred result may be granted only by the head of a teaching department. The special circumstances justifying the grant of a deferral must be set out in writing to the chair of the awarding school board.

7.2 When a deferred result has been granted, the result must be finalised in readiness for notification to the awarding school board by a date, to be fixed by the board, not later than three months after the date of publication of the deferral. The student and the subject convener shall be advised of the date and conditions set for the finalisation of the result.

7.3 The deferred result shall be recorded as "DEF" in the result listings for the subject.

7.4 Any extension of the period of deferral must have the prior approval of the head of the awarding school who shall fix an alternative date by which the student must have completed the requirements of the subject. Details of the extension granted and the reasons for it shall be notified to the next meeting of the school board.

7.5 As soon as the final result has been determined, the subject convener shall submit an Alteration to Result form, via the head of department, to the head of school for onward transmission to the school board.

7.6 Student Administration shall notify the head of the awarding school of any deferred result which has not been finalised within three months of the date of publication of the deferral. The school board must deal with the matter at its next meeting.

8. Students discontinuing

Any student who is enrolled in a subject on the date on which final candidates lists are produced and who is known to the teaching staff to have discontinued the subject may be recorded as having ceased the subject. The result grade used in such a case shall be CNW — Ceased, no withdrawal.

9. Retention of examination scripts

All examination scripts, papers and records of raw assessments must be retained by the department for a period of six months.

10. Reports

On payment of the appropriate fee within thirty (30) days of publication of the results, a candidate is entitled to a full report on his/her final written examination paper. This does not apply to practical examinations.

Reports are in the following categories:

(a) breakdown of marks allocated for each question,

(b) a full report.

Fees

Fees for such reports shall be determined from time to time by the Vice-Chancellor.

(ACCESS TO EXAMINATION SCRIPTS AND MARKS FOR EACH QUESTION WILL BE AVAILABLE ON REQUEST AND WITHOUT FEE. ENQUIRIES REGARDING MARKS OR ACCESS TO SCRIPTS SHOULD BE MADE DIRECTLY TO THE APPROPRIATE DEPARTMENT OR SCHOOL OFFICE.)
11. Alteration of original result
Any amendment to internally assessed results will be accepted upon presentation of a Result Amendment form duly signed by the subject teacher, the head of department, and authorised by the head of the teaching school.
The head of school can authorise amendments to results within two (2) months after the date of original publication of the result.
Any amendments proposed after two (2) months must be submitted to the school board responsible for the teaching department involved for approval.

State Training Board (STB) External Examinations and special consideration applications
The following is an extract from STB Regulations Examination Instruction Booklet (TEXI). All reference to college, should be read as TAFE Division, for the purposes of Swinburne University, in the following text.

EXTRACT:
1. Applications — Consideration and special examinations

1.1 Application for special consideration or admission to a special examination shall reach the office of the STB within 72 hours of the examination. Such applications will be accepted only on the appropriate form and should be sent to:
Examinations Branch
State Training Board
PO Box 2660
MELBOURNE VIC 3001

1.1.1 A candidate who applies on medical grounds for special consideration or a special examination shall submit an application and medical certificate. Students must use the comprehensive form available from college student administration/records.

1.1.2 A medical certificate relating to a candidate’s condition at the time he/she sat for or should have sat for an examination, must be signed by a medical practitioner no later than two days after the date of the examination.

1.1.3 A candidate who applies for special consideration or a special examination other than on medical grounds, shall submit with his application, a statutory declaration stating the facts upon which he/she relies and shall furnish any corroborative evidence which may be required.

1.1.4 The decision of the Director, Industry Programs Division shall be final. Any special examination will be conducted in accordance with directions issued from time to time by the Director, Industry Programs Division and procedures issued by Examinations Branch.

2. Students with disabilities

2.1 Special examinations facilities may be made available for students with disabilities. On application to the Examinations Branch, arrangements can be made for additional reading or writing time, special seating or rooms or any other assistance which may be necessary.

2.2 Application for such facilities should be made in the first instance to the college which should then consult with Examinations Branch.

2.3 Applications will only be accepted on the appropriate form.

3. Special Examinations

3.1 A candidate does not have an automatic right to sit for a special examination and special examinations are not available in Electrical Wiring, Plumbing, or any trade practical examination.

3.2 The provision of special examinations are costly, have limited life and present a security risk.

3.3 The provision of special examinations will only be undertaken in commonly called for examinations and cost considerations will be taken into account before the granting of any special examination.

3.4 The State Training Board provides in many cases multiple attempts at examinations in a year and while accident and illness may be an unfortunate candidate should not expect the provision of examinations as a compensation for personal trauma.

3.5 No more than three special examinations per semester will be granted in State Training Board examinations. Candidates should only apply for critical subjects to maintain their course objectives.

3.6 The inability to attend examinations is not grounds for a special examination. Misdrafting of timetables, diaries, pressure of work, overseas trips and similar reasons put forward for non attendance are not acceptable grounds for an application.

3.7 Time limits will be strictly applied and the 72 hour deadline from the day of the examination will be essential in any submission. The application must reach the State Training Board examinations physically within that time limit.

3.8 Acceptable grounds for application are restricted to:
(a) Severe current illness at time of the examination preventing the candidate from sitting that day. This must be verified by a medical examiner immediately and a comprehensive medical report presented. Unspecific certificates or unclear basis for medical grounds will not be accepted. The report must be on the specified form and in the prescribed manner.

(b) Mild Complaints
Mild complaints such as migraine, stomach upsets, colds may not be sufficient grounds for the granting of special examinations. Candidates therefore, should not expect that a medical report will automatically provide them with access to examinations.

(c) Close family death applications must be supported with printed evidence and a Statutory Declaration. The supporting evidence must be complete.

(d) Attendance at a court of law which is scheduled and unavoidable. Evidence must be presented 14 days prior to the normal examination sitting date. Where possible reschedule of the time of sitting will be arranged rather than a granting of a special examination therefore prior notice is essential.

3.9 In certain circumstances, Colleges who strongly feel that a special examination should be provided (and if a special examination does not exist) may be requested to provide the examination. The procedure is set out clearly on page 4 of the State Training Board TEX 20 Examiners handbook. Colleges must not proceed without the permission of the STB Examinations Branch.
3.10 Guidelines for Special Consideration
Students cannot ask for special consideration for a pre-existing illness. The fact that a student was ill prior to or while study was in progress, does not in itself constitute grounds for special consideration. The inability to study is definitely not grounds for consideration.

3.10.1 Special consideration is requested from examiners in the following instances:
(a) Sudden severe illness certified on a written report on the appropriate form. Other unspecified doctor’s certificates are not acceptable.
(b) Close death in a family involving immediate family members.
(c) Chronic handicapped disabilities.
(d) Court appearances.

3.10.2 Applications for above must reach the State Training Board Examinations within strict time limits.

3.10.3 (a) & (b) must be received by State Training Board Examinations within 72 hours from examination.

3.10.4 (c) & (d) must be received by State Training Board Examinations 14 days prior to the examinations. Evidence must be provided to support the application.

Any application received after the paper is marked will not be accepted, therefore speed is essential for applications to be effective.

3.10.5 Special consideration will only assist the student in limited cases. General exemptions are not given in any subject. Therefore special consideration is extended to the opportunity to sit, or to attempt the paper. The student can be given marginal allowance for actual inability to perform or cope with the examination content. The candidate must be able (in general) to reach the common standard expected with only the borderline cases being considered.

3.10.6 Special consideration will only be requested, and examiners are asked to apply a valued judgement if possible. No criteria is therefore imposed on examiners to consider or take into account such requests. The final judgement remains with the referee decision given to the examiners in their appointment.

3.11 Chronic or Long Term Handicapped

3.11.1 A candidate with a history of disability need only apply once and if application has been approved, that student is issued with a letter showing any extra time allowance or special provisions. The student should thereafter enclose photostats of that letter with each examination script so that further consideration can be given by the examiner who actually marks the paper.

3.11.2 Chronic recognizable complaints such as Dyslexia, hearing, sight and cerebral palsy problems are usually easily verified. Any such evidence from handicapped rehabilitation centres or prior medical and College records as to the complaint will usually be acceptable and need not be further verified (by additional medical reports) other than by a letter from the Centre/College involved. However, the student must still fill in the form so that details are complete and further work is not needed by College or Examinations staff to glean missed particulars. Common allowances are:
(a) Extra examination
(b) extra reading time,
(c) provision of time,
(d) isolation

3.11.3 College student administration/record sections of college must retain the appropriate form for distribution to all candidates on request.

* College should be read as TAFE Division for the purposes of Swinburne University.

STB — Application for Examiners report Recorrections

1 Any candidate who fails an externally set and marked examination other than a practical examination may, on payment of a fee of $25.00 (made payable to the STB, Victoria), has his/her examination paper in that subject recorrected. This fee is non-refundable.

(a) Any application for a recorrection must be lodged, together with the prescribed fee, to the Examinations Branch not later than the end of August for first semester exams and the end of February for second semester exams.

(b) Applications will only be accepted on the appropriate form which is available from the Student Administration Office.

(c) Applications should be addressed to:
Branch Examinations
State Training Board, Victoria
PO. Box 266D
Melbourne, Victoria, 3001

2 The result of the recorrection will be provided as soon as possible though not necessarily before the supplementary examinations are held, if applicable.

(a) Where a candidate’s eligibility to sit for a supplementary examination depends on the result of a recorrection, and where the recorrection result is not available before the time set for the examination, the candidate should be allowed to sit for the examination and an appropriate endorsement of the fact should be made on the front of his/her answer papers.

(b) A candidate who is not granted a pass on a recorrection of his/her examination paper will be furnished with a report on that examination paper.

(c) Students who have passed in any subject cannot apply for a remark in that paper.

(d) Where a paper is externally set but internally marked by the college it is then a matter between the candidate and the college. Recorrections are only available for examinations that are both externally set and marked by the STB.

STB Examinations — Application for access to examinations scripts

Applications must be made on appropriate form available from Student Administration.
A fee payable for the inspection at a rate of $8.00 per quarter hour or part thereof, payable to:

Branch Examinations
State Training Board
PO. Box 266D
Melbourne, 3001

The following points should also be noted:
— Copy drawings larger than A4 are not available however inspection is possible.
Centre for Business Development and Training

Manager: J. Torbiner

The centre aims to meet the needs of business and industry by providing:

* A variety of short courses and workshops specialising in:
  - Small business establishment and management
  - Secretarial and Word Processing
  - Computer Business Applications
  - Sales and Marketing
  - Management

* A reference and consulting service in:
  - Setting up a business
  - Bookkeeping/accounting and financial requirements
  - Management practices
  - Human Resource Development

* A resource centre with printed and audio-visual material for reference or loan.

* A Human Resource Development service that can design and organise training programs to suit individual organisational needs.

Computer Services Unit

Manager: M. Waterhouse
Technical Support: S. Catton, C. Nguyen, A. Zammit, D. Williamson
Administration: A. Quail

The Computer Services Unit provides centralised management of all TAFE computer resources (approximately 650 PC’s networked and UNIX). These include state-of-the-art computing facilities for teaching computer related subjects. The unit provides hardware and software support to all users. Facilities are available for TAFE student use both day and after hours at the Hawthorn and Prahran campuses.

Facilities are located at the Hawthorn Campus in Building A (TAFE) and at Prahran Campus. A substantial software library is maintained which include languages, current application packages and development tools.

Curriculum/Staff Development Unit

Manager: R. Carmichael

The Curriculum Development Unit carries out a support role for teachers involved in curriculum development projects by providing advice, consultancy and active assistance in such tasks as: new course design and development, course accreditation/re-accreditation, course evaluation/validation and course approval processes. The unit also provides a number of curriculum related staff development activities including: Curriculum Writing Skills Training, Part Time (and initial) Teacher Training Programs, Occupational and Training Needs Analysis.

Centre for Engineering Technology

Manager: L.J. McLaughlan
Course Co-ordinator: E.G. Oliver
Course Consultant: H. Ramaekers
Co-ordinator, Communications Systems:
P. Stroude
Technical Consultant: S. Fisher
Technical Officer: R. Smillie
Secretary: A. Hotton

The Centre for Engineering Technology was established in November 1986. Its aim is to integrate the specialist disciplines within the Engineering Division and to use these cumulative skills to assess and service the high technology needs of industry.

This service to industry involves:
- Training
- Consultative interaction
- Research and development projects
- Prototype development

For a full list of current offerings in short courses, refer to page 53.

These specialist training courses can be conducted at the Centre or onsite.

The CAD/CAM course uses a CAM package in association with AutoCad. This CAM package was developed for industry by the Centre (CAMPAC).

The Centre is also in the process of developing short courses in the areas of Robotics and CIM.

These will be followed by courses in CAE, to be developed in conjunction with the School of Business Studies.

National Scientific Instrumentation Training Centre

Manager: Dr. J. Hall
Scientist: Dr. L. Kryatzis
Marketing and Admin. Manager: J. Flowers 819 8379

The NSITC offers a comprehensive range of industry orientated "hands-on" training courses in modern scientific instrumentation including:
- Chemical instrumentation
- Spectroscopy
- Information technology
- Biotechnology

English Language Centre

Programs for Overseas Students

Award Courses

The TAFE Division of Swinburne accepts suitably qualified overseas students into full-time TAFE accredited programs in art, business, computing, engineering, office administration, laboratory science and foundation studies in arts, business, engineering and science.

ELICOS Courses

Swinburne is an accredited ELICOS centre. The Centre offers 6, 10, 20 and 30 week programs to prepare students to enter academic tertiary and foundation study programs.

General ELICOS programs are also available.

Details on courses for overseas students are available from the International Student Office (03) 819 8151 or (03) 819 8647.
business studies

Academic staff .................................................. 34
Centre for Business Development and Training .. 34

Courses offered .................................................. 34
Full-time courses .............................................. 34
Part-time courses ............................................. 34
Entrance requirements ....................................... 34
Career potential .................................................. 34
Professional recognition ....................................... 35

Finance and Information Technology Department
Associate Diploma of Business .............................. 35
  — Accounting .................................................. 35
  — Microcomputing ......................................... 38
  — Operations Management ................................. 35
    • Occupational Health & Safety ....................... 36
    • Purchasing & Planning ............................... 37
  • Work Study .................................................. 37

Advanced Certificate
  — Accounting .................................................. 38
  — Information Technology ................................ 38
  — Operations Management ................................. 35
    • Occupational Health & Safety ....................... 36
    • Purchasing & Planning ............................... 37
  • Work Study .................................................. 37

Certificate
  — Computer Business Applications ...................... 38

Marketing and Administration Department
Associate Diploma of Business
  — Marketing ................................................ 39
  — Office Administration ................................ 39

Advanced Certificate
  — Marketing ................................................ 39
  — Office Administration ................................ 39
  — Personnel .................................................. 40
  — Sales Management ....................................... 39

Certificate
  — Office and Secretarial Studies ....................... 40

Victorian Certificate of Education
  — Evening classes ........................................ 40

Foundation Year .............................................. 41
Subject Details .............................................. 41
General Information ........................................ 1
Swinburne TAFE Division Information ................... 19
Centre for Business Development and Training

Manager
J. Torbinder, BEd(Melb), GradDipBus(HRD)(Deakin), AIMM
Secretary
A. Zimans

Courses Offered

Finance and Information Technology Department

3500DBC Associate Diploma of Business (Accounting)
3500DGB Associate Diploma of Business (Operations Management):  
  • Occupational Health & Safety  
  • Purchasing & Planning  
  • Work Study
3500DYA Associate Diploma of Business (Microcomputing)
3300DBI Advanced Certificate in Accounting
3300DGN Advanced Certificate in Operations Management:  
  • Occupational Health & Safety  
  • Purchasing & Planning  
  • Work Study
3222DYC Certificate in Computer Business Applications

Marketing and Administration Department

3500DCB Associate Diploma of Business (Marketing)
3500DGA Associate Diploma of Business (Office Administration)
3300DCC Advanced Certificate in Marketing
3300DGA Advanced Certificate in Sales Management
3300DGA Advanced Certificate in Office Administration
3300DGB Advanced Certificate in Personnel
3222DDA Certificate in Office and Secretarial Studies

Full-time courses

The Associate Diplomas of Business (Accounting, Microcomputing, Marketing and Office Administration) are offered on a full-time basis over two years. The Advanced Certificates in Accounting, Information Technology, Office Administration, Marketing, Sales Management and the Certificate of Office and Secretarial Studies are one year full-time courses.

Part-time courses

All courses except the Associate Diploma of Business (Office Administration) and the Office and Secretarial Studies Certificate are available as part-time, evening study programs. In addition, it is unlikely that the Associate Diploma of Business (Microcomputing) will be offered part-time. The Certificate of Computer Business Applications is a one-year part-time evening course.

The length of courses vary but generally students take four subjects a year. Further information on the estimated time required to complete a course can be found with the details of each course.

Entrance requirements

The usual entrance requirements are a pass in Year 11 or an equivalent course for certificate courses and a pass in Year 12, an equivalent course or mature background for associate diplomas or advanced certificates.

Career potential

The general aim of the certificate, advanced certificate and associate diploma courses is to provide a variety of professional and para-professional courses which are designed to suit the needs of potential section or department supervisors, marketing and sales managers, senior clerical staff, industrial
supervisors, sales supervisors, account staff, secretarial support staff and other supporting staff with specialist areas of responsibility.

**Professional recognition**
These courses are recognised for the purpose of admission to membership of a number of professional institutes. These are listed under the individual courses.

---

**Course Details**

**Finance and Information Technology Department**

**3500DBC Associate Diploma of Business (Accounting)**

**Aims**
The Associate Diploma of Business (Accounting) encompasses practical training for a variety of professional accounting positions. Candidates will be able to work independently in small organisations or be involved in positions requiring a minimum of supervision while working under a professional accountant.

**Course description**
The structure of the Associate Diploma of Business (Accounting) requires the successful completion of twelve compulsory subjects to be undertaken in the first year of full-time study, followed by nine compulsory and three elective subjects in the second year of full-time study.

Many subjects have prerequisites. Check under subject details.

**Career potential**
The course provides participants with the opportunity to obtain knowledge and skills relating to manual and computerised bookkeeping, costing, budgeting, taxation, financial accounting and financial management.

**Professional recognition**
Students completing the Associate Diploma of Business (Accounting) may be eligible for membership in the National Institute of Accountants.

Students who have successfully completed the taxation subjects as part of their diploma will be eligible for registration with the Tax Agents Board of Victoria.

**Entry requirements**
This course is post Year 12 or mature age entry level.

**Duration of course and mode of study**
The course may be undertaken by two years of full-time study or approximately five years of part-time study.

Part-time study is normally conducted on an evening basis. However, some subjects are available as day-release.

**Course structure**

**Compulsory subjects**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH433</td>
<td>Applied Business Communications</td>
</tr>
<tr>
<td>TH434</td>
<td>Management Skills 1</td>
</tr>
<tr>
<td>TS247</td>
<td>Business Law 1</td>
</tr>
<tr>
<td>TS301</td>
<td>Introduction to Accounting</td>
</tr>
<tr>
<td>TS302</td>
<td>Accounting Reports</td>
</tr>
<tr>
<td>TS303</td>
<td>Accounting Systems</td>
</tr>
<tr>
<td>TS304</td>
<td>Partnership and Introductory Company Accounting</td>
</tr>
<tr>
<td>TS415</td>
<td>Computer Based Accounting 1</td>
</tr>
<tr>
<td>TS421</td>
<td>Business Computer Applications 1</td>
</tr>
<tr>
<td>TS422</td>
<td>Business Computer Applications 2</td>
</tr>
<tr>
<td>TS436</td>
<td>Applied Business Economics 1</td>
</tr>
<tr>
<td>TS445</td>
<td>Applied Business Mathematics</td>
</tr>
<tr>
<td>TS248</td>
<td>Business Law 2</td>
</tr>
<tr>
<td>TS305</td>
<td>Financial Management</td>
</tr>
<tr>
<td>TS306</td>
<td>Costing Principles</td>
</tr>
<tr>
<td>TS307</td>
<td>Costing Systems</td>
</tr>
<tr>
<td>TS308</td>
<td>Auditing</td>
</tr>
<tr>
<td>TS311</td>
<td>Taxation Fundamentals</td>
</tr>
<tr>
<td>TS314</td>
<td>Company Financial Reporting</td>
</tr>
</tbody>
</table>

**Elective subjects**

A further three subjects to be selected from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS310</td>
<td>Advanced Accounting Issues</td>
</tr>
<tr>
<td>TS312</td>
<td>Taxation Procedures</td>
</tr>
<tr>
<td>TS313</td>
<td>Taxation Practice</td>
</tr>
<tr>
<td>TS410</td>
<td>Budgeting 2</td>
</tr>
<tr>
<td>TS437</td>
<td>Applied Business Economics 2</td>
</tr>
<tr>
<td>TS450</td>
<td>Integrated Work/Field Placement</td>
</tr>
<tr>
<td>TS435</td>
<td>Management Skills 2</td>
</tr>
</tbody>
</table>

**Subject sequence — Part-time students**
Students are advised to start this course with the following subjects:

Semester 1: TS301 Introduction to Accounting  
TS421 Business Computer Applications 1

Semester 2: TS302 Accounting Reports  
TS422 Business Computer Applications 2

For advice on later-year subjects, students are strongly urged to seek advice from the Finance and Information Technology Department before re-enrolling.

**Application procedure**
Apply to the School of Business Studies office, 36 Wakefield St., Hawthorn. Phone: 819-8165.

---

**3500DGB Associate Diploma of Business (Operations Management)**

**Aims**
The course is designed so that a student obtains an understanding of the operations management functions within an organisation and the techniques, skills and knowledge that are required to manage these functions.

On satisfactory completion of the Advanced Certificate in Operations Management the student should be able to perform the duties and tasks of one or more of the following operations management functions:

- Occupational Health and Safety
- Purchasing and Planning
- Work Study

On satisfactory completion of the Associate Diploma of Business (Operations Management) the student should be able to:

a) Perform, supervise, and manage one or more of the operations management functions.

or

b) Perform duties as a manufacture/production/operations manager of a medium to large organisation.

**Course description**
The Associate Diploma of Business (Operations Management) can be completed in 2 stages.

**Stage 1 — Advanced Certificate in Operations Management**
Students must complete 14 subjects from the following:

<table>
<thead>
<tr>
<th>Group A</th>
<th>6 compulsory subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group B</td>
<td>8 specified or elective subjects</td>
</tr>
</tbody>
</table>

**Stage 2 — Associate Diploma of Business (Operations Management)**
Students must complete a further 14 subjects from the following:

<table>
<thead>
<tr>
<th>Group B</th>
<th>4 elective subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group C</td>
<td>10 compulsory subjects</td>
</tr>
</tbody>
</table>

**TOTAL** subjects for Associate Diploma of Business (Operations Management) = 28

**Career potential**
Covered under course aims.
Professional recognition
Students who have successfully completed the Advanced Certificate in Operations Management and/or the Associate Diploma of Business (Operations Management) are qualified for membership with the following professional institutes:
- Institute of Purchasing and Supply (IPSMP)
- Australian Institute of Materials Management (AIMM)
- Logistics Management Association of Australia (LMAA)
- Institute of Industrial Engineers (IIIEA)
- Safety Institute of Australia (SIA)
- Australian Institute of Management (AIM)

Entry requirements
For both Advanced Certificate in Operations Management and Associate Diploma of Business (Operations Management):

a. Successful completion of Year 12 or an approved equivalent course.
   OR

b. Mature age and have sufficient work experience to successfully undertake the course.

Duration of course and mode of study

<table>
<thead>
<tr>
<th>P/T Hours</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Advanced Certificate in Operations Management</td>
<td>510</td>
</tr>
<tr>
<td>(14 subjects)</td>
<td></td>
</tr>
<tr>
<td>2 evenings</td>
<td>(2 years)</td>
</tr>
<tr>
<td>b. Associate Diploma of Business (Operations Management)</td>
<td>1,030</td>
</tr>
<tr>
<td>(14 + 14 = subjects)</td>
<td></td>
</tr>
<tr>
<td>2 evenings</td>
<td>(4 years)</td>
</tr>
</tbody>
</table>

Course structure
Subject groups

Group A
The following 6 subjects in Group A are compulsory for the Advanced Certificate in Operations Management.

Title
- TS525 Productivity & Work Methods Improvement
- TS526 Implementation of Changes
- TH433 Applied Business Communication
- TS445 Applied Business Mathematics
- TS222 Accounting & Financial Management
- TS342 Introduction to Computer Application

Group B
8 of the following subjects (specified or electives) are required from this group for Advanced Certificate in Operations Management. Further 4 subjects, not already completed, are required as electives for Associate Diploma of Business (Operations Management).

Title
- TS651 Resource Requirement Planning
- TS652 Production Planning & Control
- TS653 Inventory Management
- TS654 Warehouse Management
- TS671 Purchasing 1
- TS672 Purchasing 2
- TS673 Purchasing 3
- TS674 Purchasing 4
- TS627 Materials Handling & Packaging
- TS628 Transport & Distribution Systems
- TS603 Time Study
- TS527 Predetermined Motion Time Standard Systems
- TS328 Statistical & Estimating Techniques
- TS529 Labour Cost Control
- TS530 Facility Layout and Workplace Design
- TS531 Productivity in Service Industries
- TS532 Productivity in Office & Administration Systems
- TS533 Maintenance Management
- TS621 Occupational Health & Safety 1
- TS622 Occupational Health & Safety 2

TS623 Occupational Health & Safety 3
TS624 Occupational Health & Safety 4

Group C
The following 10 subjects are compulsory for Associate Diploma of Business (Operations Management).

Title
- TS426 Introduction to Management
- TS615 Human Management
- TS632 Marketing Management
- TS617 Industrial Relations Management
- TS616 Financial Analysis
- TS619 Project Management
- TS535 Operations Management
- TS536 Total Quality Management
- TS538 Computer Application in Operations Management
- TS618 Operation Management Project

Application procedure
Apply to the School of Business Studies, 36 Wakefield St., Hawthorn 3122. Phone: 819 8165.

* Note: Not all subjects may be offered.

Occupational Health and Safety

Aims
Students are given a broad understanding of the various issues associated with Occupational Health and Safety. The course provides a basis for higher learning as well as preparing them for tackling some of the day to day issues. It also gives students resources to enable them to apply preventative strategies at their place of work.

Course description
Please refer to explanation under Associate Diploma of Business (Operations Management).

Career potential
The course is designed to:
1. educate staff who will be responsible for evaluating the need for and nature of accident prevention.
2. apply the techniques of accident reporting, accident investigation, accident/loss statistical systems and a safety measurement program.
3. develop and implement occupational health and safety training programs for all levels of management and employees.

Profession recognition
Please refer to details under Associate Diploma of Business (Operations Management).

Entry requirements
Please refer to details under Associate Diploma of Business (Operations Management).

Duration of course and mode of study
Please refer to details under Associate Diploma of Business (Operations Management).

Course structure
Students electing to specialise in Occupational Health and Safety need to complete the following subjects:

Group A
6 compulsory subjects

Group B
6 specified and 2 elective subjects, as listed below:

Title
- TS627 Materials Handling & Packaging
- TS530 Facility Layout & Workplace Design
- TS621 Occupational Health & Safety 1
- TS622 Occupational Health & Safety 2
- TS623 Occupational Health & Safety 3
- TS624 Occupational Health & Safety 4
- + 2 Electives

No. of Subjects
- 8
Completion of these 14 subjects leads to the award of Advanced Certificate in Operations Management.

A further 14 subjects must be completed for the award of Associate Diploma of Business (Operations Management) which consist of 4 elective subjects from Group B (not previously studied) and 10 compulsory subjects from Group C.

For a full list of these subjects see Associate Diploma of Business (Operations Management).

Application procedure
Please refer to details under Associate Diploma of Business (Operations Management).

Purchasing and Planning

Aims
The aims of the course are to educate participants in the modern techniques of purchasing and planning and to promote awareness of the need for purchasing and planning to be a profit centre.

Course description
Please refer to details under Associate Diploma of Business (Operations Management).

Career potential
The course is designed to:

1. support staff for professional officers and higher-level management, including department supervisors, senior clerical staff and staff with important specialist areas of responsibility, e.g. production managers, purchasing and supply officers.

Profession recognition
Please refer to details under Associate Diploma of Business (Operations Management).

Entry requirements
Please refer to details under Associate Diploma of Business (Operations Management).

Duration of course and mode of study
Please refer to details under Associate Diploma of Business (Operations Management).

Course structure
Students electing to specialise in Purchasing and Planning need to complete the following subjects:

Group A 6 compulsory subjects
Please refer to details under Associate Diploma of Business (Operations Management).

Group B 8 specified subjects as listed below:

<table>
<thead>
<tr>
<th>Title</th>
<th>No. of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS651</td>
<td>Resource Requirement Planning</td>
</tr>
<tr>
<td>TS652</td>
<td>Production Planning, Scheduling &amp; Control</td>
</tr>
<tr>
<td>TS653</td>
<td>Inventory Management</td>
</tr>
<tr>
<td>TS654</td>
<td>Warehouse Management</td>
</tr>
<tr>
<td>TS671</td>
<td>Purchasing 1</td>
</tr>
<tr>
<td>TS672</td>
<td>Purchasing 2</td>
</tr>
<tr>
<td>TS673</td>
<td>Purchasing 3</td>
</tr>
<tr>
<td>TS674</td>
<td>Purchasing 4</td>
</tr>
</tbody>
</table>

Completion of these 14 subjects leads to the award of Advanced Certificate in Operations Management.

A further 14 subjects must be completed for the award of Associate Diploma of Business (Operations Management) which consist of 4 elective subjects from Group B (not previously studied) and 10 compulsory subjects from Group C.

For a full list of these subjects see Associate Diploma of Business (Operations Management).

Application procedure
Please refer to details under Associate Diploma of Business (Operations Management).

Work Study

Aims
The aim of the course is to provide a systematic examination of work in order to promote more efficient and economical work practices.

Course description
Please refer to explanation under Associate Diploma of Business (Operations Management).

Career potential
The course is designed to educate:

1. support staff for professional officers and higher-level management, including department supervisors, senior clerical staff and staff with important specialist areas of responsibility, e.g. work study practitioners.
2. smaller operators who need to be proficient in a variety of technical or business tasks as well as management decision-making.

Profession recognition
Please refer to details under Associate Diploma of Business (Operations Management).

Entry requirements
Please refer to details under Associate Diploma of Business (Operations Management).

Duration of course and mode of study
Please refer to details under Associate Diploma of Business (Operations Management).

Course structure
Students electing to specialise in Work Study need to complete the following subjects:

Group A 6 compulsory subjects
Please refer to details under Associate Diploma of Business (Operations Management).

Group B 8 specified subjects as listed below:

<table>
<thead>
<tr>
<th>Title</th>
<th>No. of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS627</td>
<td>Materials Handling &amp; Packaging</td>
</tr>
<tr>
<td>TS530</td>
<td>Time Study</td>
</tr>
<tr>
<td>TS527</td>
<td>Predetermined Motion Time Standards</td>
</tr>
<tr>
<td>TS528</td>
<td>Statistical &amp; Estimating Techniques</td>
</tr>
<tr>
<td>TS529</td>
<td>Labour Cost Control</td>
</tr>
<tr>
<td>TS530</td>
<td>Facility Layout &amp; Workplace Design</td>
</tr>
<tr>
<td>TS531</td>
<td>Productivity in Service Industries</td>
</tr>
<tr>
<td>TS532</td>
<td>Productivity in Office &amp; Administration Systems</td>
</tr>
</tbody>
</table>

Completion of these 14 subjects leads to the award of Advanced Certificate in Operations Management.

A further 14 subjects must be completed for the award of Associate Diploma of Business (Operations Management) which consist of 4 elective subjects from Group B (not previously studied) and 10 compulsory subjects from Group C.

For a full list of these subjects see Associate Diploma of Business (Operations Management).

Application procedure
Please refer to details under Associate Diploma of Business (Operations Management).
3500 DYA Associate Diploma of Business (Microcomputing)

Aims
The course is primarily designed to prepare students for employment in key areas of the computer industry. Although some graduates will find work in other related fields, the labour market areas targeted are computer sales and microcomputer user support.

Course description
This course offers two major qualifications: Code:
- Advanced Certificate in Information Technology: 3300 DYC
- Associate Diploma of Business (Microcomputing): 3500 DYA

Students wishing to complete the Associate Diploma of Business (Microcomputing) must have successfully completed the Advanced Certificate in Information Technology.

Course participants may exit at advanced certificate or associate diploma level. The integration of common elements of study in this course facilitate job retraining and enable qualification upgrading.

Career potential
Daily newspapers and trade publications carry many advertisements seeking skilled personnel for computer industry jobs relevant to this course. Further indications of strong employment demand have been provided by a number of recent research studies on the computer industry labour market.

Entry requirements
Applicants will need to have completed Year 12 or equivalent. Mature-age students who have not met this requirement are encouraged to apply.

Duration of courses and mode of study
The advanced certificate may be obtained after one year of full-time study. The associate diploma may be undertaken by two years of full-time study.

Course structure
Compulsory subjects
Advanced Certificate in Information Technology

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS711</td>
<td>Intro to Microcomputer Applications A</td>
</tr>
<tr>
<td>TS721</td>
<td>Communication Skills A</td>
</tr>
<tr>
<td>TS715</td>
<td>Programming Concepts A</td>
</tr>
<tr>
<td>TS727</td>
<td>Computer Architecture</td>
</tr>
<tr>
<td>TS729</td>
<td>Using a Microcomputer</td>
</tr>
<tr>
<td>TS739</td>
<td>Business Organisations</td>
</tr>
<tr>
<td>TS713</td>
<td>Keyboarding</td>
</tr>
<tr>
<td>TS712</td>
<td>Intro to Microcomputer Applications B</td>
</tr>
<tr>
<td>TS722</td>
<td>Communication Skills B</td>
</tr>
<tr>
<td>TS716</td>
<td>Programming Concepts B</td>
</tr>
<tr>
<td>TS728</td>
<td>Introduction to Peripheral Devices</td>
</tr>
<tr>
<td>TS730</td>
<td>Using a Minicomputer</td>
</tr>
<tr>
<td>TS740</td>
<td>Business Information Processing</td>
</tr>
<tr>
<td>TS723</td>
<td>Communication Skills C</td>
</tr>
<tr>
<td>TS719</td>
<td>Cobol Programming A</td>
</tr>
<tr>
<td>TS717</td>
<td>Programming Techniques A</td>
</tr>
<tr>
<td>TS731</td>
<td>Operating Systems</td>
</tr>
<tr>
<td>TS741</td>
<td>Data Processing System</td>
</tr>
<tr>
<td>TS725</td>
<td>Documentation Techniques</td>
</tr>
<tr>
<td>TS725</td>
<td>Introduction to Sales &amp; Marketing</td>
</tr>
<tr>
<td>TS724</td>
<td>Communication Skills D</td>
</tr>
<tr>
<td>TS720</td>
<td>Cobol Programming B</td>
</tr>
<tr>
<td>TS718</td>
<td>Programming Techniques B</td>
</tr>
<tr>
<td>TS733</td>
<td>Intro to Data Communications &amp; Networks</td>
</tr>
<tr>
<td>TS734</td>
<td>Microcomputer Hardware &amp; Software Selection</td>
</tr>
</tbody>
</table>

Elective subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS726</td>
<td>Computer Sales &amp; Marketing</td>
</tr>
<tr>
<td>TS714</td>
<td>Accounting Concepts</td>
</tr>
</tbody>
</table>

Plus two electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS742</td>
<td>Document Processing Software Packages</td>
</tr>
<tr>
<td>TS743</td>
<td>Spreadsheet &amp; Business Graphics</td>
</tr>
<tr>
<td>TS744</td>
<td>Database Software Packages</td>
</tr>
<tr>
<td>TS745</td>
<td>Accounting Software Packages</td>
</tr>
<tr>
<td>TS767</td>
<td>Drafting and Display Graphics</td>
</tr>
</tbody>
</table>

Associate Diploma of Business (Microcomputing)

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS732</td>
<td>Introduction to Systems Analysis &amp; Design</td>
</tr>
<tr>
<td>TS751</td>
<td>Database Design</td>
</tr>
<tr>
<td>TS752</td>
<td>Database Programming A</td>
</tr>
<tr>
<td>TS757</td>
<td>4GL Programming Option</td>
</tr>
<tr>
<td>TS773</td>
<td>Microcomputer Systems Analysis &amp; Design</td>
</tr>
<tr>
<td>TS774</td>
<td>Electronic Principles</td>
</tr>
<tr>
<td>TS755</td>
<td>3GL Programming Option A</td>
</tr>
<tr>
<td>TS777</td>
<td>Project Management Techniques</td>
</tr>
<tr>
<td>TS793</td>
<td>Database Programming B</td>
</tr>
<tr>
<td>TS785</td>
<td>User Needs Analysis</td>
</tr>
<tr>
<td>TS786</td>
<td>Application Project C</td>
</tr>
<tr>
<td>TS756</td>
<td>3GL Programming Option B</td>
</tr>
<tr>
<td>TS768</td>
<td>Microcomputer Development Tools</td>
</tr>
<tr>
<td>TS771</td>
<td>User Training Techniques</td>
</tr>
<tr>
<td>TS754</td>
<td>Data Communications</td>
</tr>
<tr>
<td>TS769</td>
<td>Multiuser Microcomputer Systems</td>
</tr>
<tr>
<td>TS772</td>
<td>User Documentation</td>
</tr>
<tr>
<td>TS770</td>
<td>Microcomputer Architecture &amp; Assembly Programming</td>
</tr>
<tr>
<td>TS775</td>
<td>Advanced Local Area Networks</td>
</tr>
<tr>
<td>TS776</td>
<td>Microcomputer Systems</td>
</tr>
</tbody>
</table>

The above sequences of subjects for both the advanced certificate and the associate diploma are recommended only. Changes to these sequences may occur.

Application procedure
Apply to the School of Business Studies office, 36 Wakefield St., Hawthorn. Phone: 819 8165.

3300 DBI Advanced Certificate in Accounting

Students who successfully complete all the first-year subjects of the Associate Diploma of Business (Accounting) are eligible to obtain the Advanced Certificate in Accounting.

First year subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH433</td>
<td>Applied Business Communication</td>
</tr>
<tr>
<td>TH434</td>
<td>Management Skills 1</td>
</tr>
<tr>
<td>TS247</td>
<td>Business Law 1</td>
</tr>
<tr>
<td>TS301</td>
<td>Introduction to Accounting</td>
</tr>
<tr>
<td>TS302</td>
<td>Accounting Reports</td>
</tr>
<tr>
<td>TS303</td>
<td>Accounting Systems</td>
</tr>
<tr>
<td>TS304</td>
<td>Partnership and Introductory Company Accounting</td>
</tr>
<tr>
<td>TS415</td>
<td>Computer Based Accounting 1</td>
</tr>
<tr>
<td>TS421</td>
<td>Business Computer Applications 1</td>
</tr>
<tr>
<td>TS422</td>
<td>Business Computer Applications 2</td>
</tr>
<tr>
<td>TS436</td>
<td>Applied Business Economics 1</td>
</tr>
<tr>
<td>TS445</td>
<td>Applied Business Mathematics</td>
</tr>
</tbody>
</table>

3222 DYC Certificate in Computer Business Applications

Aims
The general aims of the course are to provide computer users in business with the skills to use computers efficiently in their workplace, and an understanding of a wide range of computer concepts and a knowledge of business information requirements, such that they will be able to identify ways of improving their own productivity and the productivity of others, by applying computer technology.

Course description
The course consists of 5 compulsory subjects which total 204 hours of class contact.

Career potential
It is especially suited to employees of smaller organisations lacking in-house specialist data processing professionals.
Entry requirements
Students are eligible to enter this course of study if they have satisfactorily completed an approved course at Year 11 level or an approved equivalent. The course is not designed for school leavers. Applicants should have at least one year of appropriate work experience before undertaking the course. However, applicants who do not have the required work experience could still be eligible if they have current employment in an appropriate position.

Duration of course and mode of study
The course is offered on a part-time evening basis. The minimum completion time is one year. This will require two nights per week attendance.

Course structure
All units are compulsory.
TS791 Introduction to Computers
TS795 Keyboarding
TS793 Using Systems Software
TS796 Business Information Systems
TS797 Business Software Applications

Application procedure
Apply to the School of Business Studies office, 36 Wakefield St., Hawthorn. Phone: 819 8165.

Course structure (suggested full-time) Compulsory subjects (22)

First year
TH433 Applied Business Communications
TH434 Management Skills 1
TS115 Applied Business Statistics
TS247 Business Law 1
TS248 Business Law 2
TS107 Accounting for Managers
TS360 Selling
TS361 Buyer Behaviour
TS362 Managing the Sales Operation 1
TS363 Managing the Sales Operation 2
TS364 Promotions 1
TS366 Marketing

Second year
TS123 Keyboard Familiarisation
TS421 Business Computer Applications 1
TS422 Business Computer Applications 2
TS436 Applied Business Economics 1
TS365 Promotions 2
TS367 Marketing Research
TS369 Innovation and Product Management
TS368 Logistics Management
TS370 Direct Response Marketing
TS371 Marketing Project

Plus two electives from the following subjects
TS372 International Marketing
TS373 Management and Marketing for the Small Business
TS374 Business to Business Marketing
TS375 Services Marketing
TS376 Retail Marketing

Application procedure
Apply to the School of Business Studies office, 36 Wakefield St., Hawthorn. Phone: 819 8720.

Note: The Associate Diploma of Business (Marketing) is currently under review. Please contact the School of Business Studies on 819 8720 to check on changes for 1993.

Marketing and Administration Department

3500DCB Associate Diploma of Business (Marketing)

Aims
The aims of this course are to introduce and provide detailed study in the field of marketing. From basic introductory subjects, the student is taken through to the more detailed and complex areas of marketing. The course also includes areas of law, statistics, communications, economics and management and their relationship to marketing.

Course description
The course consists of 24 subjects, 22 of which are compulsory, with 2 electives. The following courses are closely related to the Associate Diploma of Business (Marketing):
3300DCB Advanced Certificate in Marketing
3300DCC Advanced Certificate in Sales Management
These courses are subsets of the associate diploma and may be completed on their own or as an intermediate step towards the associate diploma.

Career potential
This course is designed to qualify people for middle management positions in the areas of marketing and sales management. It will provide the academic base for career advancement for those working in the marketing and sales management areas.

Professional recognition
On completion of the associate diploma, students are eligible to apply for membership of the Australian Marketing Institute.

Entry requirements
Students are eligible to enter this course of study if they have satisfactorily completed an approved course at Year 12 level or an equivalent course. Alternatively, mature background entry is granted if the student is considered to have sufficient maturity and experience to undertake the course successfully.

Duration of course and mode of study
The Associate Diploma of Business (Marketing) is offered on a full-time basis over two years or on a part-time basis taking 4-5 years to complete.

3500DGA Associate Diploma of Business (Office Administration)

Aims
This is a two year full-time course, combining both the practical and theoretical concepts necessary for graduates to gain employment in administrative/office support areas. Students who successfully complete the first year of the course are eligible for the award of Advanced Certificate in Office Administration.

Course description
Currently, two specialist streams can be taken in accounting or desktop publishing. A generalist stream is also available where students can choose the subjects they wish to study from a range of areas.

Career potential
Employment opportunities are found in a range of administrative and office support areas such as: secretaries, administrative officers, personal secretaries, personal assistants.

Professional recognition
Students who successfully complete the Associate Diploma of Business (Office Administration) are eligible to apply for membership of the Institute of Private Secretaries of Australia.

Entry requirements
Students are eligible to enter this course if they have satisfactorily completed Year 12 or equivalent. Mature age students with suitable business background will also be admitted to the course.

Duration of course and mode of study
The Associate Diploma of Business (Office Administration) is offered on a full-time basis over two years.
Course structure
First year
TS872  Document Production 1
TS873  Document Production 2
TS874  Office Administration 1
TS875  Office Administration 2
TS421  Business Computer Applications 1
TS422  Business Computer Applications 2
TS301  Introduction to Accounting
TS247  Business Law 1
TS800  Practical Placement
Plus two electives from a specialist stream.*

Second year
TS897  Document Production 3
TS898  Document Production 4
TS899  Office Supervision 1
TS900  Office Supervision 2
TS801  Practical Placement
Plus six electives from a specialist stream.*

* Specialist streams have some mandatory electives and others may be selected from any associate diploma course.

Application procedure
Apply to the School of Business Studies office, 36 Wakefield St., Hawthorn. Phone: 819 8720.

3300DGB Advanced Certificate in Personnel
Aim
The aim of the course is to provide graduates with the skills, knowledge and professional practices that will enable them to perform the duties of a personnel officer in public or private organisations.

Course description
This course consists of 12 subjects offered on a part-time basis only and covers all the major areas relating to the personnel function, e.g. law, occupational health and safety, staffing, training and development, industrial relations etc. Part-time students are expected to study two subjects per semester.

Career potential
Graduates will operate as support staff in the personnel management field and be responsible for the day to day administration of policies relating to employment, wage and salary administration, training and development, industrial relations and occupational health, safety and welfare.

Professional recognition
On completion those who are employed in personnel functions may be eligible for Associate or Senior Associate membership of the Institute of Personnel Management of Australia. Those employed in the training function may apply for membership of the Australian Institute of Training and Development.

Entry requirements
Students are eligible for this course if they have satisfactorily completed an approved Year 11 course or equivalent qualification (this must include a pass in English), or are considered to be sufficiently mature and experienced enough to undertake the course.

Duration of course and mode of study
This course is offered on a part-time, evening basis only and would take approximately three years to complete.

Course structure
Compulsory subjects (12)
TH433  Applied Business Communications
TH434  Management Skills 1
TS140  Industrial Law
TS141  Staffing
TS142  Personnel Practices
TS143  Training and Development
TS144  Occupational Health and Safety
TS145  Wage and Salary Administration
TS146  Industrial Relations
TS147  Personnel Project
TS217  Communication Skills 3
TS218  Communication Skills 4

Application procedure
Apply to the School of Business Studies, 36 Wakefield St., Hawthorn. Phone: 819 8720.

3222DDA Certificate in Office and Secretarial Studies
Aims
This course is designed to equip students with the skills and knowledge to work efficiently in today’s changing office environment as office support staff, typists, word processing operators or receptionists.

Course description
This course is designed to provide students with the basic skills required to perform general office and secretarial functions. It includes typing production, administrative procedures and computing. The course also provides the opportunity for office personnel, who have been out of the workforce for a number of years, to develop higher level skills and become familiar with current work practices and the latest technology, e.g. faxes, computers, etc.

Career potential
Graduates will be qualified to perform general office and secretarial duties, e.g. as office support staff, typists, word processing operators etc.

Professional recognition
Graduates may apply for Affiliate of the Institute of Professional Secretaries (Australia).

Entry requirements
Students are eligible for this course if they have satisfactorily completed an approved Year 11 course or equivalent, or are considered sufficiently mature and experienced enough to undertake the course.

Duration of course and mode of study
Currently, this course is offered on a one year full-time basis only.

Course structure
Compulsory subjects
TH133  Communication Skills 1
TH134  Communication Skills 2
TS880  Typing Production 1
TS881  Typing Production 2
TS885  Administrative Procedures 1
TS886  Administrative Procedures 2
TS883  Word Processing 1
TS884  Word Processing 2
TS895  Introduction to Computing 1
TS896  Introduction to Computing 2
TS800  Practical Placement

Students studying for the Certificate in Office and Secretarial Studies have the option of selecting Introduction to Accounting as an elective subject.

Duration of course and mode of study
This course is offered on a one year full-time basis only.

Application procedure
Apply to the School of Business Studies office, 36 Wakefield St., Hawthorn. Phone: 819 8720.

Victorian Certificate of Education Evening Classes
The following VCE subjects are taught by the School of Business Studies:

TS901 Accounting
TS902 Economics
TS903 Legal Studies

For a complete description of all VCE subjects, see the School of Further Education and Community Services section.
Foundation Year
The Foundation Year is an academic program which is designed to meet the needs of overseas students who require a one-year bridging program before entering studies for degrees in business, computer science, applied science, engineering or arts. Satisfactory completion of the Foundation Year guarantees entry into a Swinburne degree course. Three streams are offered in the Foundation Year — an Arts stream, a Business stream and a Science and Engineering stream.

The business stream includes the following subjects:
- English
- Mathematics
- Accounting
- Legal Studies
- Economics

English as a second language
This subject is common to all three Foundation Year courses and is designed to cater for the specific language needs of students whose first language is not English. The syllabus aims to promote language skills to a standard which will enable tertiary study by developing the ability to read critically a wide range of materials, to write in a variety of styles, to speak confidently and to listen effectively. The subject also aims to introduce students to Australian and other relevant literature and to develop an understanding of Australia’s cultural heritage.

Mathematics
This subject covers fundamental mathematical ideas for students considering post Year 12 courses in Business Studies, Social Science, Nursing and Teaching. It enables students to develop the skills necessary to master the mathematical concepts and methods and to apply these skills to practical problems.

Duration of course
Foundation Year is a one year full-time study course.

Application forms
Application forms and course advice may be obtained from the International Student Unit, Swinburne University of Technology, John St., Hawthorn 3122, Australia. Telephone: Domestic (03) 819 8647, International (613) 819 8647.

Tuition fees
Tuition fees for 1993 are A$7,800.

Business Subject Details
Subjects offered in the School of Business Studies vary from 2-3 hours for part-time classes, to 2-5 hours for full-time classes. Full-time students will take 2 years to complete all subjects and class contact time will range between 16-27 hours per week.

TH433 Applied Business Communications
Inter-personal and organisational communication, using appropriate listening and questioning skills, preparing letters and reports.

TH434 Management Skills 1
The role of a manager, the purpose of a business plan, leadership, motivation, interviewing skills and stress management.

TH435 Management Skills 2
Prerequisites: TH433 and TH434
Occupational health and safety and social justice issues in the work environment, why industrial disputes occur, current issues facing management today, counselling techniques.

TS006 Legal Studies Victorian Certificate of Education subject
Full year subject for students with limited or no prior knowledge of legal studies. This subject is designed to assist students in understanding the operation of law in our society. It should equip students with an understanding of how law affects our everyday lives, with particular regard to the rights and safeguards it bestows and the obligations and limitations it imposes. Topics covered include: the need for law, the structure and development of the Australian Legal System, the law-making bodies and legal processes, crime and criminal sanctions, the Law of Torts, consumer protection and the form of business organisations.

TS008 Economics Victorian Certificate of Education subject
Full year subject for students with limited or no prior knowledge of economics. Topics covered include: scarcity and the problems of limited means, resource allocation and the price mechanism, aggregate economic behaviour, the role of government, trades and external policy, economic growth and welfare, income distribution and poverty.

TS009 Accounting Victorian Certificate of Education subject
Full year accounting subject for students with limited or no prior knowledge of bookkeeping or accounting.
Topics covered include: basic concepts and terminology; the accounting equation; recording methods; balance day adjustments; final reports; accounting procedure for control; accounting for multiple ownership and analysis and interpretation of final reports.

TS107 Accounting for Managers
This subject is designed to enable students in other than financial courses to understand the purpose and operation of accounting systems, understand the principles of financial management, apply techniques of financial analysis to basic business problems, to participate with professional accountants in planning and decision-making related to their area of responsibility.
Topics studied include the nature of accounting, accounting reports for sole proprietors, forms of business ownership, accounting reports for companies, limitation of accounting reports, cash management, cost volume profit relationship and budgeting.

TS115 Applied Business Statistics
Differentiation between descriptive and inferential statistics, requirements for collection and description of samples, requirements for statistical validity, application of computer packages to business data.

TS140 Industrial Law
An overview of the Australian legal system and the common law and statutory laws applying to conditions of employment and industrial awards.

TS141 Staffing
The administration of employment policies, preparation of job analyses and job documentation, recruitment strategies, selection techniques, interviewing, job offers, induction, personnel history files and termination.

TS142 Personnel Practices
The history of the personnel profession, current issues and trends, the planning process, computers in personnel, human resource implications of restructuring, mergers and takeovers, code of conduct and ethics of the personnel profession.

TS143 Training and Development
The administration of training and development policies, the principles of performance appraisal and human resource planning, designing, delivering and evaluating training and development programs.

TS144 Occupational Health and Safety
The administration of occupational health and safety policies, strategies and techniques for implementing regulations and codes of practice, accident investigation, counselling or appropriate referral of individuals and groups, maintenance of appropriate records and reports, rehabilitation programs, specialised agencies in the OHS field.

TS145 Wage and Salary Administration
The administration of wage and salary policies, motivation and compensation, award interpretation, job evaluation and pricing of jobs, incentive schemes, supplementary benefits, liaison with payroll staff.

TS146 Industrial Relations
The administration of industrial relations policies, an overview of the Australian industrial relations systems, making and varying awards, collective bargaining, negotiations and conflict resolution, grievance settlement procedures.

TS147 Personnel Project
The presentation of an integrated project on a topic to be negotiated, utilising a range of skills and knowledge covered during the subject.
TS217  Communication Skills 3
TS218  Communication Skills 4
Communication Skills 3 and 4 will each consist of four options selected to meet the needs of course participants. Options include: stress management, time management, motivation and job satisfaction, customer relations, assertiveness, managing conflict, leadership.

TS222  Accounting for Operations Management
The subject aims to explain the principles of financial analysis and management and the operations of accounting systems.
Topics include: The Nature of Accounting, Accounting Reports, Analysis of Accounting Reports, Cost Accounting, Budgets.

TS247  Business Law 1
History and development of Australian law and system of courts. The roles of court personnel. Acts of parliament, their purposes, procedures and interpretation. Case law and the doctrine of precedent. The application of the law, involving a detailed study of one or two areas such as negligence, workers compensation or defamation. Law of contracts.

TS248  Business Law 2
Prerequisite: TS247
Legal aspects of sole traders, partnerships and companies. The law relating to insurance, taxation, consumer protection, tenancy, property and negotiable instruments.

TS301  Introduction to Accounting (1 unit)
Bookkeeping. Forms of business ownership and types of business activities. Basic outline of accounting conventions. Requirements for keeping accounts and basic business documents to maintain records. Complete manual bookkeeping process for sole trader service and trading businesses (using physical inventory method only), including bank reconciliation statements, imprest petty cash system, subsidiary ledgers for debtors and creditors and financial statements.

TS302  Accounting Reports (1 unit)
Prerequisite: TS301
Preparation of financial reports. Summary of entire bookkeeping process from source documents, including balance day adjustments, to final reports. Journal and ledger recording of balance day adjustments, closing entries and reversing entries. Classified revenue statement and balance sheet from trial balance with adjustments for a sole proprietor in both a service and trading organisation. Final accounting reports for a sole proprietor, using a single entry system of bookkeeping, in both a trading and service organisation. Revenue statements showing department contributions and final profit and loss. Preparation of funds statements for sole proprietors. Preparation of cash flow statements.

TS303  Accounting Systems (1 unit)
Prerequisites: Completion or concurrent completion of TS302, TS421 and TS415.
Essential features of equipment used to maintain systems using either manual, semi-automatic or electronic equipment. Essential features of control and accounting for the following systems using either manual, semi-automatic or electronic equipment, i.e. stock, payroll, debtors, creditors, cash receipts and payments and fixed assets. In this subject, the perpetual inventory system and the use of control accounts and subsidiary ledgers for stock, debtors, creditors and fixed assets, are considered in detail.

TS304  Partnership and Introductory Company Accounting (1 unit)
Prerequisite: Completion of TS301.
Essential differences between partnership and company forms of business ownership. Reasons for converting an existing business into a partnership or company. Formation of partnerships and companies and basic contents of documents involved. Journal and general ledger entries for the formulation of a partnership and the admission of a partner to an existing business. Journal and general ledger entries in a company's books for the formation of a company, the issue of shares to the public by a public company, the acquisition of the assets and liabilities of another business and the settlement of the purchase consideration with the previous proprietor(s). Statutory and other registers and records relating to the shares of a company. Profit distribution for partnerships including the profit and loss appropriation statement and a balance sheet of a partnership. Preparation of funds statements for partnerships in accordance with the accounting standards.

TS305  Financial Management (1 unit)
Prerequisites: Completion of, or concurrent completion of, TS409 and TS314.

TS306  Costing Principles (1 unit)
Prerequisites: Completion of TS301, TS302, TS303.
Maintain process, operation and standard costing systems. Preparation of a profit and loss statement adopting variable and absorption costing principles. Analysis of costs for decision-making.

TS307  Costing Systems (1 unit)
Prerequisites: Completion of TS301, TS302 and TS306.
Process costing system, accounting for joint products, accounting for by-products, operation costing system, standard costing, computerised standard costing, variable and absorption costing and costs for decision-making.

TS308  Auditing (1 unit)
Prerequisites: TS301, TS302, TS303, TS415, TS304.
Examination of various aspects of external auditing and internal control as they relate to business organisations.

TS310  Advanced Accounting Issues (1 unit)
Prerequisites: TS445, TS301, TS302, TS304, TS314.
Equity accounting, current cost accounting and accounting for leases by lessees. Analysis of capital investment proposals and return on investment.

TS311  Taxation Fundamentals 1 (1 unit)
Prerequisites: Completion of TS301, TS302, TS304 and TS247.
Concepts relating to assessable income, allowable deductions, tax rebates and preparation of taxation returns for individuals and businesses.

TS312  Taxation Procedures (1 unit)
Prerequisites: Completion of TS301, TS302, TS304, TS314, TS415, TS311, TS305.
Methods of taxation collections, assessment procedures (including objections), tax agents' responsibilities, preparation of taxation returns using a computerised package and general features of taxation planning.

TS313  Taxation Practice (1 unit)
Prerequisites: TS301, TS302, TS304, TS314, and TS311.
Taxation provisions relating to partnerships, trusts, primary producers, companies and superannuation funds. Preparation of all relevant taxation returns.

TS314  Company Financial Reporting (1 unit)
Prerequisites: Completion of TS301, TS302, TS304.
Preparation of company financial statements in compliance with the provisions of the Companies (Victoria) Code and auditing standards promulgated by the accounting profession. Consolidated financial statements and Stock Exchange listing requirements.

TS360  Selling

TS361  Buyer Behaviour
Prerequisites: TS366 and/or TS360
Basic psychology and sociology and their use in marketing. The buyer's decision making process as it applied to both consumer and industrial buying behaviour.

TS362/3  Managing the Sales Operation 1 and 2
Prerequisite: TS360
Setting sales targets. How to plan, organise and manage the sales operation. Staffing and training the sales team. Motivation of sales staff. Analysis and evaluating sales and sales staff performances implementation and control of company policies, procedures and identity.
TS364 Promotions 1  
Prerequisites: TS366 and/or TS360.  
The role of promotions in marketing strategies and mixes. How to plan, develop, implement and monitor a sales promotion campaign. Promotional techniques for varying industries. Telephone selling and promotional techniques. Basic principles and copywriting for direct mail and advertising.

TS365 Promotions 2  
Prerequisites: TS364, TS361.  
The role of advertising, publicity and PR in marketing. Advertising — copywriting, media characteristics, costing and expense analysis. Devising a media plan to reach a target market. Writing and placing media releases. Publicity strategies and techniques.

TS366 Marketing  
What is a marketing orientation? The role of marketing research. The marketer’s environment. Selection of target groups. Market segmentation. The development, implementation and monitoring of a marketing strategy plan. Marketing Control. Creativity and its role in marketing.

TS367 Market Research  
Prerequisites: TS115 (or concurrently), TS366.  
Where marketing research is used. Marketing research procedures. Sources of information. Questionnaire construction and other survey methods. Interviewing techniques. Sampling techniques. The field workers responsibilities and techniques. Selection, training, supervising and monitoring field workers. Collection, collation, analysis, validation and presentation of data. Marketing research recommendations.

TS368 Innovation and Product Management  
Prerequisites: TS366.  

TS369 Logistics Management  
Prerequisites: TS366.  
Marketing channel and physical distribution strategy. Channel management decisions. Physical distribution decisions. Retail and wholesale strategy.

TS370 Direct Response Marketing  
Prerequisites: TS366, TS361 and TS421 should also be studied either prior to or concurrently with TS370.  
This subject aims to provide an appreciation of the process of Direct Response Management of linking marketers with end consumers. It examines the ways in which Direct Response marketing principles and techniques can assist in the total marketing strategy plan in either its own right or as part of a total marketing package. The emphasis is on techniques and skills in the Direct Response Marketing area.

TS371 Marketing Project  
Prerequisites: TS366, TS367, TS365, TS369.  
The aim is to complete a group research project relating to a specific marketing problem, using the knowledge and skills gained from the entire course.

TS372 International Marketing  
Prerequisites: TS366, TS367, TS361 and TS364/5.  
The relationship between international trade and international marketing. The international environment — economics, culture, political and legal. The techniques of international marketing — the right attitude, competitive factors, gathering overseas intelligence, product policy, distribution, promotions, pricing. Controls for international marketing.

TS373 Management and Marketing for the Small Business  
Prerequisites: TS366, TS367, TS361, TS364/5.  

TS374 Business to Business Marketing  
Prerequisites: TS366, TS367, TS361, TS364/5.  
The basic characteristics of the industrial market. The structure, organisation and operation of the industrial company. The special features of the industrial market in Australia. Industrial buyer-behaviour model. The application of the market concept to the industrial arena. Industrial marketing — MR techniques, Target market selection; developing the marketing mix, marketing control.

TS375 Services Marketing  
Prerequisites: TS366, TS367, TS361, TS364/5.  
What is a Service Industry? Its role in the Australian economy. The types of services marketing — organisations, persons, place and ideas marketing. The marketing of services both onshore and offshore. Services marketing and the future.

TS376 Retail Marketing  
Prerequisites: TS366, TS367, TS361, TS364/5.  
The role and nature of the retailing operation in modern marketing systems. Covers the requirements of retailers including research, merchandising and promotions, location, organisational requirements and staff training.

TS409 Budgeting 1  
Prerequisites: Completion of TS301, TS302 and completion of or concurrent completion of TS306.  
Completion of appropriate budgets and performance reports for trading and service organisations.

TS410 Budgeting 2  
Prerequisites: Completion of TS409, TS301, TS302 and completion or concurrent completion of TS306.  
The completion of appropriate budgets and performance reports for manufacturing organisations.

TS415 Computer Based Accounting 1  
Prerequisites: Completion of TS301 and TS421.  
Establishing a data base for a computer accounting system. Setting up a general ledger with a chart of accounts and subsidiary ledgers, entering opening balances and transactions through the various ledgers, extract a trial balance, process reports and roll-over accounts into a new period.

TS421 Business Computer Applications 1  
Identifying and explaining the components of a computer system, using DOS, the care and security of computer hardware and storage media. Using a word processing program.

TS422 Business Computer Applications 2  
Prerequisite: TS421.  
Spreadsheets, databases and optional software.

TS425 Computer Based Accounting 2  
Prerequisites: Completion of TS415, TS422, TS409, TS306, TS304, TS314 and TS305. Students should also have completed or concurrently complete TS410 and TS307.

Using an installed commercial computer package to maintain the records of a company and a partnership and analyse and interpret the reports and implications of alternate management decisions.

TS426 Introduction to Management  
This subject aims to define and describe the management process, the importance of objective setting within the process and how a manager operates in today’s business environment. Topics include: management concepts and development, business community, the social responsibility of management, the management process, people in the management process, groups in the management process, organisational structures, managerial control, successful management, occupational health and safety at the workplace, the manager in the future.

TS436 Applied Business Economics 1  
The basic concepts of economic systems and the causes of economic instability. The behaviour of firms indifferent market structures and how different sectors of the economy intervene in the production process.

TS437 Applied Business Economics 2  
Prerequisite: TS436.  
The nature and function of macro-economic theory within the framework of an open economy.
TS445  Applied Business Mathematics
The role of statistical analysis in business, the types of statistical analysis required in given business situations, the calculation and application of certain statistics to those business situations, the use of a software program to generate particular statistical data.

TS450  Integrated Work/Field Placement
Prerequisite: Advanced Certificate in Accounting. Completion of the equivalent of full-time first semester of the Associate Diploma is recommended.

Applying the theoretical concepts and practical skills acquired in the course to a relevant position within industry. Practical placement of fifteen working days for full-time students or two hours a week for part-time students.

TS525  Productivity and Work Methods Improvement
This subject aims to identify the factors that affect productivity and to apply method study to improve productivity.
Topics include: productivity and operations management, industrial engineering and work study, select and record, examine and develop.

TS526  Implementation of Changes
Prerequisite: TS525.
This subject aims to identify the factors affecting the change process and to implement change strategies for productivity improvement.
Topics include: evaluating proposed methods, presenting management reports, reporting of trade unions in industrial change, motivation and setting change, install and maintain the method, practical job instructions.

TS527  Predetermined Motion Time Standard Systems
Prerequisites: TS525, TS503.
This subject aims to apply predetermined motion time standard systems to establish standard times for operations.
Topics include: introduction to predetermined motion time standard systems, methods time measurement (MTM), master standard data (MSD) OR modular arrangement of predetermined time standards (MODAPTS), alpha-nemonic coding system.

TS528  Statistical & Estimating Techniques
Prerequisites: TS525, TS526, TS445 or equivalent.
This subject aims to apply statistical and estimating work study techniques to establish time standards.
Topics include: activity sampling, group timing technique, multimachine assignments, standard data systems.

TS529  Labour Cost Control
Prerequisites: TS503, TS527.
This subject aims to design and implement labour cost control systems.
Topics include: labour cost, types of incentive systems, incentive system and labour cost control for individuals, group incentive system, measured day work system.

TS530  Facility Layout and Workplace Design
Prerequisites: TS525, TS502.
This subject aims to develop and design layouts and workplaces for manufacturing and non-manufacturing facilities.
Topics include: traditional layout principles, determining layout functionality, assessing work environment, ergonomics, occupational health and safety.

TS531  Productivity in Service Industries
Prerequisites: TS525, TS502.
This subject aims to apply principles of productivity improvement in non-manufacturing environments.
Topics include: service to sector industries, production management techniques, design of service systems, computing system capacity, location planning.

TS532  Productivity in Office and Administration Systems
Prerequisite: TS531.
This subject aims to improve productivity in an office/administrative environment.
Topics include: systems and procedures, systems analysis techniques, electronic office systems, office layouts, records management and forms design, office work simplification and measurement.

TS533  Maintenance Management
This subject aims to maintain system and machine reliability by implementing repair and preventative maintenance strategies.
Topics include: repair programs, preventative maintenance, statistical applications for maintenance, system and component reliability, centralised, decentralised and contractual maintenance.

TS534  Introduction to Computer Applications
This subject aims to use application software in wordprocessing and spreadsheet packages.
Topics include: software applications, fundamentals of wordprocessing, fundamentals of spreadsheets.

TS535  Operations Research
Prerequisite: Advanced Certificate in Operations Management.
This subject aims to apply operations research techniques to manufacturing and non-manufacturing industries.
Topics include: linear programming, simulation, waiting line theory, decision theory.

TS536  Total Quality Management
Prerequisite: Advanced Certificate in Operations Management.
This subject aims to implement strategies for quality excellence in industry.
Topics include: quality excellence and people, quality management concepts, statistical quality control.

TS538  Computer Applications in Operations Management
Prerequisite: A pass in all 26 Diploma subjects as prescribed by the course stream, or undertaking final year subjects.
This subject aims to use microcomputer software packages in solving operations management problems.
Topics include: introduction to computer operating systems, computer systems software, operations management software.

TS601  Introduction to Management
This subject will include the following topics: development of management theory, business purpose and mission, the consequences of mismanagement, government/service organisations, the management process including setting objectives, planning, decision-making, organisation, controlling, information facilitation; the role of people in the management process including communicating, motivation, leadership and group interaction; organisation structures and interdependence within an organisation, ethics and the social responsibility of management, measuring success in management, skills and attributes that managers require for the future.

TS602  Information for Managers
This subject will include the following topics: analysing information to establish whether causes and effects exist, identification of relationships, methods of research, sources of bias, validity and reliability of surveys, sampling techniques, sources of information, statistical analysis, interpretation and forecasting, storage and retrieval of data, security of information, reporting and presentation of information.

TS603  Time Study
Prerequisites: TS525.
This subject aims to apply time study technique to establish standard times for operations.
Topics include: introduction to work measurement, breaking the job into elements, timing and rating each element, establishing standard times.

TS604  Finance for Managers
This subject will include the following topics: overview of the nature and mechanics of an accounting system, types of financial reports, terminology found in financial reports and their interpretation, limitations of financial reports, common ratios used in the evaluation of reports, limitations of ratio analysis, budgetary control, elements of a master budget system and their relationships, credit control, control of overheads, cost, volume, profit relationships, sources of business finance including their features, advantages, disadvantages, appropriateness, sources of information external to the firm relevant to financial management.

TS606  Personnel and Industrial Relations Management
This subject covers the following topics: nature of personnel function, recruitment, placement and separation, staff appraisal, wage and salary administration, training development, accidents and safety, welfare and service activities, counselling, industrial relations.
TS607 Public Sector Management
This subject covers the following topics: structure areas of Government, public service, Government instrumentalities, safeguards, function management areas, preparation and presentation of a case to have change brought about or change prevented, interdepartmental and community joint activities.

TS608 Retail Management
This subject covers the following topics introduction — distribution system retailing, current developments, customers, principles of customer service, buying, stock management, retailing calculations, pricing, legislation, managing and sales force, merchandising, visual merchandising crime.

TS609 Office Management
This subject covers the following topics: organisation, office environment, office mechanisation, word processing, form design and control, filing and indexing, clerical work study, work measurement in the office, control of clerical staff, job evaluation and grading.

TS610 Supply Management
This subject covers the following topics: supply department organisation and function, ethical buying behaviour, purchasing activity, purchasing techniques, materials specifications, availability and sourcing, inventory, control of purchased goods and materials, stores procedures.

TS611 Production Management
This subject covers the following topics: production planning, organisation, planning for optimum capacity, planning methods, production control organisation, scheduling and loading, production control methods, plan layout, work study, staff utilisation, safety.

TS612 Marketing Management
This subject covers the following topics: marketing concepts and philosophy, marketing information systems, marketing communications, new products, distribution process, after sales responsibilities, sales force (role and management).

TS613 Computer Based Management Information Systems
This subject covers the following topics: information systems defined, which data should be collected, data collection techniques, data organisation, data control, protection and review, dissemination of information.

TS614 Management Project
This is a compulsory subject involving a group research project relating to an area of current management practices and techniques which is of interest to the student. Students are required to present a paper on the project at a public seminar.

TS615 Human Management
This subject aims to develop knowledge, skills and attitudes necessary for a manager to relate to people within the organisation. Topics include: taking charge, power, authority and leadership, motivation and team building, delegation of authority, problem solving and decision making, appraising employee performance, discipline, equal opportunity in management, time management, fitness and coping with stress, counselling techniques, negotiating skills.

TS616 Financial Analysis of Capital Investment
Prerequisite: Advanced Certificate in Operations Management. This subject aims to apply investment analysis techniques to expenditure for capital goods. Topics include: time value of money, depreciation, breakeven analysis and opportunity costs, rate of return computations, sensitivity analysis.

TS617 Industrial Relations Management
This subject aims to determine and analyse the major processes and determinants of the Australian Industrial Relations System. Topics include: industrial relations in Australia, industrial conflict, the parties to a dispute, dispute settling process, industrial democracy, redundancy protection, occupational health and safety.

TS618 Operations Management Project
Prerequisite: A pass in TSS38. This subject aims to use operations management techniques, including applications software in undertaking a major project. Topics include: project parameters and operations management techniques.

TS619 Project Management
Prerequisite: Advanced Certificate in Operations Management. This subject aims to apply project planning and project management techniques using network analysis principles. Topics include: project models and characteristics, CPM (critical path method), other network planning systems, managing the project.

TS621 Occupational Health and Safety 1
This subject aims to apply relevant safety legislation and regulations and accident prevention strategies. Topics include: utilities support services and facilities available within the community to the occupational health and safety professional, accident prevention methodology, accident prevention techniques and selection and use of appropriate personal protective equipment, occupational health and hygiene, occupational health and safety legislation and workplace system.

TS622 Occupational Health & Safety 2
Prerequisite: TS621. This subject aims to identify and solve safety problems arising from a range of environmental and industrial activities. Topics include: manual handling regulation and code of practice, handling, storage, processing and manufacturing of harmful substances, accident prevention programs, risk management, total loss control.

TS623 Occupational Health and Safety 3
Prerequisite: TS622. This subject aims to report, investigate and measure accident losses and develop accident prevention programs. Topics include: layout design of workplace and travelling ways, developing training programs on occupational health and safety, accident reports, records and systems, industrial hygiene, environmental factors in workplaces and travelling ways, emergency procedures.

TS624 Occupational Health & Safety 4
Prerequisite: TS623. This subject aims to identify and solve occupational health and safety problems associated with the human-machine-environment interface. Topics include: conceptual models of the accident process, anatomy of the spine, ergonomics principles and accident prevention, risk factors associated with musculoskeletal injuries.

TS627 Materials Handling and Packaging
This subject aims to optimise the use of materials handling equipment and packaging principles in the total logistics concept. Topics include: materials handling equipment, materials handling regulations, solving storage problems, packaging.

TS628 Transport and Distribution Systems
This subject aims to explain the nature of transport and distribution and an integrated system. Topics include: characteristics and modes of transport, ownership, organisation and marketing of transport, economic and safety policies and regulations, freight transport, urban transport and future trends.

TS632 Marketing Management
This subject aims to describe and analyse the basic elements that make up an overall marketing management function within an organisation. Topics include: marketing concepts and philosophy, marketing information systems, consumer behaviour, marketing communications, pricing decisions, new products, distribution process, after sales responsibilities.

TS651 Resource Requirements Planning
This subject aims to be able to implement Resource Requirements Strategy as a total strategy. Topics include: resource requirements planning, plant manufacturing capacity, material requirements planning (MRP), capacity requirements planning.

TS652 Production Planning, Scheduling and Control
Prerequisite: TS651. This subject aims to define the production planning process. Topics include: forecasting techniques, the production plan, scheduling shop floor operations, computerised scheduling.
TS653  Inventory Management Systems
This subject aims to define inventory management systems and the techniques of materials control.
Topics include: economic inventory ordering (EOQ), order point systems, categorising and controlling inventory, manufacturing resources planning.

TS654  Warehouse Management
This subject aims to implement warehouse management systems.
Topics include: warehouse systems, inventory classification, stocktaking and stock checks, warehouse layouts, materials handling and packaging, legislation and regulations.

TS671  Purchasing 1
This subject aims to identify the role and function of the purchasing department in an organisation and the basic steps necessary to complete a purchase.
Topics include: overview of the role and function of purchasing, procurement requests, solicitation and evaluation of proposals, supplier analysis, the basic negotiation process, contract execution, implementation and administration.

TS672  Purchasing 2
Prerequisite: TS671.
This subject aims to explain fully the purchasing cycle and material flow.
Topics include: purchasing function organisation, material flow, international purchasing, the purchasing role in productivity programs.

TS673  Purchasing 3
Prerequisite: TS672.
This subject aims to explain the administrative and organisational aspects of the purchasing and supply department and the integration of support groups.
Topics include: administration of the purchasing department, personnel issues in the purchasing department, support groups within the purchasing and supply department.

TS674  Purchasing 4
Prerequisite: TS673.
This subject aims to develop an understanding of how forecasting techniques and resultant strategies assist in the planning processes and adoption of more efficient policies and procedures.
Topics include: forecasting and strategies — prices availability, external/internal supplier relationships, computerisation and communications, environmental issues, government purchasing.

TS711  Introduction to Microcomputer Applications A

TS712  Introduction to Microcomputer Applications B
Prerequisites: TS711.
Definition of “database” : database applications (general records, inventories, mailing lists, relating files, etc); database products. Using databases. Fundamentals of accounting packages (database, standalone, menu-driven, industry-based, etc), and accounting package applications (general ledger, payroll, accounts payable and received, etc). Using accounting packages.

TS713  Keyboarding
Parts and function of the keyboard and monitor. Ergonomics, posture and other health and safety issues. Touch typing techniques. Keyboard skills practice (drill).

TS714  Accounting Concepts

TS715  Programming Concepts A
Definition of software. Categorisation of software types. The stored program concept. Definition of "algorithm". Program constructs. Algorithm design and description, use of flow charts to design programs using the three key structural features, definition of pseudo-code in algorithm design. Programming in a 3GL. Sample programs involving sequence, selection, iteration and interactive terminal input, provision of test data for debugging.

TS716  Programming Concepts B
Prerequisite: TS715.
Programming languages and translation. Time, space and accuracy concepts. The software lifecycle, problem analysis, algorithm design, coding, testing and debugging, documentation, maintenance, illustration of stages using simple programming examples. Programming in a 3GL.

TS717  Programming Techniques A
Prerequisite: TS716.
Program tools and techniques. NS diagrams and IPO charts. Program documentation. Program debugging and test data design/documentation. Programming in structured 3GL (e.g. Pascal).

TS718  Programming Techniques B
Prerequisite: TS717.
Modular and top-down program design. Program design aids and algorithms. Maintenance programming. Programming in a structured 3GL.

TS719  Cobol Programming A
Prerequisite: TS716.

TS720  Cobol Programming B
Prerequisite: TS719.

TS721  Communication Skills A, B, C and D
2/3/4
Identify the factors involved in the process of communication and adapt to changes in that process caused by social and technological change and multiculturalism. Discuss language as the basis for thought and communication, while appreciating the non-verbal component in all communication. Identify personal motivations, needs and purposes of other participants in particular communication situations and within a multicultural community. Think logically in order to become more effective in decision making, problem solving and time management. Use written and spoken language with precision and purpose. Comprehend accurately when reading and listening. Select appropriate communication and interpersonal skills to suit particular situations. Work co-operatively within groups of various sizes, structures and purposes.

TS725  Introduction to Sales and Marketing

TS726  Computer Sales and Marketing

TS727  Computer Architecture

TS728  Introduction to Peripheral Devices
Prerequisite: TS727.

TS729  Using a Microcomputer
System commands, batch files, editors, back-up and restoration of disks.
TS730 Using a Minicomputer

TS731 Operating Systems
Prerequisites: TS728, TS729, TS730.
Evolution of operating systems. Categories of operating systems. Common commercial operating systems. Structure and function of an operating system: job control language; queues; memory management.

TS732 Introduction to Systems Analysis & Design
Prerequisites: TS718, TS740.

TS733 Introduction to Data Communications & Networks
Prerequisite: TS728.
Definition of relevant terms: uses of data communication systems; transmission media and methods; hardware components; network topologies; modems; purpose and use of protocols.

TS734 Microcomputer Hardware & Software Selection
Establishment of user needs. Collection of product information; product comparison and evaluation; product recommendation reports. Case studies and practical exercises.

TS737 Project Management Techniques
Prerequisite: TS732.
Project management objectives: project management structures; project control; project documentation. The role of management. Tools and techniques. Team work. Case studies.

TS739 Business Organisations

TS740 Business Information Processing
Prerequisite: TS739.
Business sub-systems: business information; decision support and management information systems; transaction processing.

TS741 Data Processing System Documentation Techniques
Prerequisite: TS740.
Data processing techniques in business organisations. IPO charts: system flowcharts, data flow diagrams and data dictionaries. Physical and logical description of a data processing system. Prerequisite: Business Information Processing.

TS742 Document Processing Software Packages
Prerequisite: TS/12, TS729.

TS743 Spreadsheet & Business Graphics
Spreadsheet macro facilities. Customised spreadsheets. Graph plotting facilities. Slideshows. Software installation and configuration.

TS744 Database Software Packages
Prerequisites: TS712, TS716, TS729.
Database fundamentals. Software installation and configuration. Advanced commands and utilities and multfile databases. Database design and documentation. Database programming.

TS745 Accounting Software Packages
Prerequisites: TS712, TS714, TS729.

TS751 Database Design
Computer files, the database approach; database management systems; hierarchical database model. Network database model; relational database model. Database design; data administration. Distributed databases.

TS752 Database Programming A
Prerequisite: TS718.
Use and explain the basic commands of a database language, and use the relevant editor. Create and modify database. Query databases. Managing databases.

TS753 Database Programming B
Prerequisites: TS732, TS751, TS752.
Design and construction of a database system. Interfacing with an application language.

TS754 Data Communications
Prerequisite: TS733.
Basic components and applications of a data communications system. Function of the seven layers of the OSI/ISO network architecture and of layered protocols in peer to peer interaction. Physical characteristics of transmission channel. Modern characteristics. Concept of multiplexing by frequency and time division, channel bandwidth and data rate limits. Considerations involved in connecting a serial printer via RS232C connectors. Error sources and their correction. Characteristics of Telecom services.

TS755/6 3GL Programming Option A and B
Prerequisite: TS718.
Language syntax. Programming exercises. Definition of "stack" and "queue". Description, implementation and analysis of algorithms for sequential search and binary search. Description, implementation and analysis of algorithms for selection sort, insertion sort, shell sort and quicksort. Definition of "linked list" and "binary tree".

TS757 4GL Programming Option
Prerequisites: TS718.

TS765 User Needs Analysis
Factors involved in specifying and evaluating the requirements for a system. Defining the requirements of the required system in a RFP. Defining the criteria for evaluating supplier response to a RFP.

TS766 Application Project C
Work within a framework administered by a manager/supervisor. Meet all formal obligations to a manager/supervisor. Provide regular progress reports to or attend regular meetings with a manager/supervisor. Consult with a manager/supervisor when project problems arise. Enter into and adhere to agreements with users/clients, and communicate with users/clients, in a manner befitting a professional analyst/microsystems consultant. Work effectively within a systems development team. Respect confidentiality, privacy, and individual and group sensitivities. Apply an appropriate System Development Methodology using specific techniques to develop a substantial microcomputer information system, in a team environment.

TS767 Drafting & Display Graphics
Prerequisites: TS712, TS729.
Fundamentals of CAD drafting and graphics packages. Using CAD and graphics packages. Software installation and configuration.

TS768 Microcomputer Development Tools
Types of software development tools. Evaluation criteria for measuring the benefits offered through the use of software development tools. Low, medium and high level development tools.

TS769 Multiuser Microcomputer Systems
Prerequisite: TS756.
Features on multiuser microcomputer operating systems. Installation of multiuser operating systems. Multiuser microcomputer system management.
TS770 Microcomputer Architecture & Assembly Programming
Prerequisite: TS727.
Address bus from CPU select memory or I/O which is accessed in read/write operations. No. of address possible = 2**n for n address lines. Memory mapped I/O. Program resides in memory in the form of machine code. Useful number systems and conversions. Binary integer arithmetic, Assembly language programming, Assembler. Function of program counter, status register, stack pointer, memory pointers, general purpose data registers, accumulators. Editor, Debugger program.

TS771 User Training Techniques
Prerequisite: TS721, TS722, TS723, TS724.

TS772 User Documentation
Prerequisite: TS771.

TS773 Microcomputer Systems Analysis & Design

TS774 Electronic Principles
Prerequisite: TS727.
Concepts of electricity, electrical quantities, series and parallel circuits, AC and DC voltage, analogue and digital circuits.

TS775 Advanced Local Area Networks
Prerequisite: TS733.
Definition and characteristics of LAN, types of LAN topologies and media, networking operations, use of IEEE standards, practical applications, management issues, trouble-shooting strategies.

TS776 Microcomputer Systems
Prerequisites: TS770, TS774.
Integrated circuit technology, intel bus architecture and memory map, motherboard functions, interrupts hard disk drives and controllers, microcomputer hardware and software diagnostics tools.

TS791 Introduction to Computers
Topics include: the changing computer environment, computer personnel, hardware and software components of a computer system, data coding systems, file and processing concepts, care and security of hardware and storage media, effects of computers on society, microcomputer concepts and word processing programs for business.

TS792 Keyboarding
Topics include: parts and functions of a keyboard and monitor, ergonomics, touch typing techniques, accuracy and correction, keyboard practice. This subject is included to ensure that students understand the function of all the keys and can touch type at least 20 words/minute, 90% accuracy.

TS793 Using Systems Software
Topics include: using a personal computer, data communications and networks, using multi-user computer systems, documentation practices for systems management.

TS796 Business Information Systems
Topics include: business systems and their environment, business information, business sub-systems, transaction processing, concepts and advantages of data base systems, distributed data processing, selecting a microcomputer system.

TS797 Business Software Applications
Topics include: introduction to spreadsheet software, introduction to database software, transfer of files, software applications options (options include — accounting software, integrated package, desktop publishing, graphics, advanced use of a spreadsheet or data base).

TS800/ Practical Placement

TS801
The Practical Placement subject comprises two weeks of supervised work experience in a business organisation to give students an understanding of the work environment and provide practical experience consistent with theoretical course work. The placement of students in both first and second years is arranged by the Marketing and Administration Department.

TS864 Administrative Procedures 1
TS865 Administrative Procedures 2
These subjects are designed to give the potential office worker an insight into the various facets of the office and the systems by which the efficient flow of information is determined. Topics include: office environment, time management, telephone technique, telephone equipment and its operation, role of the receptionist, reprographics, filing storage systems, resource information management, organizing meetings and conferences and travel, mail, financial and records management.

TS872 Document Production 1
TS873 Document Production 2
These subjects are designed to develop keyboarding skills to achieve a minimum speed of 45 words per minute with 96% accuracy on a 5 minute timing, proofreading and editing skills using both a typewriter and word processor. Topics covered are Document Production, Key-boarding Posture, Document Creation and Editing Techniques, Document Formatting, Displaying Text, Displaying Numbers, Multiple Page Documents, Business Letters, Business Memos, Personal Business Letters, Letter and Punctuation Styles, Manuscripts, Advanced Tabulation, Financial Documents, Audio Dictation and Resume Production.

TS874 Office Administration 1
TS875 Office Administration 2
These subjects give students an understanding of the skills and knowledge necessary to identify the various facets of the office systems and sub-systems which determine an efficient information flow, the interpersonal relationships necessary for co-ordinated work units and office efficiency.

TS880 Typewriting Production 1
TS881 Typewriting Production 2
These subjects are designed to enable students to develop a standard of skills which will enable them to touch type at 40 words per minute with 96% accuracy. Topics include proofreading and error correction techniques, production tasks, display, manuscripts, letters, memoranda, tabulations, forms and typewriter maintenance.

TS883 Word Processing 1
TS884 Word Processing 2
These subjects include an introduction to word processing and its role in the office today. Students will learn word processing terminology, creation and editing of documents, search and replacement of text and text layout.

TS895 Introduction to Computing 1
TS896 Introduction to Computing 2
These subjects are designed to enable students to identify the need for information in the office and how a computer system inputs, processes, stores and outputs information. Topics include good file management techniques, data protection, care of materials and equipment, security, privacy and ethics of computer usage, communication networks and their uses, and computer packages.
TS897  Document Production 3
TS898  Document Production 4
These subjects further develop keyboarding, proofreading, editing, organisational and English language skills in order that students can, using both a typewriter and word processor efficiently produce commonly used business documents from handwritten, edited, rough draft and audio dictation at a production rate of 30 words per minute. Document Production 4 aims to develop keyboarding skills to achieve a speed of 55 words per minute with 98% accuracy on a 5 minute timing. This subject further develops the skills from unit 3 so that students can, using a typewriter, word processor or desk top publishing package, efficiently produce business documents from handwritten, edited rough draft and audio dictation at a production rate of 35 words per minute.

TS899  Office Supervision 1
TS900  Office Supervision 2
Office Administration 3 and 4 enhance the skills and knowledge learnt in Office Administration 1 and 2 to enable students to develop an awareness of the procedures, policies and techniques necessary for the efficient supervision and training of staff.

TS904  Page Layout Software
TS905  Electronic Publishing 1
These units introduce the concepts involved in desktop publishing, combining the use of word processing, page composition and graphics software to create newsletters, magazines and other publications.

TS906  Electronic Publishing 2
TS907  Electronic Publishing 3
Prerequisite: Electronic Publishing 1.
These units further develop “hands on” desktop publishing skills to assist students in producing professional publications. Topics include the operation of scanning hardware, drawing/paint software, design skills, the evaluation of desktop publishing systems, and producing a style manual.
| Academic staff | 52 |
| Centre for Engineering Technology | 52 |
| National Scientific Instrumentation Training Centre | 53 |

**Courses offered** 54

**Electrical and Electronics Technology**

- **Department** 54
- **Associate Diploma courses**
  - Associate Diploma of Engineering (Electronics) 54
- **Advanced Certificate courses**
  - Advanced Certificate in Industrial Electronics 55
- **Certificate courses**
  - Basic Electronics 55
- **Apprenticeship courses** 56
- **Electrical Trades** 65
- **Subject Details** 57

**Industrial Sciences Department** 59

- **Associate Diploma courses**
  - Laboratory Technology 59
  - Materials Technology 60
  - Fire Technology 61
  - Computing and Applied Physics 62

**Advanced Certificate courses** 62
- Laboratory Technology 62
- Materials Technology 63
- Fire Technology 63

**Bridging and Preparatory courses** 64
- Foundation Year 64
- Bridging Technology 64
- New Opportunities for Women 64

**Subject Details** 65

**Mechanical and Manufacturing Technology**

- **Department** 77
- **Associate Diploma courses**
  - Mechanical Engineering 78
  - Manufacturing Engineering 78
  - Quality Technology 78
  - Mechanical Design Drafting 78
- **Advanced Certificate courses**
  - Mechanical Engineering 79
  - Manufacturing Engineering 79
  - Quality Technology 79
- **Apprenticeship courses**
  - Fabrication 80
  - Mechanical (Fitting and Machining) 80
- **Post-apprenticeship courses**
  - Toolmaking 81
- **Certificate courses**
  - Swinburne Certificate of Quality Control 79
- **Welding courses**
  - Basic Welding Certificate 81
  - Intermediate Welding Certificate 82
  - Proficiency Welding Certificate 82
  - Electric Welding 82
- **Hobby courses**
  - Engineering Workshop Practice 82
  - Hobby Welding 82

**Subject Details** 82

**General Information** 1

**Swinburne TAFE Division Information** 19
Engineering and Industrial Science Division

Head (Acting)
R. Fallu, BSc, DipEd(Monash)

Secretary
H. Skee, 819 8159

Divisional Administrator
J. Jones, BA(Hons)(Melb)

Electrical and Electronics Technology Department

Head
A.G. Hampton, BEd, TechCert(Electronics)

Academic staff
I. Adams, SECV A Grade Licence
D.J. Bayliss, BEng(Communications Eng), GradDipEng(Digital Electronics), AMIEEE
P. Brewin, HI Cert(Electrical & Electronics), CertEd, MIEEETE
M. Cadillic, CIT(Electronics), DipIT
G. Clisby, SEC A Grade Licence, HighTechCert(Civil Eng)
TechCert(Motor Control)
R.M. Edwards, SEC A Grade Licence, DipIT, TechCert(Electronics)
B.T. Flanagan, BEd, TechCert(Electronics), SEC A Grade Licence
A. Hackett, BE(Elec), Dip Ed
B. Johnston, SEC A Grade Licence, DipIT
T. McLean, SEC A Grade Licence, DipIT, TechCert(Elec. Motor Control)
D.V. McMahon, SEC A Grade Licence, DipIT
I. Simmonds, SEC A Grade Licence, TechCert(Electronics), AssDipSocWEL
G.H. Sutherland, DipEE, DipEd
T. Woolcock, BE(Elec), DipEd

Secretary
J. Rothacker, 819 8875

Industrial Sciences Department

Head (Acting)
J. Cashion, BSc, DipEd, DipCompSc, GradAIP

Academic staff
L. Alao, MEng(VUT), GradDip(Digital Control)(VUT), BAppSc(AppPhysics)(RMIT)
P. Atkins, BSc, DipEd(Melb)
J. Cheung, VSC, DipEd
P. DeFelice, BSc, DipEd
P. Dunne, BSc(Hons), DipEd(Melb)
G. Farrell, BAppSci, DipEd
V. Farrell, BAppSci, DipEd, GradDipCompStuds
K. Fisher, TTechnC(Tech. Teachers College)
J. Gibson, BSc, DipEd
C. Grayson, BSc(Hons), DipEd
A. Haemmerle, BEng(Chem), DipEd
C. Iser, BA, DipEd(Melb)
J. Johnston, BSc(Ed)
G. Lewison, BA, TSTC
B. Lim, BAppSc, BEd
G.A. Lisowski, PhD, DipEd
H. Lopaczuk, DipElecEng, DipEd, SMIREE
K. McDonald
R. Marar, PhD, MSc, MEd, MACE
V. Nararong, BSc(Hons), DipEd
S. Ng, BSc(Hons), CertEd, PhD, MinTrain, CPhys
Y. Ng, BSc(Hons), DipEd
C. O'Connor, BSc, DipEd, GradDipSpSc
A. Pearse, BSc, TSTC
J. Schultze, DipAppChem, DipEd
N. Speel, BAppSc, DipEd, GradDipRobotics
G. Tonkin, ARMIT, TTTC
B. Tyrer, BSc, DipEd, GradDipCompStuds
G. Ulehla, BSc(Ed)(Melb), GradDipCompSc(LaT)

Administrative staff
K. Quayle
M. Tence, 819 8378
A. Gilham

Technical staff
R. Hilton, BSc(Caufield), MRACI
I. Masny, BAppSc(Biotech)(RMIT)
J. Papp, CAppSc(SCT)
L. Quaremba, AssDip(Lab Tech)(SCT)
J. Wiegard, DipBiochem, GradDipAppSc(SIT)

Mechanical and Manufacturing Technology Department

Head
J. Brennan, MEngSc, BEng(Mech), DipEng(Mech), DipEng(NavalArch), DipEd, CEngMIMechE

Academic staff
D. Angoorly, BSc(Eng), MIEAust, MIME(UK)
L. Banner, DipMechEng, MA, DipEd, MIEAust
M. Baum, TTIC
I. Black, AssDipMechEng, Cert(Toolmaking), CertMechDes
K. Deed, BEd, DipIT, TTIC, Jig&ToolTechCert
G. Dzioia, TTIC, DipIT
A.O. Edgell, REng, MIPlantEng, MIManEng, CEd
W. Houlston, DipIT, TTIC
N. Lawson, CertMechEng, TTIC
F.S. McLucas, BA, DipGenStud, TTIC
S. Meaker, AssDipManEng, TechCertProdEng
K. O'Neil, BEd, DipIT, TTIC, COTMechEng
C. Powell, BSc(Mech), DipEd
F. Sandstrom, TTIC, DipIT
S.D. Scott-Branagan, TTIC
R.S. Somerville, DipIT, TTIC
A.J. Stapley, PhD, DipEd
B. Stevens, DipMechEng, DipEd, MIEAust
P. Tomat, BEd, Cert(Toolmaking), CertPressToolmaking, DipIT
P. Yendle
J. Young, DipMechEng, DipEd, CEng, MIEAust
G. Zouev, COTMechEng, DipT(T&FE)

Secretary
B. Malone, 819 8504

Centre for Engineering Technology: Authorised AutoCAD Training Centre

Manager
L.J. McLaughlan, DipIT, TTIC, Cert(Jig and Tool Draft), Cert(Toolmaking)

Academic staff
G. Oliver, DipIT, COT(Mech), Cert(Toolmaking), F&M Trade
H. Ramaekers, BEd, DipIT, Cert(MechDraft), Cert(Fit and Mech)
P. Stroude, DipIT, TechCert(Radio)

Technical staff
S. Fisher, F&M Trade
R. Smillie, AssDip(MechDesDraft), F&M Trade

Secretary
A. Hotton, CertBusStud(SCIT), 819 8079
National Scientific Instrumentation Training Centre

Manager
J. Hall, BSc(Hons), PhD

Deputy Manager
J. Flowers, BBSc, DipEd

Staff
L. Kyritzis, BSc(Hons), PhD

Centre for Engineering Technology

Authorised AutoCAD Training Centre

The Swinburne Centre for Engineering Technology is a high technology training and development centre. Its aim is to integrate the specialist disciplines within Swinburne, specialising in developing and conducting short courses in AutoCAD and CAD/CAM.

The Centre offers onsite training, consultancy and special prototype machining projects and development and sales of CAMPAC CAM software to industry and educational institutions.

Services to industry involves:
- Training
- Consultative interaction
- Research and development projects
- Prototype development.

Current offerings in short courses:

- **CAD Skills**
  An introductory course designed to upgrade people’s skills to operate a Computer Aided Drafting software package to a level of proficiency.

- **CAD Skills 2**
  A course designed for participants wishing to continue on from CAD Skills 1 and for participants who have a general knowledge of AutoCAD and require additional training.

- **Advanced CAD**
  Specialises in 3D drafting and Solid Modelling.

- **CAD Programming**
  A course designed to train personnel in CAD Skills experience, how to program using AutoLISP, menu customisation and script programming.

- **Machining from CAD**
  AutoCAD and CNC principles using CAMPAC. CAMPAC is a powerful software developed, written and sold by Swinburne and used to process CAD drawing information into machine tool language.

- **CNC**
  Basic and Advanced manual CNC programming including conversational programming.

- **Animation**
  This program is used to produce moving displays on the computer screen for high quality presentation work for sales, meetings, etc.

- **Robotics**
  The use and safety of robots.

- **Technical Publications**
  Using AutoCAD and Pagemaker for personnel who must produce technical pamphlets, brochures, etc.

CAMPAC

CAMPAC is a proven CAD/CAM software package used in Australian manufacturing industries for producing components from AutoCAD drawings.

It is a CAM package which combines cutter path generation, program editing and communications all accessed from inside AutoCAD. The package was designed at the Centre to allow the operator to follow a sequence of simple, logical steps, to quickly produce the CNC machine driving instructions.

CAMPAC is a commercially available package.

National Scientific Instrumentation Training Centre (NSITC)

The NSITC conducts a broad range of intensive, industry-oriented, practical training courses in modern scientific techniques. Courses range from one to four days in duration, and include:
- Gas Chromatography
- Capillary Gas Chromatography
- High Performance Liquid Chromatography
- Flame AA Spectrophotometry
- Graphite Furnace AA Spectrophotometry
- Potentiometry and Ion Selective Electrodes
- Fourier Transform Infrared Spectroscopy
- Nuclear Magnetic Resonance Spectroscopy
- Thermal Analysis
- Interfacing Computers to Scientific Instrumentation
- Advanced Interfacing Techniques
- Expert Systems for Scientists and Technologists
- Electrophoresis
- Techniques in Light Microscopy
- AA and ISE Analysis of Water and Effluents
- Instrumental Techniques in Food Analysis
- Fermentation
- Electrodes — Maintenance & Troubleshooting
- Introduction to Gas Analysis
- Introduction to GC/Mass Spectrometry
- GC — Maintenance and Troubleshooting
- HPLC — Maintenance and Troubleshooting
- Maintenance and Troubleshooting in Atomic Absorption Spectrophotometry
Courses offered

**Electrical and Electronics Technology Department**

**Associate Diploma courses**
3500ECF Associate Diploma of Engineering (Electronics)

**Advanced Certificate courses**
3300ECW Advanced Certificate in Industrial Electronics

**Certificate courses**
3222ECE Certificate in Basic Electronics

**Apprenticeship courses**
3212CY Certificate in Electrical and Electronics
3212ERA/E Certificate in Engineering (Electrical/Electronics)

**Industrial Sciences Department**

**Associate Diploma courses**
3500ABB Associate Diploma of Applied Science (Laboratory Technology)
3500ACB Associate Diploma of Applied Science (Materials Technology)
3500AHC Associate Diploma of Applied Science (Fire Technology)
3500AYD Associate Diploma of Applied Science (Computing and Applied Physics)

**Advanced Certificate courses**
3300ABB Advanced Certificate in Laboratory Technology
3300ACE Advanced Certificate in Materials Technology
3300ACG Advanced Certificate in Fire Technology

**Bridging and Preparatory courses**
2200AZD Foundation Year
2200AZY Bridging Technology
2200NOW New Opportunities for Women

**Mechanical and Manufacturing Technology Department**

**Associate Diploma courses**
3500EEA Associate Diploma of Engineering (Mechanical Engineering)
3500EEB Associate Diploma of Engineering (Manufacturing Engineering)
—Quality Technology stream
3500EEC Associate Diploma of Engineering (Mechanical Design Drafting)

**Advanced Certificate courses**
3300EEM Advanced Certificate in Mechanical Engineering
3300EEN Advanced Certificate in Manufacturing Engineering
—Quality Technology stream

**Certificate courses**
Swinburne Certificate of Quality Control

**Apprenticeship courses**
3212ERA/F Certificate in Engineering (Fabrication)
3212ERA/M Certificate in Engineering (Mechanical)

**Post-apprenticeship courses**
4200EFG Post-apprenticeship course in Toolmaking (Prestools)

**Welding courses**
3222EPA Basic Welding Certificate
4200EPA Intermediate Welding Certificate
4200EPB Proficiency Welding Certificate
Electric Welding

**Hobby courses**
Engineering Workshop Practice
Hobby Welding

Course details

**Electrical and Electronics Technology Department**

**3500ECB Associate Diploma of Engineering (Electronics)**

Associate Diploma courses are designed to train engineering associates who are the immediate support staff for professional engineers in industry.

The course consists of a number of compulsory core subjects and a number of elective subjects to suit a student's needs or interests. Each subject is allocated a value in credit hours.

The elective subjects cover specialist areas such as Digital Electronics, Microprocessors, and Communications.

To complete the Associate Diploma course successfully the candidate must complete all core subjects and elective subjects as required.

The students could be involved in any of the following areas in their employment: design development, installation, commissioning, operations or maintenance of plant or equipment associated with the electronics industry.

**Membership of associations**

Students completing the course are academically qualified for admission as graduate Engineering Associates of the Institution of Engineers, Australia.

**Full-time study**

This course requires two years full-time attendance, of approximately 21 hours per week.

**Part-time study**

The courses extend over a minimum of four years part-time day release or evening attendance.

**Entry requirements**

Successful completion of a VCE incorporating the following program.

**VCE Level 3 & 4** Mathematics —
— Space and Number
— Space and Number extensions
— Change and Approximation or Change and Approximation extensions

In addition one of the following at Level 1 & 2 or 3 & 4

Physics
Science
Information Technology
Information Systems
Systems and Technology
Technology Design and Development

**Alternative entry requirements**

(a) Bridging/supplementary study programs

Students who do not meet the requirements of section 6.9.1 above or equivalent would be expected to complete a bridging and/or supplementary study program which would ensure an adequate preparation to achieve the educational objectives of the course.

The provider shall be responsible for determining the bridging/supplementary study program which would normally take one year of full-time study.

Recommended bridging/supplementary study resources include:

Mathematics 1E — 72 Nominal hours
Mathematics 2E — 72 Nominal hours
Electrical/Electronic Draft — 72 Nominal hours
Communication Skills Core — 54 Nominal hours

(b) Mature age entry

Mature age students who do not satisfy the normal entry requirements will be admitted to the course on the basis of a bridging program of content and duration determined by the provider.
In cases of mature age entry, procedures relating to the recognition of prior learning which takes into account previous formal and/or informal learning experiences will be applied by the provider where applicable.

(c) Course entry with advanced standing
Students who qualify for course entry with advanced standing become eligible for credit transfer.

Course structure
The course consists of a minimum of 1404 credit hours of study. The diploma is awarded after completion of the academic studies.

Semester 1 Core subjects:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBE1</td>
<td>Electrical Fundamentals</td>
<td>90</td>
</tr>
<tr>
<td>CBE2</td>
<td>Analogue Fundamentals</td>
<td>72</td>
</tr>
<tr>
<td>CBE3</td>
<td>Analogue Applications</td>
<td>72</td>
</tr>
<tr>
<td>CBE4</td>
<td>Digital Electronics</td>
<td>90</td>
</tr>
<tr>
<td>CBE5.2</td>
<td>Wiring and Soldering Techniques</td>
<td>90</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>360</td>
</tr>
</tbody>
</table>

Semester 2 Core subjects

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE/00</td>
<td>Microprocessor Systems</td>
<td>72</td>
</tr>
<tr>
<td>TE/01</td>
<td>Electronics Software Tools</td>
<td>72</td>
</tr>
<tr>
<td>TE/03</td>
<td>Linear Electronics 1</td>
<td>72</td>
</tr>
<tr>
<td>TE/04</td>
<td>Circuit Analysis 1</td>
<td>36</td>
</tr>
<tr>
<td>TE/05</td>
<td>Digital Design 1</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>324</td>
</tr>
</tbody>
</table>

Semester 3 Core subjects

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE/06</td>
<td>Microprocessor Interfacing</td>
<td>72</td>
</tr>
<tr>
<td>TE/07</td>
<td>Communications 1</td>
<td>72</td>
</tr>
<tr>
<td>TE/08</td>
<td>Design Projects</td>
<td>36</td>
</tr>
<tr>
<td>TE/09</td>
<td>Electronic Instrumentation</td>
<td>72</td>
</tr>
<tr>
<td>TE/10</td>
<td>Quality Control and Management</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>360</td>
</tr>
</tbody>
</table>

Semester 4 Core subjects

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE/11</td>
<td>Microprocessor Control</td>
<td>72</td>
</tr>
<tr>
<td>TE/12</td>
<td>Electronics 4L</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>144</td>
</tr>
</tbody>
</table>

Semester 4 — Elective subjects

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE/13</td>
<td>Digital Design 2</td>
<td>72</td>
</tr>
<tr>
<td>TE/14</td>
<td>Communications 2</td>
<td>72</td>
</tr>
<tr>
<td>TE/15</td>
<td>Circuit Analysis 2</td>
<td>72</td>
</tr>
<tr>
<td>TE/16</td>
<td>Data Communications 1</td>
<td>72</td>
</tr>
<tr>
<td>TE/17</td>
<td>Maths 3E</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>216</td>
</tr>
</tbody>
</table>

ONE subject of 72 hours equivalent from any other Associate Diploma may be substituted for those above.

3300ECB Advanced Certificate in Industrial Electronics

Aims
The aim of this course is to provide vocational training for persons seeking a career in the electrical and industries and to provide the required subjects to enable participants to articulate into and from other courses.

Entry level
Completion of VCE Year 11, or equivalent studies with passes in Mathematics, English, and at least one subject in Technology Studies. Advanced entry for completion of Electrical Trade or Technician Studies.

Course structure
An Advanced Certificate in Industrial Electronics will be issued to any student who successfully completes an approved program of not less than the following:

All core subjects plus 288 hours of elective subjects. A total of approximately 1200 hours of study is required to complete the Advanced Certificate in Industrial Electronics.

3222EC Certificate in Basic Electronics (CBE)

A basic vocational program incorporating the common core elements of Associate Diploma of Engineering — Electronics, and the Advanced Certificate in Electrical Technology.

The program is designed to develop in students the range of skills and knowledge commonly required by all personnel in the various occupational classifications existing throughout the electronics and associated industries.

Entry level
There are three types of entry:

(a) Satisfactory completion of a Year 11 course, including passes in English, Mathematics and Science, or an approved equivalent is the normal prerequisite.

(b) Completion of an electrical trade apprenticeship which provides exemption from modules CBE 1.1 D.C. Fundamentals, CBE 1.2 A.C. Fundamentals, CBE 1.3 Test Equipment and CBE 5.1 Electronic Assembly Techniques.

(c) An applicant whose maturity and experience indicates an ability to successfully undertake the course will be considered.
Course structure
The Certificate in Basic Electronics consists of 14 modules. A Certificate in Basic Electronics (CBE) will be awarded, upon application, to any student who successfully completes all the CBE modules to the specified performance level.

This basic vocational program may be undertaken as:
(a) A terminal program in its own right, especially for persons working in equipment servicing who want to gain an understanding of electronics.
(b) Forms a part of the core studies of the Associate Diploma of Engineering (Electronics).
(c) The core of the Advanced Certificate in Industrial Electronics.

The program is designed to provide students with the core skills and knowledge required at all levels in the electronics and associated industries.

Modules

<table>
<thead>
<tr>
<th>Modules</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBE1 Electrical Fundamentals</td>
<td>36</td>
</tr>
<tr>
<td>CBE1.1 DC Fundamentals</td>
<td>36</td>
</tr>
<tr>
<td>CBE1.2 AC Fundamentals</td>
<td>36</td>
</tr>
<tr>
<td>CBE1.3 Test Equipment CBE</td>
<td>18</td>
</tr>
<tr>
<td>CBE2 Analog Fundamentals</td>
<td>36</td>
</tr>
<tr>
<td>CBE2.1 Power Supply Fundamentals</td>
<td>36</td>
</tr>
<tr>
<td>CBE2.2 Amplifier Fundamentals</td>
<td>36</td>
</tr>
<tr>
<td>CBE3 Analog Applications</td>
<td>18</td>
</tr>
<tr>
<td>CBE3.1 Operational Amplifiers CBE</td>
<td>18</td>
</tr>
<tr>
<td>CBE3.2 Oscillators CBE</td>
<td>18</td>
</tr>
<tr>
<td>CBE3.3 Power Control Devices CBE</td>
<td>18</td>
</tr>
<tr>
<td>CBE4 Digital Electronics</td>
<td>18</td>
</tr>
<tr>
<td>CBE4.1 Digital Fundamentals</td>
<td>36</td>
</tr>
<tr>
<td>CBE4.2 Digital Electronics</td>
<td>18</td>
</tr>
<tr>
<td>CBE4.3 Introduction to Microprocessors</td>
<td>36</td>
</tr>
<tr>
<td>CBE5 Electronic Workshop Practices</td>
<td>36</td>
</tr>
<tr>
<td>CBE5.1 Electronic Assembly Techniques</td>
<td>36</td>
</tr>
<tr>
<td>CBE5.2 Wiring and Soldering Techniques</td>
<td>36</td>
</tr>
</tbody>
</table>

Additional studies are required in addition to the CBE for entry into the Advanced Certificate or the Associate Diploma (Electronics) these are TE145 Mathematics IE, TH133 Communication Skills, TE141 Electronic Drafting Principles and TE126 Electronic Circuits.

Apprenticeship Courses

3212ECY Certificate in Electrical and Electronics

3212ERA/E Certificate in Engineering Electrical & Electronics Stream

The apprenticeship course of three years duration is designed to meet the requirements of the State Electricity Commission of Victoria and the Technical and Further Education (TAFE) Board of Victoria.

The course consists of 960 hours of study. Students attend college 1 day per week for eight hours, a total of 320 hours per year.

The course provides the necessary training to prepare an apprentice to pass electrical trade theory and practice at a level approved by the State Electricity Commission of Victoria for issue of the unrestricted licence class 'A' or restricted licence class 'B'.

Note:
1. Prerequisite: student must be employed as an apprentice.
2. Only persons licensed by the State Electricity Commission of Victoria may carry out electrical wiring work.

Course structure
Students must complete the equivalent of 24 x 40 hour modules. Upon completion of the modules, students must undertake and pass the licensing examinations in order to be issued with an SEC Electrical Mechanics Licence.

Stage 1
Semester 1
NEB08 Electrical Fundamentals
NEC02* Workplace Safety
NEH4 Cords, Cables and Applications
NEK2* Test Equipment
NEK1 Electrical Drawing Interpretation and Connection

SEMESTER 2
NEC01 Workshop Practices
NEE01 DC Principles
NEE125 Electrical Installations - Cables and Protection
NEE128 Domestic Installation Practices

Stage 2
Semester 1
NEE03 AC Principles
NEE09 Single Phase and Three Phase Circuits
NEE22* Domestic Installations
NEE28* Non-Domestic Installations 1
NEE32 Circuit Development 1

SEMESTER 2
NEE10 AC Machines
NEE14* DC Machines
NEE30 Electrical Motor Control and Protection
NEE52* Transformers
NEE129 Non-Domestic Practices 1

Stage 3
Semester 1
NEF04 Power Supply Principles
NEF06 Non-Domestic Installations 2
NEF12* Multiple Domestic Installations
NEF130* Programmable Controllers — Basic

Tor 1 full-module elective or equivalent

SEMESTER 2
4 full-module electives or equivalent
Electives may be chosen from:
NEF12 Synchronous Machines
NEF24 Switchboard Design and Construction
NEF32 Circuit Development 2
NEF49 Programmable Controllers 1
NEF53 Illumination 1

* Denotes ½ module (20 hours).

External examinations
(State Training Board)

Licensing exam: theory and practical components

Name
Licensing Exam Theory (LET)
Licensing Exam Practical (LEP)

These exams are not stand alone and together form the licensing exam.

Exemptions
NO exemptions are possible for either component of the licensing examination.

Marking and grades of licenses
The grade of licence issued to the candidate will depend on the mark obtained:
Below 75% Eligible for restricted licence class 'B'
Above 74% Eligible for unrestricted licence class 'A'

As the theory and practical components of the examination are not independent components, individual marks will not be issued from these examinations. Eligibility for the appropriate grade of licence will be issued.

56
Subject Details
This section contains a brief description of subjects offered by the Department of Electrical and Electronics Technology. The subjects are listed in alpha-numeric order of subject codes.

CBE01 Electrical Fundamentals
Conductors, insulators, serial and parallel circuits inductance, capacitance, AC circuits, reactance impedance, resonance.

CBE02/03 Analogue Fundamentals/Analogue Applications
Diode operation, bipolar device theory, field effect theory, amplifier basics, timing and control devices, transducers.

CBE04 Digital Electronics
Logic levels, digital codes, basic gates, digital devices and circuits, microprocessor systems.

NBB08 Electrical Fundamentals
Prerequisites: Nil.
Electrical safety — overview of electrical/electronics industries, electrical components, Ohm's law, series and parallel circuit connections and calculations.

NEC01 Workshop Practices
Prerequisites: Nil.
Application of hand and power tools, mechanical fitting skills, fabrication techniques, welding and thermal cutting, electrostatics.

NEC02 Workplace Safety
Prerequisites: Nil.
Occupational Health and Safety legal requirements, personal safety requirements, hazard identification, electrical safety, first aid and C.P.R.

NE01 Direct Current Principles
Prerequisites: NBB08.

NE03 Alternating Current Principles
Prerequisites: NE02 and NE01.

NE04 Power Supply Principles
Prerequisites: NE03, NE20.
Construction, operation and testing of PN junction diodes. Operation of single and three phase, half and full wave rectifiers.

NE09 Single and Three Phase Circuits
Prerequisites: NE03.
Analysis of single and three phase circuits including: true, reactive and apparent power, power factor and power factor correction.

NE10 AC Machines
Prerequisites: NE09.
Principles of operation of single and three phase AC motors. Connection and fault finding of AC motors.

NE11 DC Machines
Prerequisites: NE01.
Types of DC machines, theory of operation, characteristics and starting requirements.

NE12 Synchronous Machines
Prerequisites: NE09.
Construction and operation of single and three phase synchronous machines.

NE14 Cords, Cables and Applications
Prerequisites: NBB08, NEC02.
Isolation, testing and tagging procedures. Colour coding for cords and cables, assembly and testing of a single phase extension lead.

NE20 Test Equipment
Prerequisites: NBB08.
Selection, operation and use of electrical and electronic test equipment.

NE22 Domestic Installations
Prerequisites: NE125.
Use of SAA3000/SAA3008 to:
Determine maximum demand of single and polyphase domestic installations. Select appropriate cable sizes. Determine switchboard requirements. Determine requirements for special situations.

NE23 Non Domestic Installations 1
Prerequisites: NE125.
Use of AS3000 and/or AS3008 to:
— determine maximum demand of non-domestic installations
— select optimum cable size, based on circuit loading and voltage drop
— state requirements (including local authorities) for metering and earthing.

NE24 Switchboard Design and Construction
Prerequisites: NE09.
Design and construction of switchboards, including identification and description of cables, connections, meters, protective devices and materials to standards set by SAA3000 and local authorities.

NE30 Electric Motor Control & Protection
Prerequisites: NE10, NE11
Motor starting control, SA3000 and local authority requirements for starting of large electric motors.
Operation and connection of various types of motor starters including protective devices.

NE31 Electrical Drawing Interpretation and Connection
Prerequisites: NBB12, NE01

NE32 Circuit Development 1
Prerequisites: NE31
Conversion of wiring diagrams into ladder diagrams, design and connect basic control circuits, using appropriate control equipment, fault finding techniques.

NE33 Circuit Development 2
Prerequisites: NE31
Designing, installing and fault finding of advanced control circuits. Including programmable controllers and microcontroller design to develop control circuits.

NE49 Programmable Controllers 1
Prerequisites: NE32
Interpretation of Australian Standards governing safe working when using P.C.s. Relationships between control system, including the drawing of a wiring diagram for an I/O rack.

NE52 Transformers
Prerequisites: NE09
Construction, operation, characteristics and cooling of transformers, testing and connection of transformers.

NE53 Illumination
Prerequisites: NE52
Basic concepts of illumination, terminology, lamp types and auxiliary control, lamp identification.

NE106 Non Domestic Installations 2
Prerequisites: NE23
Use of AS3000 and/or AS3008 to determine maximum demand of large non-domestic installation. To select optimum cable sizes with regard to voltage drop and circuit loading. State local requirements for switchboards, metering and earthing. Layout switchboard panels.
NE125  Electrical Installation — Cable & Protection
Prerequisites: NE14
Correct use of SAA (AS3000) Wiring Rules Book. Recognition of and correctly name, wiring accessories, fixing devices and explosive power tools; as in installation practices.
Use of AS3000 to:
— correctly carry out circuit protection, testing and earthing of electrical installations.

NE127  Multiple Domestic Installations
Prerequisites: NE125
Use of AS3000 and/or AS3008 to determine the maximum demand of multiple domestic installations. Select optimum cable size with regard to circuit loading and voltage drop. State (including local) requirements for switchboards, metering and earthing.

NE128  Domestic Installation Practices
Prerequisites: NE22
Practical wiring exercises including, lighting and power circuits, hot water units and cooking ranges; switchboard and consumers mains.

NE129  Non Domestic Installation Practices
Prerequisites: NE23
Installation of various cables in simulated non-domestic installations to AS3000 requirements, including TPS, TP1 and MIMS.

NE130  Programmable Controllers — Basic
Prerequisites: NBB08
State the major difference between the three basic types of electrical control, stating the advantages and disadvantages of each. Use a programmable controller, connect I/O racks, write and test simple programmes.

TEU08  Unit 8
Circuit and plan reading, synchronous motors, polyphase motors and starters, testing and fault finding of equipment and appliances, test instruments and electrical measurements, power in three phase circuits, motor control methods.

TEU09  Unit 9
Lighting principles, installation, control and devices. Single phase motors, programmable controllers, d.c. machines, solid state control, rectification.

TEU10  Unit 10
Assessment of prac components in units 8 and 9.

TE126  Electronic Circuits
This is a block diagram approach to electronic systems.

TE141  Electronic Drafting Principles 1H
Use of Australian Standards for introduction to mechanical drafting, electrical symbols, electrical installation diagram, printed circuit board design.

TE145  Mathematics 1E
Full-time: five hours per week (day) over one semester.
Part-time: two hours per week (day) over two semesters.
Prerequisite: completion of Year 11.
Assessment consists of two parts:
1. Topic tests, one on each topic, contributing to thirty per cent of the final mark.
2. One three-hour examination held in mid-June (or in November) contributing to seventy per cent of the final mark.
Mathematics 1E is a service subject for a number of certificate qualifications offered. Topics covered are: numbers and the number line, equations and formulae, relations and functions, trigonometry and applications, number systems, complex numbers, Boolean algebra.

References
Supplied notes.
A scientific calculator is also required.

TE150  Electrical Industrial Control 1T
Study of component parts, full and reduced voltage starting, control of a wound rotor motor, braking, control circuit reading and design, safety.

TE235  Computer Studies 1H
To enable the student to become competent in writing programs in BASIC or another high level language. To solve problems in the electrical/electronic areas and know how to use resident complex programs in the computer’s library.

TE245  Mathematics 2E
Five hours per week over one semester or two hours per week over two semesters, both day and evening.
Prerequisites: Mathematics 1E, or qualifications deemed equivalent by the Head of Department, Applied Science.
Assessment: coursework (thirty per cent) and one final examination (seventy per cent).
An extension of Mathematics 1E (TM123). The topics include complex numbers, limits, differentiation and applications, integration and applications, differential equations, Boolean algebra.

References
Supplied notes.

TE345  Mathematics 3E
Topics covered include — differentiation, MacLaurin series, complex numbers, hyperbolic functions, Boolean algebra, integration, Fourier analysis, computer programming — enabling the student who has completed Computer Studies 1 to apply the computer as a tool in the solution of the more complex problems associated with the other stage three electrical/electronic subjects.

TE650  Electronic Control Components
Resistors, diodes, capacitors, zener diodes, transistors, thyristors, test equipment, solid state contactors.

TE651  Electro-pneumatics
Principles, cylinders, valves, solenoids, timers, control circuit reading and design, safety.

TE652  Generating Plant Control
Alternators, excitation, metering, circuits, protection, paralleling, uninterruptable power supply systems.

TE653  Motor Speed Control
DC control, three-phase rotor control, pole changing, static frequency converter.

TE656  Crane and Conveyor Control
Cranes, cranes, crane types, directional control, speed control, braking, conveyor types, eddy current coupling, cascading, conveyor stopping devices, speed control, legal requirements, safety.

TE663  Programmable Controllers 1
Types of control, programmable controllers block diagram scanning. Programming including timers, counters, NC contracts, data manipulation, input device scheduling, report generation safety. A more detailed syllabus available on request.

TE664  Programmable Controllers 2
Design and editing of programs, control systems analysis, peripherals, analogue inputs and outputs, communications modes. A more detailed syllabus is available on request.

TE705  Microprocessor Interfacing
Basic system design principles, data entry and display systems, software development programmable LST devices, minimum system design and construction.

TE706  Electronics 3L
Audio power amplifiers, operational amplifier applications, power supplies, amplifier frequency response, negative feedback.

TE707  Communications 1
Amplitude, frequency and pulse modulation, parameters of multiplex carrier telephone systems, filters, cables, antenna, wave propagation, application of resonance to tuned amps.

TE708  Design Projects
Systems design considerations and philosophy, including design for safety margins, reliability and ergonomics.
**TE709  Electronic Instrumentation**
Multimeters, Q meters, spectrum analysers, noise and distortion meters, function generators, audio oscillators, frequency synthesizers, standards, oscilloscopes: single and dual channel, delayed timebase, storage techniques.

**TE710  Quality Control & Management**
This subject introduces students to the concept of quality in various aspects of their employment. Total Quality Control (TQC), excellence in personal presentation and communications skills are covered. Students are also introduced to the elements of project management and time management.

**TE711  Microprocessor Control**
Design principles, transducer interfacing, control circuitry design and development, major project.

**TE712  Electronics 4L**
Frequency response, large signal amplifiers, power supplies, noise and component selection, system considerations and fault finding.

**TE713  Digital Design 2**
This subject provides the students with advanced digital design skills. Design simulation using PC software packages and practical skills in PLD design are emphasised. An introduction to ASIC design and philosophy is included.

**TE714  Communications 2**
H.F communications systems, radio bearer systems, antenna systems, digital radio and line systems. Introduction to microwave communications or fibre optics technology.

**TE715  Circuit Analysis 2**
This subject is a continuation from Circuit Analysis 1.

**TE716  Data Communications 1**
This subject is based on a local area network. Topics include network topologies, synchronous and asynchronous, data transmission, modems, multiplexing and computer interfaces.

**TH133  Communication Skills**
Methods of collecting, organising, evaluating and presenting factual information. Oral presentation, report writing, letters, memos, media analysis. Core studies plus specialised options.

**TH136  Basic Supervision**
The supervisor's role: problem-solving, leadership, delegation, team building techniques, disciplinary action, selecting staff, staff appraisal.

Note: Subject descriptions for new courses will be available from the E&E Technology Department on request.

**Industrial Sciences Department**

**3500ABB Associate Diploma of Applied Science — Laboratory Technology**

**Career potential**
The Associate Diploma of Applied Science in Laboratory Technology provides specialised education and training for scientific laboratory technical support staff. It is an award that qualifies a person to work in a scientific laboratory at a senior level. The course includes a wide range of skills, techniques and processes, to ensure that graduates develop a flexible approach, are adaptable and are capable of meeting the technological and administrative demands made of them in a changing workforce.

Graduates of this course are eligible for entry into degree courses in Applied Science and, in some cases, may be granted exemptions.

**Entry requirements**
Normal entry is satisfactory completion of Year 12 (VCE) or its equivalent. Students without science subjects at Year 12 level, will be required to undertake bridging subjects.

Mature-age students without Year 12, but with relevant laboratory experience will be eligible to enter the course, however, it may be necessary for some students to undertake additional bridging subjects to complement their industrial experience.

Mature-age students without relevant laboratory experience will only be considered for the Advanced Certificate in Laboratory Technology.

Students who have completed the Advanced Certificate in Laboratory Technology are eligible to transfer to the Associate Diploma with full credits.

**Modes of study**
Students will be able to complete the Associate Diploma in the following ways:

- **Part-time:** Generally four years of part-time study, comprising one afternoon and two evenings, per week for eight semesters.
- **Full-time:** Generally one year of full-time study followed by two years of part-time study. The Associate Diploma cannot be completed by full-time study alone.

A further requirement is that all students must complete a minimum of two years' full-time relevant industrial/work experience, of which the majority must be concurrent with enrolment, prior to the award of the Associate Diploma.

**Course structure**

**Stage 1**
- TH133 Communication Skills 1
- TH134 Communication Skills 2
- TL001 Biology Laboratory Techniques
- TL002 Chemistry Laboratory Techniques
- TL003 Physics Laboratory Techniques
- TL144 Quality Control Statistics
- TL312 Laboratory Management
- TL327 Laboratory Computing
- TL347 Occupational Hygiene
- TL470 Work Project
- TL180 Practical Placement

**Stage 2**
Following Stage 1, all students must complete eight Stage 2 units and satisfy the requirements of at least one stream, in order to be eligible to be awarded the Associate Diploma of Applied Science in Laboratory Technology.

**Stream 1**
Appropriate for industry, analytical chemistry and instrumentation laboratories.

- TL201 Chemistry Practices 3
- TL202 Chemistry Practices 4
- PLUS at least 2 by two-unit sequences from:
  - TL306 Electron Microscopy 1
  - TL310 Electron Microscopy 2
  - TL390 Chromatographic Analysis 1
  - TL391 Chromatographic Analysis 2
  - TL465 Electrochemical Analysis 1
  - TL466 Electrochemical Analysis 2
  - TL490 Spectrophotometric Analysis 1
  - TL491 Spectrophotometric Analysis 2
- PLUS two elective units.
Stream 2
Appropriate for educational institutions and museum laboratories.
TL201 Chemistry Practices 3
TL202 Chemistry Practices 4
PLUS at least one by two-unit sequence from:
TL210 Laboratory Workshop Practices 1
TL211 Laboratory Workshop Practices 2
TL203 Physics Practices 3; and
TL411 Computer Programming
PLUS at least one by two-unit sequence from those listed under stream 1 or 3 requirements.
PLUS two elective units.

Stream 3
Appropriate for biological laboratories.
At least one by two-unit sequence from:
TL256 Mammalian Anatomy and Physiology 1
TL257 Mammalian Anatomy and Physiology 2
TL301 Biochemistry 1
TL302 Biochemistry 2
TL320 Invertebrate Zoology
TL448 Vertebrate Zoology
TL460 Microbiology 1
TL461 Microbiology 2
PLUS at least one by four-unit sequence from:
TL256 Mammalian Anatomy and Physiology 1
TL257 Mammalian Anatomy and Physiology 2
TL320 Invertebrate Zoology
TL448 Vertebrate Zoology
TL301 Biochemistry 1
TL302 Biochemistry 2
TL401 DNA Technology
TL402 Immunological Techniques
TL460 Microbiology 1
TL461 Microbiology 2
TL462 Microbiology 3
TL463 Microbiology 4
(The four-unit sequence may not include subjects from the two-unit sequence);
PLUS two elective units.

Electives
Electives may be chosen in the following ways:
(i) Units from the other specialist streams in the Associate Diploma of Applied Science in Laboratory Technology;
(ii) Units from the other Associate Diplomas.

3500ACB Associate Diploma of Applied Science — Materials Technology

Career potential
Graduates of this course may find employment in the mining industries, engineering plants, polymer and plastics industries, ceramics industries (traditional and advanced), paints and adhesives industries, research laboratories, quality control laboratories, as well as marketing and management associated with materials production.

The Associate Diploma is designed for middle level technical officers who are required to undertake some planning and problem solving responsibilities.

Aims/objectives
This course provides a post secondary level entry qualification for people seeking work in one of the materials fields as trainee laboratory assistant or technician. This course is directed at people employed or seeking employment in industries involved with the mining, production, manufacture and marketing of goods made from metals, timber, ceramics, plastics or composites.

Articulation
Upon completion of the Associate Diploma, students may apply to enter a degree course at institutions such as Swinburne University of Technology, Monash University (Caufield) or Ballarat University College. Advanced standing subject to student performance, is yet to be determined.

Entry requirements
The preferred entry requirement for the course is the successful completion of VCE or equivalent, preferably with a science or technology background.

Students with backgrounds other than VCE (e.g. traineeship or technician), or with VCE non-science studies will be admitted if they are considered capable of succeeding in the course, judged by interview and/or entry test. Students who do not perform satisfactorily in the entry test will be required to undertake a bridging course prior to commencement.

Duration and mode of study
The Associate Diploma course is two years full-time or four years part-time. Students completing the first year of the Associate Diploma may apply for the Advanced Certificate award.

Employed students wishing to study the course part-time have their contact hours reduced to 3 hours per week subject dependent upon their work experience.

Course structure
First Year
Semester 1 Hours/week
MT101 Chemistry 1 4
MT111 Computer Applications 1 3
MT121 Engineering Principles 1 4
MT131 Materials Technology 1 4
MT141 Mathematics 1 4
TH133 Communications 1 4
Semester 2 Hours/week
MT102 Chemistry 2 4
MT112 Computer Applications 2 3
MT122 Engineering Principles 2 3
MT132 Materials Technology 2 4
MT142 Mathematics 2 4
TH134 Communications 2 4
Second Year
Common subjects:
Semester 1 Hours/week
MT201 Principals of Instrumental Analysis 4
MT231 Materials Technology 3 4
MT241 Quality Management 4
MT251 Polymer Materials 1 3
Semester 2 Hours/week
MT272 Work Project 4
MT282 Design & Materials Selection 3

In addition, second year students are required to complete the requirements of one of the three specialist streams. Students may be required to attend Dandenong College of TAFE or Holmsglen College of TAFE for some studies in specialist subjects.

Specialist stream subjects
A) Industrial Materials stream
Semester 1 Hours/week
MT261 Joining Techniques 3
Elective 1 3 or 4
Semester 2 Hours/week
MT202 Organic Surface Coatings 3
MT232 Ceramic Technology 4
MT262 Composite Materials 4
Elective 2 3 or 4

B) Plastics Materials stream
Semester 1 Hours/week
MT271 Plastics Manufacture & Production Processes 4
MT291 Polymer Technology Practice 1 3
### Semester 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT252</td>
<td>Polymer Materials 2</td>
<td>4</td>
</tr>
<tr>
<td>MT292</td>
<td>Polymer Technology Practice 2</td>
<td>3</td>
</tr>
<tr>
<td>Elective 1</td>
<td></td>
<td>3 or 4</td>
</tr>
<tr>
<td>Elective 2</td>
<td></td>
<td>3 or 4</td>
</tr>
</tbody>
</table>

#### C) Metallurgy

Subject to accreditation, it is anticipated that an additional stream in Metallurgy will be available at Swinburne in 1993.

#### Elective subjects

The elective subjects may be chosen from:
- MT401 Timber and Forest Products
- MT402 Wood Fibre Technology
- MT501 Quarryed Materials 1 and
- MT502 Quarryed Materials 2 (together)
- MT601 Accounting Principles
- MT602 Elements of Management
- MT603 Marketing Principles
- TS107 Accounting for Managers (from the Associate Diploma of Business Studies in marketing)

OR

Any of the alternative stream subjects within the course.

Students should not undertake both accounting electives unless they can demonstrate a definite need for a more thorough knowledge of the subject.

With prior approval a student may substitute another unit of comparable duration from an accredited Associate Diploma course. This will only be permitted where the student can demonstrate a need based on their job requirements. If this requires attendance at another College it will rest with the student to provide the necessary documentation and complete the application and enrolment papers.

---

### 3500AHB Associate Diploma of Applied Science — Fire Technology

#### Career potential

This course has been designed to enable the development (or enhancement for those already in the industry) of knowledge and skills appropriate to paraprofessionals in the Fire industry. The general areas covered include risk management, design, building protection, rural fire protection, communication systems, environmental safety and management.

The course would appeal to those currently employed, or intending to seek employment, in any of the following fields: fire fighting, fire safety, detection and suppression systems design, occupational health and safety, insurance or building surveying.

#### Entry requirements

Normal entry is satisfactory completion of Year 12 (VCE), or its equivalent, with passes in Chemistry and Mathematics. However, mature-age students having relevant industrial experience will be favourably considered for selection. Such students without the Year 12 requirements will be expected to undertake bridging subjects.

#### Modes of study

Units may be available in one or more of the three modes outlined below:

1. Classes scheduled weekly — either 2 or 3 hours per week (depending upon the unit);
2. Block-mode — classes held one day per weekend over 5 weeks;
3. Flexi-mode — off-campus study with occasional seminars on weekends.

**Please note:** The subject details assume Mode 1 only. Enquiries concerning units available in Modes 2 & 3 should be made to the course coordinator on telephone 819 8378.

#### Course structure

Students are required to complete a total of 26 semester units, consisting of 14 core (compulsory) units, and 12 elective units selected from the 28 specialist units available. The specialist units have been grouped into packages of 4 units (refer below) and students are required to select 2 packages of 4 units and 4 other units from the remaining units available.

#### Core units

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH133</td>
<td>Communication Skills 1</td>
</tr>
<tr>
<td>TT100</td>
<td>Fire Mechanics 1</td>
</tr>
<tr>
<td>TT101</td>
<td>Fire Mechanics 2</td>
</tr>
<tr>
<td>TT110</td>
<td>Building Structures 1</td>
</tr>
<tr>
<td>TT120</td>
<td>Fire Chemistry</td>
</tr>
<tr>
<td>TT140</td>
<td>Information Technology</td>
</tr>
<tr>
<td>TT160</td>
<td>Personnel Emergency Treatment</td>
</tr>
<tr>
<td>TT210</td>
<td>Building Structures 2</td>
</tr>
<tr>
<td>TT211</td>
<td>Detection Systems</td>
</tr>
<tr>
<td>TT212</td>
<td>Suppression Systems</td>
</tr>
<tr>
<td>TT213</td>
<td>Fire Safety Management 1</td>
</tr>
<tr>
<td>TT220</td>
<td>Principles of Fire Behaviour</td>
</tr>
<tr>
<td>TT221</td>
<td>Fire Fighting Equipment &amp; its Application</td>
</tr>
<tr>
<td>TS226</td>
<td>Middle-management Practices 1</td>
</tr>
<tr>
<td>TL100</td>
<td>Practical Placement</td>
</tr>
</tbody>
</table>

#### Specialist units

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT301</td>
<td>Detection Systems Design</td>
</tr>
<tr>
<td>TT302</td>
<td>Suppression Systems Design 1</td>
</tr>
<tr>
<td>TT402</td>
<td>Suppression Systems Design 2</td>
</tr>
<tr>
<td>TT403</td>
<td>Suppression Systems Design 3</td>
</tr>
</tbody>
</table>

#### Communication systems

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT310</td>
<td>Introduction to Communications Technology</td>
</tr>
<tr>
<td>TT410</td>
<td>Radio Systems</td>
</tr>
<tr>
<td>TT411</td>
<td>Fire Alarm Systems</td>
</tr>
<tr>
<td>TT412</td>
<td>Communication Centres</td>
</tr>
</tbody>
</table>

#### Risk management

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT320</td>
<td>Fire Investigation</td>
</tr>
<tr>
<td>TT321</td>
<td>Fire Safety Management 2</td>
</tr>
<tr>
<td>TT322</td>
<td>Hazard Management</td>
</tr>
<tr>
<td>TT323</td>
<td>Material Science 1</td>
</tr>
</tbody>
</table>

#### Buildings

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT330</td>
<td>Building Structures 3</td>
</tr>
<tr>
<td>TT331</td>
<td>Material Science 2</td>
</tr>
<tr>
<td>TT332</td>
<td>Building Services 1</td>
</tr>
<tr>
<td>TT432</td>
<td>Building Services 2</td>
</tr>
</tbody>
</table>

#### Management

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH134</td>
<td>Communication Skills (Management)</td>
</tr>
<tr>
<td>TS325</td>
<td>Middle-management Practices 2</td>
</tr>
<tr>
<td>TT351</td>
<td>Fire Law 1</td>
</tr>
<tr>
<td>TT451</td>
<td>Fire Law 2</td>
</tr>
</tbody>
</table>

#### Rural

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT360</td>
<td>Rural Fire Behaviour</td>
</tr>
<tr>
<td>TT361</td>
<td>Agricultural &amp; Forestry Practices in Fire Management</td>
</tr>
<tr>
<td>TT460</td>
<td>Rural Fire Prevention</td>
</tr>
<tr>
<td>TT461</td>
<td>Rural Fire Suppression</td>
</tr>
</tbody>
</table>

#### Environmental Safety

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT370</td>
<td>Environmental Safety 1</td>
</tr>
<tr>
<td>TT371</td>
<td>Special Hazards</td>
</tr>
<tr>
<td>TT372</td>
<td>Occupational Hygiene Measurement</td>
</tr>
<tr>
<td>TT470</td>
<td>Environmental Safety 2</td>
</tr>
</tbody>
</table>

The course may be completed in the following ways:

- 2 years full-time;
- 4 years part-time — approximately 6 hours per week, a combination of full-time and part-time study.

Students studying full-time are also required to undertake relevant work experience during the course.
3500AYD Associate Diploma of Applied Science — Computing and Applied Physics

Career potential
Graduates of the course will be qualified to work as technical officers in scientific computing. Career pathways include technical support to professionals in:
— research and development
— consulting, sales and training programs
— installation, maintenance and upgrading of computer equipment
Areas of employment include: instrumentation, process control, materials research, defence, medical technology, aeronautics, education, sales and marketing.

Aims/objectives
This course will enable students to gain the fundamental principles of computer science, physics, mathematics, and communication skills in the high technology areas of scientific and sensory instrumentation and control systems.

Articulation to further study
On completion students are eligible to apply for entry into the second year of a related degree course.

Entry requirements
The entry requirement is VCE, or equivalent qualification with level 3/4 passes in Mathematics and Physics subjects. Mature-age applicants without VCE will also be considered.

Duration and mode of study
The course can be undertaken on a full-time basis over two years, or on a part-time basis over a longer period.

Course structure

**Semester 1**
- **TC101**: Physics 1
- **TC111**: Mathematics 1
- **TC112**: Mathematics 2
- **TC121**: Electronics 1
- **TC151**: Professional Communication 1
- **TC161**: Laboratory Technology 1
- **TC181**: Introduction to Computing 1
- **TC183**: Computer Applications
- **TL210**: Laboratory Workshop Practices 1

**Semester 2**
- **TC102**: Physics 2
- **TC113**: Mathematics 3
- **TC114**: Mathematics 4
- **TC122**: Electronics 2
- **TC123**: Electronics 3
- **TC152**: Professional Communication 2
- **TC162**: Laboratory Technology 2
- **TC180**: Introduction to Programming 1
- **TC182**: Introduction to Programming 2

**Semester 3**
- **TC103**: Physics 3
- **TC211**: Mathematics 5
- **TC212**: Mathematics 6
- **TC261**: Laboratory Technology 3
- **TC271**: Computer Technology 1
- **TC272**: Computer Technology 2
- **TC275**: Networking 1
- **TC281**: Structured Programming 1

**Semester 4**
- **TC104**: Physics 4
- **TC213**: Mathematics 7
- **TC214**: Mathematics 8
- **TC262**: Laboratory Technology 4
- **TC273**: Computer Technology 3
- **TC274**: Computer Technology 4
- **TC276**: Networking 2
- **TC282**: Structured Programming 2
- **TC381**: Articulation Programming

3300ABB Advanced Certificate in Laboratory Technology

Career potential
The Advanced Certificate in Laboratory Technology provides appropriate education and training for scientific laboratory technical support staff. It is an award that qualifies a person to work in a scientific laboratory at a junior level.

Entry requirements
Normal entry is satisfactory completion of Year 11, preferably with passes in Mathematics and Science subjects. Mature-age students without Year 11, but who have relevant work experience, will be favourably considered for selection.

Modes of study
Students will be able to complete the Advanced Certificate in the following ways:

- **Part-time**: Generally four years of part-time study comprising either one afternoon and one evening, or two afternoons or two evenings per week for eight semesters.
- **Full-time**: Generally one year of full-time study followed by two years of part-time study. It is not possible to complete the Advanced Certificate entirely by full-time study.

A further requirement is that all students must complete a minimum of six months equivalent full-time relevant industrial/work experience, concurrently with their enrolment, prior to the award of the Advanced Certificate.

Course structure

**Stage 1**
- **TH133**: Communication Skills 1
- **TL101**: Chemistry Practices 1
- **TL102**: Chemistry Practices 2
- **TL111**: Physics Practices 1
- **TL112**: Physics Practices 2
- **TL130**: Biology Practices 1
- **TL131**: Biology Practices 2
- **TL143**: Laboratory Computations
- **TL327**: Laboratory Computing

**Stage 2**
- **TH134**: Communication Skills 2
- **TL144**: Quality Control Statistics
- **TL312**: Laboratory Management
- **TL347**: Occupational Hygiene
- **TL470**: Work Project
- Elective 1
- Elective 2
- Elective 3

Electives
In order to provide the most flexible and vocationally specific programs, the Advanced Certificate in Laboratory Technology includes a number of elective units. These should be chosen to ensure greatest relevance to the intended vocation of the student.

Electives may be chosen in the following ways:
(i) Units from the list of Electives set out below;
(ii) Units from other Advanced Certificates or Associate Diplomas;
(iii) Units from the specialist streams in the Associate Diploma of Applied Science in Laboratory Technology.
Elective units
TL225 Specimen Preservation 1
TL226 Specimen Preservation 2
TL227 Modelling of Biological Specimens
TL228 Moulding & Casting of Biological Specimens
TL245 Botany
TL329 Tissue Culture
TL331 Organic Chemistry
TL333 Polymer Science 1
TL334 Polymer Science 2
TL413 Ecology 1
TL414 Ecology 2
TL418 Entomology
TL445 Pharmacological Methods
TL453 Glassworking
TL458 Radioactive Methods
TL460 Scientific Photography
TL483 Applied Imaging Techniques

3300ACE Advanced Certificate in Materials Technology

Career potential
Graduates of this course may find employment in the mining industries, engineering plants, polymer and plastics industries, ceramics industries (traditional and advanced), paints and adhesives industries, research laboratories, quality control laboratories, as well as marketing and management associated with materials production.

The Advanced Certificate is designed for junior technicians, operators and research assistants at the lower middle level. The work of such people would be closely supervised by more experienced and/or qualified technical officers.

Aims/objectives
This course provides a post-secondary level entry qualification for people seeking work in one of the materials fields as trainee laboratory assistant or technician. This course is directed at people employed or seeking employment in industries involved with the mining, production, manufacture and marketing of goods made from metals, timber, ceramics, plastics or composites.

Articulation
Upon completion of the Advanced Certificate students may apply to enter a degree course at institutions such as Swinburne University of Technology, Monash University (Caulfield) or Ballarat University College. Advanced standing subject to student performance is yet to be determined.

Entry requirements
The preferred entry requirement for the course is the successful completion of VCE or equivalent, preferably with a science or technology background.

Students with backgrounds other than VCE (e.g. traineeship or technician), or with VCE non-science studies will be admitted if they are considered capable of succeeding in the course, judged by interview and/or entry test. Students who do not perform satisfactorily in the entry test will be required to undertake a bridging course prior to commencement.

Duration and mode of study
The Advanced Certificate course is one year full-time or two years part-time. Students completing the first year of the Associate Diploma may apply for the Advanced Certificate award.

Employed students wishing to study the course part-time have their contact hours reduced by up to 3 hours per week subject dependent upon their work experience.

Course structure
Semester 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT101 Chemistry 1</td>
<td>4</td>
</tr>
<tr>
<td>MT111 Computer Applications 1</td>
<td>3</td>
</tr>
<tr>
<td>MT121 Engineering Principles 1</td>
<td>4</td>
</tr>
<tr>
<td>MT131 Materials Technology 1</td>
<td>4</td>
</tr>
<tr>
<td>MT141 Mathematics 1</td>
<td>4</td>
</tr>
<tr>
<td>TH133 Communications 1</td>
<td>4</td>
</tr>
</tbody>
</table>

Semester 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT102 Chemistry 2</td>
<td>4</td>
</tr>
<tr>
<td>MT112 Computer Applications 2</td>
<td>3</td>
</tr>
<tr>
<td>MT122 Engineering Principles 2</td>
<td>3</td>
</tr>
<tr>
<td>MT132 Materials Technology 2</td>
<td>4</td>
</tr>
<tr>
<td>MT142 Mathematics 2</td>
<td>4</td>
</tr>
<tr>
<td>TH134 Communications 2</td>
<td>4</td>
</tr>
</tbody>
</table>

3300AHB Advanced Certificate in Fire Technology

Career potential
The Advanced Certificate in Fire Technology is designed to provide a basic study in technology of fire prevention, suppression and related areas. The course leads to one of two streams of study — Portable Fire Equipment or Operational Fire Fighting. The course was designed by industry to provide a coherent training program and is expected to be used as part of award restructuring within the Fire Industry.

Entry requirements
Normal entry is satisfactory completion of Year 11 or its equivalent.

However, mature-age students particularly if they have experience in the industry will be considered for selection. Students with Year 12, or higher studies in mathematics and science can gain exemption from some units.

Modes of study
The course can be completed in the following ways:
* 2 years full-time
* 4 years part-time
* a combination of full-time and part-time study
* a combination of on-campus and off-campus studies (Fleximode)

Students will undertake stream studies with instruction provided by employers in the industry.

All full-time students will undertake field placement (10 days per semester).

Graduates of the Advanced Certificate in Fire Technology will be credited with approximately one year of full-time study toward their Associate Diploma in Fire Technology.

Course structure
Core units

Stage 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH133 Communication Skills</td>
<td>4</td>
</tr>
<tr>
<td>TT101 Mathematics 1</td>
<td>4</td>
</tr>
<tr>
<td>TT201 Chemistry 1</td>
<td>4</td>
</tr>
<tr>
<td>TT301 Fire Physics</td>
<td>4</td>
</tr>
<tr>
<td>TT110 Building Structures 1</td>
<td>4</td>
</tr>
<tr>
<td>TT140 Information Technology</td>
<td>4</td>
</tr>
<tr>
<td>TT160 Personnel Emergency Treatment</td>
<td>4</td>
</tr>
<tr>
<td>TT221 Fire Fighting Equip. &amp; Its Application</td>
<td>4</td>
</tr>
<tr>
<td>TS346 Instructional Techniques</td>
<td>4</td>
</tr>
</tbody>
</table>

Stage 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT100 Fire Mechanics 1</td>
<td>4</td>
</tr>
<tr>
<td>TT101 Fire Mechanics 2</td>
<td>4</td>
</tr>
<tr>
<td>TT120 Fire Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>TT125 Introduction to Fire Behaviour</td>
<td>4</td>
</tr>
<tr>
<td>TT132 Detection Systems</td>
<td>4</td>
</tr>
<tr>
<td>TT212 Suppression Systems</td>
<td>4</td>
</tr>
<tr>
<td>TT213 Fire Safety Management 1</td>
<td>4</td>
</tr>
<tr>
<td>TT229 Management Practices</td>
<td>4</td>
</tr>
</tbody>
</table>

Specialist units

Stream 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT340 Fire Equipment Servicing 1A</td>
<td>4</td>
</tr>
<tr>
<td>TT341 Fire Equipment Servicing 1B</td>
<td>4</td>
</tr>
</tbody>
</table>

63
Stage 2
TT210 Building Structures 2
TT342 Fire Equipment Servicing 2
TS327 Sales and Marketing

Stream 2
Operational Fire Fighters Stream

Stage 1
TT324 Emergency Management
TT333 Structural Fire Fighting

Stage 2
TT343 Specialist Fire Fighting Equipment
TT371 Special Hazards — Operational Fire Fighters
TT372 Hazardous Materials

Bridging and Preparatory Courses
2200AZO Foundation Year — Science Engineering

Foundation Year is a program specifically designed to prepare international students for entry to undergraduate courses at Swinburne and other Australian universities and TAFE Colleges.

English as a Second Language
This subject is common to all three Foundation Year courses and is designed to cater for the specific language needs of students whose first language is not English. The syllabus aims to promote language skills to a standard which will enable tertiary study by developing the ability to read critically a wide range of materials, to write in a variety of styles, to speak confidently and to listen effectively. The subject also aims to introduce students to Australian and other relevant literature and to develop an understanding of Australia’s cultural heritage.

Mathematics (Science)
This subject is recommended for all students intending to enrol in engineering and applied science courses. Topics include geometry, complex numbers, differentiation, exponential and logarithmic functions, integration, rates of change and approximation.

Concepts of Mathematics
Topics include the sample space in probability and introduction to computing, set theory, permutations and combinations, Boolean algebra, probability and statistics and programming in BASIC.

Physics
This subject is designed to enable students to master the basic principles and practices of physics, develop problem solving skills and appreciate and use the scientific method. Topics include motion, vectors, dynamics, friction, electrostatics and electromagnetism.

Chemistry
Topics include stoichiometry, chemical bonding, equilibria and organic chemistry.

Students usually enrol in the above subjects, but variations to this are possible. Some students choose to study Biology, and/or Computer Studies. Prerequisite Year 12 equivalent usual.

2200AZY Bridging Technology

Aims/Objectives
The course is primarily designed to provide those who lack background knowledge, with skills in the areas of mathematics, physical sciences, computing and English language skills. These skills may be required to undertake further studies to fulfill career aspirations, or to improve employment opportunities. Alternatively, a person may wish to become familiar with any of these areas for personal development.

Career potential
Following the successful completion of appropriate units, students may wish to progress to mature-age VCE or gain entry into one of the TAFE Advanced Certificate or Associate Diploma courses in Applied Science. Access to career fields such as nursing, paramedical and alternative medicine will be improved.

Entry requirements
Preferred entry standard is Year 10 or equivalent. Applicants with less than Year 10 could experience some difficulties in this course.

Duration and mode of study
The course is offered both part-time and full-time. Day classes and some evening classes are offered. Evening classes are conducted from 5:30 to 8:30 p.m.

Depending on their background and objectives, students may enrol for one or two semesters (approximately 18 weeks per semester). The full-time day course is approved for Austudy benefits.

Course structure
Semester 1
TH125 English Language Skills
TM190 Bridging Mathematics 1
TM193 Basic Chemistry
TM197 Basic Physics
TM198 Microcomputing
TM200 Skills in Science

Semester 2
TH125 Communication Skills
TM190 Bridging Mathematics 2
TM194 Bridging Physics
TM196 Bridging Chemistry
TM200 Skills in Science

2200NOW New Opportunities for Women

Aims/Objectives
The course is designed to provide women who have little background in mathematics, science or engineering, with the necessary skills and concepts to enable them to compete for and gain employment and/or training in non-traditional science or engineering fields. It also provides immediate rewards such as self-enrichment.

Course potential
This course will improve students’ access to many career fields, such as nursing, paramedical, environmental science, applied science, engineering and trade. Following the successful completion of appropriate units, students may wish to progress to one of a variety of TAFE accredited courses in related areas.

Entry requirements
There are no formal prerequisites for the courses.

Duration and mode of study
The course is available as a one year full-time course or equivalent part-time studies. Day and some evening classes are available.

Course structure
Semester 1
TM882 Mathematics
TM884 Chemistry in Everyday Life
TM886 The Physical Universe
TM888 Introduction to Microcomputing
TM890 Skills for Science

Semester 2
Core studies
Prerequisites: students must complete related semester one units.

Hours/week
TM883 Mathematics for Engineering and Science 5
TM885 Chemistry for Engineering and Science 5
TM887 Physics for Engineering and Science 5
Electives
Students must select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours/week</th>
<th>Short course</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM192</td>
<td>Bridging Biology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CBE1.1</td>
<td>D.C. Fundamentals</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TL411</td>
<td>Computer Programming</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MT131</td>
<td>Materials Technology 1</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Subject Details

MT101 Chemistry 1
Prerequisites: VCE Chemistry Units 3/4 or equivalent.
Assessment: Practical work, unit tests and assignments.
Content: Structure of matter, states of matter, chemical bonding, chemical reaction and stoichiometry, solutions, chemistry, laboratory and chemical safety, lab skills.

MT102 Chemistry 2
Prerequisites: MT101.
Assessment: Practical work, unit tests and assignments.
Content: Chemical equilibria, acids and bases, electrochemistry, organic chemistry, lab and chemical safety, laboratory skills.

MT111 Computer Applications
Prerequisites: Nil.
Assessment: Practical tests, unit tests, assignments.
Content: Basic components of computer systems and their functions, microcomputer software packages, spreadsheets.

MT112 Computer Applications 2
Prerequisites: Nil.
Assessment: Unit tests and assignments.
Content: Microcomputer systems, developing data base, applications, microcomputer software packages.

MT121 Engineering Principles 1
Prerequisites: Nil.
Assessment: Practical tests, written tests, reports.
Content: Applied mechanics, hydraulics.

MT122 Engineering Principles 2
Prerequisites: Nil.
Assessment: Practical test, unit tests and assignments.
Content: Thermodynamics, radiation and optics, electrical circuits, electronics.

MT131 Materials Technology 1
Prerequisites: Nil.
Assessment: Practical work, unit tests.
Content: Materials, structure, crystalline materials, properties of materials.

MT132 Materials Technology 2
Prerequisites: MT131.
Assessment: Practical work, unit tests and assignments.
Content: Mechanical testing and properties of materials, metals, ceramics, polymers and plastics.

MT141 Mathematics 1
Prerequisites: VCE Mathematics 3/4 or equivalent
Assessment: Unit tests and assignments.
Content: Review of arithmetic and algebraic skills, with appropriate applications, critical path analysis, statistics 1, graphs.

MT142 Mathematics 2
Prerequisites: MT141.
Assessment: Unit tests and assignments.
Content: Statistics 2, numerical analysis.

MT201 Principles of Instrumental Analysis
Prerequisites: MT102
Assessment: Practical work, written tests and assignments.
Content: Introduction to principles of instrumental analysis, in depth investigation of two techniques.

MT202 Organic Surface Coatings
Prerequisites: MT251.
Assessment: Tests and assignments.
Content: Surface science, introduction to surface coatings, raw materials for coatings, liquid and dry paint systems, polymers, solvents, pigments and dispersion, power coatings, paint production processes, formulating principles, coating types.

MT231 Materials Technology 3
Prerequisites: MT132.
Assessment: Written tests.
Content: Acidic and microstructure of materials, structural failure, effects of environmental factors, protection against the environment, surface engineering, specialty materials, practical work.

MT232 Ceramics Technology
Prerequisites: MT132.
Assessment: Written tests.
Content: Clay mineralogy, ceramic reactions, body types, characteristics and applications.

MT241 Quality Management
Prerequisites: MT142.
Assessment: Unit tests and assignments.
Content: Introduction and history, management of quality, total quality control, statistical tools, laboratory quality control.

MT251 Polymer Materials 1
Prerequisites: Advanced Certificate in Materials Technology.
Assessment: Practical test, written tests, assignments.
Content: Derivation of plastics, structure of plastics, properties of plastics, rheological behaviour of plastics, polymerisation methods, commercial polymers.

MT252 Polymer Materials 2
Prerequisites: MT251.
Assessment: Practical and written tests.
Content: Designing with polymers, identification of plastics, natural and synthetic rubbers, adhesives, polymer preparation and characteristics, testing of plastics, specific property testing.

MT261 Joining Techniques
Prerequisites: MT231.
Assessment: Practical and written tests.
Content: Definitions of joining, pre-treatment of component surfaces, brazing and welding, adhesive bonding.

MT262 Composite Materials
Prerequisites: Advanced Certificate in Materials Technology.
Assessment: Practical and written tests.
Content: Reinforcement materials, resins, processing, quality control, composite design, applications, inorganic matrix compounds.

MT271 Plastics Manufacture and Production Processes
Prerequisites: Nil.
Assessment: Practical tests, unit and assignments.
Content: Overview of the plastics industry, manufacturing and production environment.

MT272 Work Project
Prerequisites: Advanced Certificate in Materials Technology.
Assessment: Satisfactory attendance at host employer, satisfactory report by supervisor, written report.
Content: The nature of the project to be undertaken will be determined by the student in consultation with a TAFE Division supervisor and a workplace supervisor.

MT282 Design and Materials Selection
Prerequisites: Advanced Certificate in Materials Technology.
Assessment: Practical work and assignments.
Content: Overview of the design process, material selection in design.

MT291 Polymer Technology Practice 1
Prerequisites: Advanced Certificate in Materials Technology.
Assessment: Satisfactory completion of a minimum of six projects.
Content: Technical project work as specified.
MT292  Polymer Technology Practice 2
Prerequisites: MT291.
Content: Technical project work as specified.

MT401  Timber and Forest Products
Prerequisites: Nil.
Assessment: Unit tests, practical work and assignments.
Content: Overview of the timber industry, growth and harvesting forest products, processing forest products.

MT402  Wood Fibre Technology
Prerequisites: Advanced Certificate in Materials Technology.
Assessment: Unit tests, practical work and assignments.
Content: Overview of the forest product industries, wood fibre science, pulp and paper industries, theoretical considerations of wood fibre reinforcement in composite materials, wood fibre composites, plywood industry, timber industry, preservation and surface coatings in forest product industries, practical work, industry visits.

MT501  Quarryed Materials 1
(Syllabus under review)

MT502  Quarryed Materials 2
(Syllabus under review)

MT601  Accounting Principles
Assessment: Tests, projects, exam.
Content: Business organisation, the accounting equation, commercial documents, computerised accounting, sub-system modules, report generating, system security.

MT602  Elements of Management
Prerequisites: Nil.
Assessment: Assignments and class participation.
Content: Management and managers, the business community, government and service organisations, the management process, organisational structures, leadership style.

MT603  Marketing Principles
Prerequisites: Nil.
Assessment: Tests, assignments, case studies, written and oral presentation.
Content: Introduction to marketing, the marketing mix, selling as a marketing strategy, product knowledge, presentation and communication techniques, basic salesmanship, selling technology and concepts.

TC101  Physics 1
Measurement and error analysis, composition and resolution of vectors, linear and rotation motion, precision and gyration.

TC102  Physics 2
Field theory; photons, electrons and atoms, nuclear physics, heat.

TC103  Physics 3
Elasticity, simple harmonic motion, wave motion, hydrostatics and hydrodynamics.

TC104  Physics 4
Thermodynamics, physical optics, magnetism and project work.

TC111  Mathematics 1
Relations, functions, graphs.

TC112  Mathematics 2
Differential calculus.

TC113  Mathematics 3
Integral calculus.

TC114  Mathematics 4
Boolean algebra, complex numbers.

TC121  Electronics 1
Electrical properties of materials, semiconductors, capacitors, inductors, transformers, AC and DC circuit analysis, power supplies, transistor amplifiers, operational amplifiers.

TC122  Electronics 2
Digital electronics including logic circuits, Boolean algebra, counters, displaces, logic families and an introduction to microprocessors.

TC123  Electronics 3
Microprocessor fundamentals, assembly language programming, instruction outcome and timing, address decoding circuits, logic interfacings to memory and ports.

TC161  Laboratory Technology 1
Laboratory applications of measurement, linear and rotational motion and particle dynamics.

TC151  Professional Communication 1
Interpreting and producing graphic material for specific purposes; planning and presenting technical reports and other documents.

TC152  Professional Communication 2
Skills and strategies for effective client relationships and for building and managing a work team.

TC162  Laboratory Technology 2
Laboratory applications of field theory capacitance, DC circuit theory, sound, basic modern physics and heat.

TC180  Introduction to Programming 1
Program design, program control and the programming environment using a structural programming language.

TC181  Introduction to Computing 1
PC usage, keyboard skills, DOS, virus control, hardware troubleshooting, PC configuration and system software maintenance.

TC182  Introduction to Programming 2
Graphic screen techniques, programming with procedures, arrays and records using a structured programming language.

TC183  Computer Applications
Usage of DOS, spreadsheet, database, word processing, PC hardware configuration repairs and maintenance.

TC210  Laboratory Workshop Practices 1
Introduction to workshop and safety, materials and properties, use of tools and machines, introduction to technical drawing and joining techniques, circuit board design and construction.

TC211  Mathematics 5
Determinants, matrices and vectors.

TC212  Mathematics 6
Ordinary differential equations.

TC213  Mathematics 7
Numerical methods and error analysis.

TC214  Mathematics 8
Sampling and statistics.

TC261  Laboratory Technology 3
Laboratory applications of material physics, simple harmonic motion, fluid statics and dynamics.

TC262  Laboratory Technology 4
Laboratory applications of thermodynamics, physical optics, magnetism and AC theory.

TC271  Computer Technology 1
Principles of computer interfacing, principles of data acquisition and control, construction of IBM expansion bus interface circuits, serial and IEEE-488 instrumentation, interface control programs and use of a spreadsheet for data analysis and display.

TC272  Computer Technology 2
Use of commercial packages for the development of data acquisition and process control applications.

TC273  Computer Technology 3
Microcontroller system design, microprocessor support IC chips, programmable logic controllers and data loggers.
TC274 Computer Technology 4
Computer control project utilising skills gained from the course.

TC275 Networking 1
(Under review)

TC276 Networking 2
(Under review)

TC281 Structured Programming 1
Pointers, linked lists, stacks and queues, records and files in a structured programming language.

TC282 Structured Programming 2
Query language programming, inquiry language programming.

TC381 Articulation Programming
Structured programming in a language relating to further studies.

TH133 Communication Skills
Principles and practice of effective communication include: collecting and processing information, participating in interviews/discussions/meetings, developing and analysing argument etc.

TH134 Communication Skills (Management)
Prerequisites: Communication Skills 1, Information Technology, Middle Management Practices 1.
Groups select four industry options from a range of management options. Options include: organisational communication, effective public speaking, meeting agenda and minutes, scientific literature and reports etc.

TL001 Biology Laboratory Techniques
Prerequisite: Year 12 biology.
Assessment: based on theory and practical work.
Safety in the laboratory, legislation and ethics, microscopy, collection and preservation, classification, protein synthesis, reproduction and development, ecology.

TL002 Chemistry Laboratory Techniques
Prerequisite: Year 12 chemistry.
Assessment: based on theory and practical work.
Laboratory safety, atomic structure, bonding and properties, volumetric analysis and acids and bases, laboratory skills.

TL003 Physics Laboratory Techniques
Prerequisite: Year 12 physics.
Assessment: assignments, written tests, practical work.
General safety in the laboratory, measurement and heat, hydromechanics, optics and radiation.

TL101 Chemistry Practices 1
Prerequisites: Nil.
Assessment: based on theory and practical work.
Laboratory safety, atomic structure, bonding and properties, stoichiometry, laboratory skills.

TL102 Chemistry Practices 2
Three hours per week for part-time students and five hours per week for full-time students, including theory and practical work.
Prerequisites: Chemistry Practices 1, Laboratory Computations.
Assessment: All students must satisfactorily complete the weekly practical exercises and prac reports. Assessment will comprise 30% on practical work and 70% on unit tests.

Subject outline
- Volumetric analysis introduction
- Acids and bases
- Electrochemistry
- Organic chemistry

Required texts
All students must have their own copy of: Simplified Senior Chemistry, J. Beard and P. Hodgson, O.U.P., 1984

TL111 Physics Practices 1
Three hours per week.
Prerequisites: Nil.
Assessment: based on both theory and practical work.

Subject outline
Heat
- Use of a micrometer and vernier scale
- Calibration of a temperature measuring device
- Selecting an appropriate temperature device
- Specific heat
- Heat transfer — radiation, convection, conduction.

Radiation
- Background radiation; interaction of radiation with matter; % absorption; a, b, and g radiation
- Nuclear energy — basic types of reactor; effects of radiation; electron release and neutron release.

Kinematics and Mechanics:
- Development of kinematics equations
- Mass and weight
- Force; Newton’s Laws
- Potential and kinetic energy (experience with an air track is essential)

Electricity
- Simple DC circuits
- Power consumption measurement using voltmeter and ammeter
- Function of active, neutral and earth wires in electrical distribution

Light
- Refraction
- Focal length of a lens
- Problems associated with lenses
- Electromagnetic spectrum
- Uses of electromagnetic radiation
- Development of colours

Required texts

TL112 Physics Practices 2
Three hours per week.
Prerequisites: Physics Practices 1, Laboratory Computations.
Assessment: based on theory tests and assignments and practical work.

Subject outline
Radiation: Geiger Mueller tubes, radiation counters, half-life, CRO’s electron propagation.

Measurement: Micrometer and Vernier scales, errors.

Kinematics and Mechanics: Centripetal force, kinematics of collroid particles, static friction, projectile motion.

Waves: Particle and wave theory, polarised light, reflection and absorption of colours, refractive index — LASER, ripple tank and slinky’s sound — interference, refraction and reflection.

Materials: Strengths, stress’s and strains — Young’s modulus, force constants, Hooke’s law, elasticity, tensile and compressive strengths, brittleness and toughness, motion sensing transducers.

Required texts

TL130 Biology Practices 1
Prerequisites: Nil.
Assessment: based on theory and practical work.
Methods, microscopy, living matter and cells, tissues, organs and systems, collection maintenance and preservation, extension work.

TL131 Biology Practices 2
Three hours per week for part-time students, five hours per week for full-time students, including theory and practical work.
Prerequisites: Biology Practices 1, Laboratory Computations.
Assessment: Students will be required to successfully complete all weekly practical exercises and prac reports. Assignments and one practical examination will also be conducted.

Subject outline
- Collection, maintenance and preservation
- Classification
- Reproduction, development and inheritance
- Evolution and Speciation
- Ecology
- Extension work

This subject is a prerequisite for Microbiology and Biochemistry.
Required texts
Students will need to have their own copy of: Core Biology — Practical Guide, by J. Brotherton and K. Mudie.
Core Biology, by Brotherton and Mudie would also be useful but not essential.
Students will also be required to have their own lab coat, safety goggles and calculator.

TL143 Laboratory Computations
Prerequisites: Nil.
Assessment: Mastery tests on an ongoing basis, final examination. Arithmetic, measurement, ratio, proportion and variation, equations and formulae, equation solving, graphs, introduction to statistics.

TL144 Quality Control Statistics
Three hours per week.
Prerequisites: Laboratory computations and concurrent work experience.
Assessment: Written tests (60%) and assignments (10%). Students should use data from their own work place for assignments. A final test worth 30% will be conducted.

Subject outline
- Descriptive statistics
- Control charts — process control
- Sampling distributions and confidence intervals
- Hypothesis testing
- Correlation and regression
- Acceptance sampling
- Process capability

Students may be eligible for an exemption in this subject if they have passed a Statistics subject at a tertiary level.
Students will be provided with notes and tables. Students must have access to a scientific calculator with statistical functions.

TL201 Chemistry Practices 3
Three hours per week, including theory and practical work.
Prerequisites: Chemistry Practices 1 and 2, Laboratory Computations.
Assessment: evenly divided between written tests, assignments and practical work. To gain a pass in this subject, students need to be able to clearly demonstrate their knowledge and ability in the practicals.

Subject outline
- Organic chemistry: systematic nomenclature, perspective drawing, organic reactions, aromaticity, polymerisation.
- Analytical chemistry: multiple end-point titration, back titration, colorimetric analysis, compleximetric titration, chromatography, precipitation titration.

This subject is a prerequisite for Chemistry Practices 4, Polymer Science 1 and 2, Organic Chemistry, Radioactive Methods.

Required texts
- Students are not expected to purchase their own text. A number of texts can be recommended for reference, and the teacher will advise students who wish to buy their own book.
- All students must have their own lab coat, safety glasses and calculator.

TL202 Chemistry Practices 4
Prerequisite: chemistry practices 3.
Assessment: based on theory and practical work.
Sampling and spot-testing, solubilities and gravimetric analysis, electrochemistry, introduction to instrumental techniques.

TL203 Physics Practices 3
Three hours per week.
Prerequisites: Physics Practices 2, Laboratory Computations.
Assessment: based on topic tests and assignments, as well as practical work.

Subject outline
Light: resolution, diffraction gratings, light technology, instrumentation fibre optics.
Electrostatics: Van der Graff generator, electroscope; gold leaf; proof plane; conducting bodies; induction coil; electric field equipment.
Electronics: theory of electronics, voltage and current measurement, power supplies; AC/DC; wiring series and parallel circuits; resistors; capacitors; peak and RMS values. Transistors, IC’s, audio frequency generators and amplifiers.

Required texts
J.D. Cutnell and K.W. Johnson. Physics, Wiley, 1989

TL210 Laboratory Workshop Practices 1
Prerequisite: laboratory computations.
Assessment: practical work.
Introduction to workshop and safety, materials and properties, use of tools and machines, introduction to technical drawing, joining techniques.

TL211 Laboratory Workshop Practices 2
Prerequisite: physics practices 2.
Assessment: written tests, practical work.
Basic electricity, basic electronic, electrodes, maintenance, first aid, extension work.

TL225 Specimen Preservation 1
An average of three hours per week over the semester. Students will also be required to allocate at least one whole day at weekends for some practical work.
Prerequisites: Laboratory Computations.
Assessment: Most of the assessment is based on students' practical work. Class discussions, written assignments and a written test will form a minor part.

Subject outline
This subject is taught at the Museum of Victoria in Russell Street in Melbourne.
- The purpose of Museum collections
- Collection and preservation procedures — general
- Dried mounts
- Skins
- Skeletons
- Working drawings
- Freezing drying
- Spirit specimens
- Regulations

Students will have access to references at the Museum. All students will need their own lab coats, safety glasses and calculators.

TL226 Specimen Preservation 2
An average of three hours per week over the semester. Students will also be required to allocate one whole day for some practical work.
Prerequisites: Specimen Preservation 1, Laboratory Computations.
Assessment: There will be a written test on safety and suppliers. All other assessment is based on the drawing, mounting and finishing of various specimens.

Subject outline
This subject is taught at the Museum of Victoria in Russell Street in Melbourne.
- Objectives, safety tools and suppliers
- Animal anatomy drawing
- Bird mount
- Mammal mount
- Fish mount

Students will have access to references at the Museum. All students will need their own lab coats, safety glasses and calculators.

TL227 Modelling of Biological Specimens
Prerequisites: Chemistry Practices 2, Laboratory Computations.
Assessment: practical work.
Modelmaking, building a model (scale down), building a model (scale up), finishing.

TL228 Moulding & Casting of Biological Specimens
Prerequisites: Chemistry Practices 2, Laboratory Computations.
Assessment: practical work and written tests.
Rigid piece moulding and casting, applications of flexible mediums, combination, flexible and rigid medium.

TL245 Botany
An average of three hours per week over the semester. This will include two to three hours of class time each week and three full day excursions at weekends.
Prerequisites: Biology Practices 1, Laboratory Computations.
Assessment: Written reports, brief talks and presentations, written tests, practical assessments. The submissions of satisfactory reports on the excursions.
Subject outline
This subject is a study of major plant groups and schemes for classifying them. Students should have an enthusiasm for plants, a willingness to draw, and must be able to attend excursions — they are compulsory.
— Abiotic and biotic factors affecting plant survival and distribution
— Historical implications
— Taxonomy
— Lower plants
— Fungi
— Plant life cycles
— Higher plants
— Plant physiological ecology
— Physiognomy
— Weed ecology
— Agronomic plant taxonomy

Required texts
Students are not expected to purchase their own texts. All notes which students need will be provided. There are numerous texts on Australian environment and identification of elements of Australian flora, major biomes and local associations, Swinburne Library collection is adequate in this area.

TL256 Mammalian Anatomy and Physiology 1
Prerequisites: biology practices 1, laboratory computations.
Assessment: written and practical tests, class participation. Introduction to anatomy and physiology, skeletal system (bones, cartilage, joints), muscle, integument, circulatory system.

TL257 Mammalian Anatomy and Physiology 2
Prerequisites: biology practices 1, laboratory computations.
Assessment: practical and written tests, class participation. Respiratory system, digestive system, urinary system, nervous system, endocrine system, reproductive system.

TL301 Biochemistry 1
Three hours per week, evenly divided between theory and practical work.
Prerequisites: Biology Practices 1 and 2, Chemistry Practices 1 and 2, Laboratory Computations.
Assessment: based on practical and written reports, assignments, written tests and a formal written examination. Students gain marks for each of the above and are required to obtain at least 50% in each in order to satisfactorily complete the subject.

Subject outline
1. The basic chemistry and biological importance of specific macro-molecules (carbohydrates, proteins, lipids, nucleic acids).
2. Introduction to biochemical analyses.
All practical and theory classes are to be attended. Experimental/practical sessions are to be satisfactorily completed.
This subject is a prerequisite for the Biotechnology units.

Required texts
Introduction to Organic and Biochemistry, F.A. Bottelheim & J. March, Saunders College Publishing, 1990. Students will also be required to have their own lab coat, safety goggles and a calculator.

TL302 Biochemistry 2
Prerequisite: biochemistry 1
Assessment: based on theory and practical work.
Enzymes, thermodynamics, introduction to metabolism, glycolysis, citric acid cycle, respiration, fatty acid metabolism, amino acid and nucleotide metabolism, biochemistry of exercise.

TL309 Electron Microscopy 1
Prerequisite: scientific photography.
Assessment: written tests, folio, practical assessment.
Introduction to electron microscopes, histological equipment for electron microscopy, histological techniques for electron microscopy, preparation of biological material for scanning electron microscopy.

TL310 Electron Microscopy 2
Prerequisite: electron microscopy 1.
Assessment: folio work, written tests, practical work.
Cell infrastructure, operation and photographic techniques using the electron microscope, specialised labelling techniques, construction, servicing and calibration of TEM, SEM and ancillary vacuum equipment, special preparation techniques.

TL312 Laboratory Management
Prerequisites: chemistry practices 1, laboratory computing, laboratory computations, communication skills 1, biology practices 1 and concurrent work experience.
Assessment: assignments and written reports related to students own workplace.
Laboratory operations — guidelines and regulations, laboratory safety — safety audit, first aid, evacuation, portable fire extinguishers, laboratory control-storage, inventory and stock control, equipment servicing, purchasing, budgeting, decision management.

TL320 Invertebrate Zoology
Prerequisite: biology practices 2
Assessment: written tests, assignments, practical work. Protozoa, porifera, cnidaria, chordata, molluscs, anthrospods, echinoderms, helminthes, onychophora, chordates.

TL327 Laboratory Computing
Three hours per week if undertaken over a whole semester. Eight hours per day for five weekend days if undertaken in block mode.
Prerequisites: Nil.
Assessment: all assessment will be based on the student's mastery of the above topics. Completion of a credit exam and a score of at least 75% is necessary for students to gain a credit in this subject.

Subject outline
— Introduction to computers
— Introduction to DOS
— Introduction to word processing
— Introduction to databases
— Introduction to spreadsheets
This subject is a prerequisite for Laboratory Management and Computer Programming.

Required texts
All students will be required to have their own disks as follows: 1 x 3½" and 1 x 5¼" disks.

To obtain an exemption in this subject
Students will have to demonstrate previous computer experience, including file handling, word processing, databases, AND spreadsheet use.

TL329 Tissue Culture
Prerequisites: biology practices 1, laboratory computations.
Assessment: written tests, practical assessment.
Laboratory familiarisation, sterilisation principles and practices, media, culture environment, surgical technique, basic culture methods, specialised culture methods, legalities and hygiene.

TL331 Organic Chemistry
Three hours per week, including theory and practical work.
Prerequisites: Chemistry Practices 3 and 4.
Assessment: Assessment is fairly evenly divided between written tests, assignments and practical work. To gain a pass in this subject, students need to be able to clearly demonstrate their knowledge and ability in the practicals.

Subject outline
— Chemical bonding
— IUPAC nomenclature
— Hydrocarbons: aliphatic, aromatic
— Alcohols, phenols and ethers
— Alkyl andaryl halides
— Carboxylic acids and their derivatives
— Aldehydes and ketones
— Amides and their derivatives
TL333 Polymer Science 1
Three hours per week, including theory and practical work.
Prerequisite: Chemistry Practices 3 and 4.
Assessment: Written tests, assignments and practical reports.
Subject outline
— Petroleum and petroleum products
— Petroleum refining
— Properties of plastics
— Classification of polymers
— Crystallinity in polymers
— Glass transition temperature
— Fracture and deformation modes in polymers
— Environmental stress cracking
— Polymerisation processing
— Thermo-setting polymers — phenolicresins
— Thermo-setting polymers — polyesters and alkyl resins
— Thermo-setting polymers — epoxy resins
— Polyolefins
— Styrenic polymers
— Other commercial polymers

TL334 Polymer Science 2
Three hours per week, including theory and practical work.
Prerequisite: Chemistry Practices 3 and 4, Polymer Science 1
Assessment: Written tests, assignments and practical reports.
Subject outline
— Designing with polymers
— Processing techniques
— Identification of plastics
— Polydiene elastomers
— Polymides
— Adhesives
— Polyurethanes and polyesters
— Natural polymers

TL347 Occupational Hygiene
Three hours per week.
Prerequisites: Chemistry Practices 1, Biology Practices 1, Physics Practices 1, Laboratory Computations.
Assessment: Assessment includes written reports and assignments, examination of case studies and three tests.
Subject outline
— Occupational Health and Safety legislation
— Industrial toxicology
— Classification of chemical substances
— Local and systemic effects
— Threshold limit values
— Industrial cancers and carcinogens
— Epidemiology
— Material safety data sheets
— Radiation effects
— Occupational stresses

Students will be required to purchase their own copy of the ACGIH TLV booklet which will be available through the Bookshop.
Worksafe Australia (NOHSC) Guidance Note for completion of Material Safety Data Sheets.

TL390 Chromatographic Analysis 1
Three hours per week, including theory and extensive “hands-on” practical work. There will be a minimum of eight practical sessions.
Prerequisite: Chemistry Practices 3 and 4.
Assessment: fairly evenly divided between written tests, assignments and practical work. To gain a pass in this subject, students need to be able to clearly demonstrate their knowledge and ability in the practicals.
Subject outline
— Ion-exchange chromatography
— Adsorption and partition chromatography (paper, column and thin layer chromatography)
— Solvent extraction
— Electrophoresis

This subject is a prerequisite for Chromatographic Analysis 2.
Required texts
All students must have their own copy of: Instrumental Methods of Chemical Analysis. 5th edn, Galen W. Ewing, McGraw-Hill International Eds., 1985.
This text will also be used for all other Instrumental subjects. Students must also have their own lab coat, safety glasses and calculator.

TL391 Chromatographic Analysis 2
Three hours per week, including theory and extensive “hands-on” practical work. There will be a minimum of eight practical sessions.
Prerequisite: Chemistry Practices 3 & 4, Chromatographic Analysis 1.
Assessment: fairly evenly divided between written tests, assignments and practical work. To gain a pass in this subject, students need to be able to clearly demonstrate their knowledge and ability in the practicals.
Subject outline
— Extension of the theory covered in Chromatographic Analysis 1, and specifically applied to Gas Chromatography and HPLC
Required texts
This text will also be used for all other Instrumental subjects. Students must also have their own lab coat, safety glasses and calculator.

TL401 DNA Technology
Prerequisite: Biochemistry 2.
Assessment: theory and practical work.
Protein synthesis, biochemistry of genetics, molecular biology, inborn errors of metabolism.

TL402 Immunological Techniques
Prerequisite: Biochemistry 2.
Assessment: theory and practical assessment.
Electrophoresis, centrifugation, immunology, Radio Isotopes.

TL411 Computer Programming
Three hours per week.
Prerequisite: Laboratory Computations, Laboratory Computing.
Assessment: Most of the assessment will be on practical assignments, with some written tests.
Subject outline
This subject is required for entry into the computer-aided degree programs at Swinburne University, Higher Education Division.
— Structured programming
— Problem solving
— Writing programs
— Program testing and documentation
— Programming in another language
— Project work
Required texts
There are a number of texts on programming which would be suitable. If you wish to purchase a text, consult your teacher.

TL413 Ecology 1
Prerequisite: biology practices 1, laboratory computations.
Assessment: written tests, assignments, class participation and practical work.
Introduction to ecology, introduction to ecosystems, the significant Australian ecosystem, energy flow, nutrient cycles, excursion/seminar.

TL414 Ecology 2
Prerequisite: biology practices 1, laboratory computations.
Assessment: written tests, assignments, class participation and practical work.
Basic life processes, the influence of physical limiting factors on organisms, interactions, organization of populations, organization of a community, development of an ecosystem, excursion/seminar.

TL418 Entomology
Prerequisite: biology practices 2.
Assessment: written tests and practical assessment.
Structure and function, classification and metamorphosis, collection methods, identification of major orders.

TL445 Pharmacological Methods
Prerequisite: biology practices 2, chemistry practices 2.
Assessment: written tests and practical assessment.
Drugs, effects of drugs, drug action, apparatus, animals, statistics.

TL448 Vertebrate Zoology
Prerequisite: biology practices 2.
Assessment: written tests and practical assessment.
Fish, amphibians, reptiles, birds, mammals.
Subject outline
This subject continues from Microbiology 1 to introduce the student to and offer practice in further general Microbiological techniques and analyses. Topics include:
- Methods of counting bacteria (in samples);
- Growth characteristics and requirements of bacteria;
- Control of bacterial/microbial growth, sterilisation and filtration techniques;
- Microbial diversity and classification, evolution of microbiota;
- Introduction to mycology;
- Microbial relationships in natural environments.
Students will need to complete more reading/study in their own time (outside the allotted class sessions) from the recommended texts in order to consolidate the topics covered.
This subject is a prerequisite for Microbiology 3 and 4.

Required texts
Microbiology Laboratory Exercises, M.E. Barnett and W.C. Brown (Aust Book Distributors), 1992
Microbiology, Cano & Calone, OR West (Book and Film Services), 1986
Biometry of Microorganisms, 5th edn, Brock, Prentice-Hall, 1988

TL462 Microbiology 3
Three hours per week, evenly divided between theory and practical work.
Prerequisites: Microbiology 1 and 2
Assessment: Each student is assessed in the following areas:
- attendance at and execution of exercises in formal laboratory sessions;
- practical examination in the laboratory;
- written examination — this covers theory and practical components;
- written assignments.
Students are expected to attend all sessions. A written laboratory report is to be completed and submitted by the due date following each laboratory exercise. Appropriate laboratory techniques are to be developed.

Subject outline
This unit introduces a variety of specific (some traditional and some very modern) microbiological techniques used in the analyses of microbes which cause disease. An analysis of:
- body defense mechanisms against microbial induced diseases (immune response mechanisms);
- selected diseases and their basic chemotherapeutic treatment — in terms of antimicrobial agents;
- antimicrobial agents and their analyses in the lab;
- an introduction to virology.
In this subject students will complete some analyses involving the use/handling of selected strains (low virulence) of some disease-causing organisms. Correct techniques studied and developed during course work in Microbiology 1 and 2 must be implemented in these laboratory sessions to eliminate risk of infection.
Students will be required to complete more reading and study from recommended texts in this unit (and in Microbiology 4) than in Microbiology 1 and 2.
Any student who wishes to eventually articulate into a Degree course to study Microbiology will gain some experiences following the successful completion of Microbiology units in the Associate Diploma course. Such students are advised to work towards gaining good passes.

Recommended texts
*Microbiology Laboratory Exercises, M.E. Barnett and W.C. Brown (Aust, BK distributors), 1992
*Microbiology, Cano & Calone, OR West (Book and Film Services), 1986
'Biometry of Microorganisms, 5th edn, Brock, Prentice-Hall, 1988
Students will also be required to have their own laboratory coats, safety goggles and calculator.

To obtain and exemption in this subject
Students would need to demonstrate that all the theoretical and practical components of this unit have been successfully achieved in some other formal course of study or by training in the workplace.

Subjects for which this is a prerequisite
Microbiology 2, Molecular Genetics, Genetic Engineering, Biomolecular Engineering, Bioprocessing.

TL461 Microbiology 2
Three hours per week, evenly divided between theory and practical work.
Prerequisites: Microbiology 1.
Assessment: Each student is assessed in the following areas:
- attendance at an execution of exercises in formal laboratory sessions;
- practical examination in the laboratory;
- written examination — this covers theory and practical components;
- written assignments.

Subjects for which this is a prerequisite
Microbiology 1, Molecular Genetics, Genetic Engineering, Biomolecular Engineering, Bioprocessing.
TL463 Microbiology 4
Three hours per week, divided evenly between theory and practical work.
Prerequisites: Students should have completed Microbiology 3.
Assessment: Each student is assessed in the following areas:
- attendance and execution of exercises in formal laboratory sessions;
- practical examination in the laboratory;
- written examination — this covers theory and practical components;
- written assignments
Students are expected to attend all sessions. A written laboratory report is to be completed and submitted by the due date following each laboratory exercise. Appropriate laboratory techniques are to be developed.

Subject outline
This subject introduces the students to:
1. Microbial metabolisms and specific microbiological analyses based upon specific metabolic pathways and processes. Control (genetic) of microbial metabolism.
2. Microbial (in particular — bacterial) genetics and mechanisms of disruption to and the repair of the genome (genes/DNA).
   Mechanisms of genetic variations, and recombination. Introduction to genetic engineering in microbial systems.
3. Identification of systems and diagnostics used in laboratories.
4. Introduction to industrial microbiology — a brief overview. For example: fermentations, brewing and baking industries, microbial products — penicillin production, dairy products.
   Any student who wishes to eventually articulate into a Degree course to study Microbiology will gain some exemptions following the successful completion of Microbiology units in the Associate Diploma course. Such students are advised to work towards gaining good passes.

Required texts
Microbiology Laboratory Exercises, M.E. Barnett and W.C. Brown (Aust. BK Distributors), 1982
Microbiology, Cano & Calone, West (BK and Film Services), 1986
QR
Biology of Microorganisms, 5th edn, Brock, Prentice-Hall, 1988
Students also require a lab coat, goggles and a calculator.

To obtain an exemption in this subject
Students would need to demonstrate that all the theoretical and practical components of this unit have been successfully achieved in some other formal course of study.

TL465 Electrochemical Analysis 1
Prerequisites: chemistry practices 4, laboratory computations.
Assessment: written tests, assignments and practical work.
Conductivity (theory and experimental), potentiometry (theory and experimental).

TL466 Electrochemical Analysis 2
Prerequisite: electrochemical analysis 1.
Assessment: written tests assignments and practical work.
Electrodeposition, polarography, coulometry.

TL470 Work Project
Variable hours. This subject should take students approximately 54 hours at their workplace.
Prerequisites: Communication Skills 1, concurrent work experience.

Subject outline and assessment
The work project is an extensive investigation of an aspect of laboratory work. Students are required to submit a report which may be written, a film or video, a computer program or another form as agreed by the Swinburne supervisor and the employer. Students should also consider giving an oral presentation of their work.
The project must be technically accurate and consistent with established laboratory procedures and techniques. Whatever the form of the submission, it must be preceded by:
- a statement of intention: the subject to be investigated, a list of potential sources, the proposed methods of investigation and analysis;
- an account of the work undertaken: the way in which the work was collected, any successes/difficulties encountered, and resources used;
- a summary of findings, applications and conclusions.
Students are required to complete a work project proposal form well in advance of contemplating the project. It must be agreeable to the student, the student's supervisor at work and by the Course Coordinator. The appropriate form can be obtained from the co-ordinator.

Assistance will be given to students to choose and define a subject for the project, and to present the submission in the appropriate format.

TL471 Molecular Genetics
Three hours per week for one semester.
Prerequisites: TL301, TL302, TL460, TL461.
Assessment: Laboratory tests, written tests, assignments, with an emphasis on practical skills.

Subject aims
(1) To provide students with a broad understanding of the molecular nature of genes.
(2) To enable students to acquire a knowledge of DNA structure, gene expression and molecular bacterial genetics.
(3) To provide foundation studies for other units in biotechnology (i.e. Genetic Engineering and Biomolecular Engineering (1) and (2), whilst complementing other subjects in the biological sciences.

Subject description
Comparison of transcription and translation in prokaryotes and eukaryotes. Replication of DNA; mutation; genes and proteins; gene expression. Chromosomes and recombination; microbial genetics.

Textbook/s
No single text or reference is recommended. Students will be advised of a variety of suitable references.

TL472 Genetic Engineering
Three hours per week for one semester.
Prerequisites: TL471.
Assessment: Laboratory tests, written tests, assignments, with an emphasis on practical skills.

Subject aims
(1) To introduce students to the fundamental principles and techniques of genetic engineering.
(2) To present students with the knowledge and understanding to be able to perform basic DNA manipulations.
(3) To emphasise to students the safety aspects of working with recombinant DNA.
(4) To provide foundation studies for other units in biotechnology (i.e. Biomolecular Engineering (1) and (2), whilst complementing other subjects in the biological sciences.

Subject description
Ligand cloning and recombinant gene expression, use of plasid vectors and the role of vectors in genetic manipulation. Gel electrophoresis, restriction endonucleases, ligation and transformation of E.coli, Southern blotting, DNA probing, gene libraries, PCR technology, ethics and safety guidelines for recombinant DNA studies.

Reference/s
Students will be advised of a variety of suitable references.

TL473 Biomolecular Engineering
Three hours per week for one semester.
Prerequisites: TL472.
Assessment: Laboratory tests, written tests, assignments, with an emphasis on practical skills.

Subject aims
(1) To provide students with a thorough understanding of advanced recombinant DNA techniques.
(2) To introduce students to the applications of recombinant DNA techniques to the specific production of biological compounds.
(3) To enable students to be familiar with how recombinant DNA techniques can be utilised in the analysis of the function of biological compounds.

Subject description
DNA technology in research and industry, phage DNA preparation, DNA extraction and purification techniques, nick translation, Western blotting, DNA sequencing techniques, gene mapping, vector/host experimental design.

Reference/s
Students will be advised of a variety of suitable references.

TL474 Bioprocessing
Three hours per week for one semester.
Prerequisites: TL473.
Assessment: Laboratory tests, written tests, assignments, with an emphasis on practical skills.

Subject aims
To provide students with a working knowledge of current technologies available for the synthesis, functional analysis, purification and large scale production of biologically active compounds.
Subject description
Protein separation and purification including column chromatography precipitation methods and HPLC; monoclonal antibody applications, affinity purification, protein sequencing techniques, large scale production of purified biological compounds; epitope mapping and vaccine development, immunological screening techniques; protein composition analysis and immobilised biocatalysts.

Reference/s
Students will be advised of a variety of suitable references.

TL480 Scientific Photography
Three hours per week, giving a total of 27 hours practical, 24 theory.
Prerequistes: Chemistry Practices 2, Laboratory Computations.
Assessment: Written assignments cover the theory work taught. Practical assignments require taking of appropriate photographs, printing selected negatives and written descriptions of work.

Subject outline
This is a basic photography course covering the theory of cameras and equipment, exposure, lighting and film. Practical sessions are picture taking assignments covering the above topics, and processing of black and white films. Colour work will also be introduced.

Required texts
Students will not be expected to purchase any texts.

Subjects for which this is a prerequisite
Applied Imaging Techniques.

TL483 Applied Imaging Techniques
Prerequisite: scientific photography.
Assessment: assignment and practical work. Microscopes, photomicrographs, specimen preparation, illumination techniques for photomicrography, close-up and macrophotography, electron microscopy, infra-red photography, ultra-violet photography, photography by polarised light.

TL490 Spectrophotometric Analysis 1
Three hours per week, covering theory and extensive “hands-on” practical work. There will be a minimum of 8 practical sessions.
Prerequisites: Chemistry Practices 3 and 4, Laboratory Computations.
Assessment: Assessment is fairly evenly divided between written tests, assignments and practical work. To gain a pass in this subject, students need to be able to clearly demonstrate their knowledge and ability in the practicals.

Subject outline
— Electromagnetic radiation
— Infrared and visible spectroscopy (instrumentation)
— UV/visible spectroscopy (experimental)
— IR theory and IR practical

Required Texts
All students must have their own copy of:
This text will also be used for all other Instrumental subjects. Students must also have their own lab coat, safety glasses and calculator.

TL491 Spectrophotometric Analysis 2
Three hours per week, covering theory and extensive “hands-on” practical work. There will be a minimum of 8 practical sessions.
Prerequisites: Chemistry Practices 3 and 4, Laboratory Computations.
Assessment: Assessment is fairly evenly divided between written tests, assignments and practical work. To gain a pass in this subject, students need to be able to clearly demonstrate their knowledge and ability in the practicals.

Subject outline
— The theory of atomic absorption spectroscopy
— Flame absorption spectroscopy
— Flameless absorption spectroscopy

Required Texts
All students must have their own copy of:
This text will also be used for all other Instrumental subjects. Students must also have their own lab coat, safety glasses and calculator.

TL502 Thermodynamics and Organic Reaction Mechanisms
Three hours per week for one semester.
Prerequisites: Students should have completed Chemistry Practices 3 and 4 if they are intending to proceed to a degree in Computer-aided Chemistry and Chemistry Practices 3 and 4 or Biochemistry 1 and 2 if they intend to proceed to a degree in Computer-aided Biochemistry.
Assessment: Most of the assessment will be written tests.

Subject outline
This subject is intended for students wishing to articulate to a degree course.
— Thermodynamics
— Revision of organic reaction mechanisms
— Electrolytes and mechanisms of electrolytic addition reactions
— Carbocations and their reactivities
— Stability of alkenes
— Reactions of benzene and other aromatic compounds
— Nucleophiles, nucleophile substitution and elimination reactions
— Reactions of alcohols
— Nucleophilic addition reactions of aldehydes and ketones
— Nucleophilic acyl substitution reactions of carboxylic acids and their derivatives

TL503 Advanced Laboratory Technician Physics
Three hours per week.
Prerequisites: Physics Practices 1 and 2, Laboratory Computations.
Assessment: Students will be assessed on practical work, assignments and tests.

Subject outline
This subject is required for entry into the second year of the Computer-aided degree course in Chemistry at Swinburne University. The aim of the subject is to give Associate Diploma of Applied Science Laboratory Technology diplomates an understanding of certain areas of Physics which are covered in a first year of the degree course but are not adequately addressed in the Associate Diploma course. These areas include:
— Light diffraction, electrostatics, electromagnetism and analysis of simple AC circuits.

Required texts

TM188 English Language Skills
Four hours per week for one semester.
Instruction: Tutorials.
Assessment: Satisfactory completion of tasks/assignments. Tests of specific skills.

Subject outline
Part A: Study skills: comprehension (reading and writing)
Note taking and summarising
Library research
Time management
Part B: Effective writing
Effective speaking, technical writing
Reasoning, group discussion and problem-solving

TM190 Bridging Mathematics 1
Six hours per week for one semester.
Prerequisites: None. Students who have not completed Year 10 may experience some difficulty.
Instruction: Class lessons.
Assessment: Topic tests.
Subject aims
To develop the students confidence and competence in the basic mathematical operations, in the areas of arithmetic, algebra and geometry.

Subject description
Arithmetic operations, number line, indices; basic algebra; introduction to co-ordinate geometry and functions; introduction to trigonometry.

Textbook/s

**TM191 Bridging Mathematics 2**
Six hours per week for one semester.
Prerequisites: None. Students who have not completed Year 10 or TM190 may experience some difficulty.
Instruction: Class lessons.
Assessment: Topic tests.

Subject aims
To develop the students competence in mathematical operations in the areas of algebra, coordinate geometry and trigonometry so that further studies may be undertaken.

Subject description
Linear algebra, coordinate geometry, the real number line, linear and quadratic functions, trigonometry, introduction to differential calculus.

Textbook/s

**TM192 Bridging Biology**
Three hours per week for one semester.
Prerequisites: None.
Instruction: Class lessons/tutorials, practical laboratory sessions.
Assessment: Assignments and test, practical reports.

Subject aims
To introduce the formal study of Biology.

Subject description
Scientific method as it relates to biology; living things and the relationships between them; introduction to the anatomy and physiology of mammals.

Textbook — *One: Organisms in their Environment, Functioning Organisms*, Evans Heinemann Education, 1990, Australian Academy of Science

Reference/s

**TM193 Basic Chemistry**
Three hours per week for one semester.
Prerequisites: Basic research skills in accessing dictionaries and references or concurrent enrolment in TM189 or TM200.
Instruction: Practical investigations and narrative modelling.
Assessment: Laboratory reports, research questions in worksheet and assignment format.

Subject aims
To introduce the student to the use of atomic models to explain physical phenomenon. Students familiar with these models could confidently enrol for the Bridging Chemistry program.

Subject description
Investigates current and historically relevant models of atomic structure and bonding. These are then used to introduce acids, base and organic chemistry.

**TM194 Bridging Physics**
Six hours per week for one semester.
Prerequisites: Basic mathematical skills in algebraic transposition, scientific notation, cartesian coordinates, with basic research skills in accessing dictionaries and references.
Methods of Instruction: Practical investigations, mathematical and narrative modelling.
Assessment: Laboratory reports, research questions in assignment format and open book tests.

Subject aims
To present the principles underlying the development of current models and conventions in physical measurement, students familiar with these models could confidently enrol in VCE physics of TAFE Certificate courses involving further physics studies.

Subject description
To build models of the mathematical primary relationships involved with definitions of energy, forces, movement, electricity, and optics.

**Textbook/s**

**TM196 Bridging Chemistry**
Six hours per week for one semester.
Prerequisites: Basic mathematical skills in algebraic transposition, scientific notation, cartesian coordinates with basic research skills in accessing dictionaries and references.
Methods of Instruction: Practical investigations, mathematical and narrative models.
Assessment: Laboratory reports, research questions in assignment format and open book tests.

Subject aims
To present the principles of atomic structure used in defining the current models and conventions of chemistry. Students familiar with these principles and models could confidently enrol in VCE Chemistry or TAFE Certificate courses involving further studies in Chemistry.

Subject description
To build narrative and mathematical models of the atom, and how these are used to define the laws of conservation of mass, behaviour of gases, acids, bases, electrochemical activity and organic chemistry.

**TM197 Basic Physics**
Three hours per week for one semester.
Prerequisites: None.
Methods of Instruction: Practical investigations, narrative modelling.
Assessment: Laboratory reports, research questions in worksheet and assignment format.

Subject aims
To introduce the student to the scientific conventions of investigating physical phenomenon. Students familiar with these conventions could confidently enrol for the Bridging Physics program.

Subject description
Covers current and historically relevant models of measurement, matter, heat and temperature, electricity, forces and light.

**Textbook/s**

**TM198 Microcomputers**
Three hours per week for one semester.
Prerequisites: Nil.
Methods of Instruction: Computer aided instruction, self paced learning from written material, video based learning, lectures.
Assessment: Performance on in-class open book practical tasks.

Subject aims
To familiarise students with the components of a microcomputer based information system. To enable students to use: (1) a word processing package; (2) a spreadsheets package; (3) a database management system.

Subject description
Introduction to microcomputer systems
Introduction to help environments
Introduction to word processing
Introduction to databases
Introduction to spreadsheets

**Textbook/s**
Sala, P. *Lotus 123*. Swinburne Press, 1992

**TM200 Skills in Science**
Two hours per week for one semester.
Prerequisites: Nil.
Methods of Instruction: Lecture, group discussion, self-paced worksheets.
Assessment: (1) Library research assignment; (2) Comprehension, summary and writing under test conditions; (3) Critical analysis of scientific data under test conditions.

Subject aims
To review study skills.
To develop skills necessary for thinking and reasoning within a scientific context.
To develop reading, research and writing skills within a scientific context.
Experimental report writing.
Giving and receiving oral instructions in a scientific context.
Subject description
(1) Study skills
(2) Reading scientific material
(3) Writing in science
(4) Scientific thinking and methodology
(5) Oral description, instruction, questioning, reporting

Textbook/s

TM882 Mathematics
This subject is made up of the following modules:
Introduction Skills
Some Maths from the Real World
An Introduction to Algebra and Spaces

TM883 Mathematics for Engineering and Science
This subject is made up of the following modules:
Applied trigonometry
Co-ordinate geometry
Factorization Part 1
Equations
Introduction to statistics
Simultaneous equations
Index laws, logarithm and surd
Trigonometry around the circle
Factorization Part 2
Function notations
Introduction to calculus

TM884 Chemistry in Everyday Life
This subject is made up of the following modules:
Nature of Matter
Atomic Structure and Bonding
Chemical Reactions and Equations
Basic Chemical Calculations

TM885 Chemistry for Engineering and Science
This subject is made up of the following modules:
Solutions and reactions in solutions
Gases and their properties
Oxidation and reduction reactions
Carbon and carbon compounds
Reaction rates and equilibrium

TM886 The Physical Universe
This subject is made up of the following modules:
Introduction, Units and Measurement
Working with Graphs, Vectors and Scalars
Energy and Energy Sources
Matter, Temperature and Heat
Forces and Motion
Waves — Sound
Waves — Light
Electrostatics and Electricity

TM887 Physics for Engineering and Science
This subject is made up of the following modules:
Forces about us
Our energy resources
Heating and cooling
Waves, sound and light
Electricity and electronics

TM888 Introduction to Microcomputing
This subject is made up of the following modules:
Introduction to Computing Systems
Introduction to Operating Environments
Introduction to Word Processing
Introduction to Database Management Systems
Introduction to Spreadsheets

TM890 Skills For Science
This subject is made up of the following modules:
The Development of Scientific Thinking in Western Culture
Study Skills
Scientific Methodology
Careers in Science

TS107 Accounting for Managers
Assessment: Assignments, topic tests, one 3-hour exam.
Content: The purpose and operations of accounting systems, the fundamental principles of financial management, planning and decision making.

TS226 Middle Management Practices 1
Planning, forecasting, establishing objectives, policies and procedures, programs and schedules, budgeting, decision making and problem solving, control, departmental/corporate organisation.

TS326 Middle Management Practices 2
Prerequisites: Communication Skills, Information Technology, Middle Management Practices 1.
Motivation, communications, styles of leadership, use of committees, conference leadership, personnel planning, training and development, staff appraisal.

TS346 Instructional Techniques
Corequisite: Communication Skills.
Instructional System Model, adult learning, teaching/learning methods, performance objectives, session planning evaluation and assessment.

TS725 Introduction to Sales and Marketing
Definition of selling and marketing, duties of a salesperson, factors involved in successful selling, marketing principles and practice, buyer motivation, marketing strategies, sales interviews and sales targets.

TS726 Computer Sales and Marketing
Jobs in the computer marketing and sales area, computer sales interviews, computer purchase option reports, and computer marketing principles and practice.

TT010 Mathematics 1
Basic arithmetic, algebra and trigonometry.

TT020 Chemistry 1
Corequisite: Mathematics 1.
Atomic structure, periodic table, elements, compounds, electron configuration, bonding, atomic mass, molecular formulae, gases, molarity stoichiometry, acids and bases.

TT030 Fire Physics
Corequisite: Mathematics 1.
Measurement, uniform accelerated motion, hydraulics, energy and power, electricity and heat.

TT100 Fire Mechanics 1
Kinematics, dynamics, rotation and statics.

TT101 Fire Mechanics 2
Fluid mechanics, thermodynamics, electricity and magnetism.

TT110 Building Structures 1
A study of structural elements, materials and systems, structural loads and load transfer, construction techniques.

TT120 Fire Chemistry
Laboratory skills, oxidation, reduction and electrochemistry, organic chemistry, rates of reaction and thermochemistry.

TT125 Introduction to Fire Behaviour
Prerequisite — Fire Physics, Chemistry 1
Combustion, ignition, extinguishment, industrial fire safety for solids, dust, liquids and gases.

TT140 Information Technology
Using a personal computer, computer equipment and jargon, word processing, spreadsheets, database management.
TT160 Personnel Emergency Treatment
Structure and function of the body, asphyxia, burns, lifting and moving casualties, and a number of medical/accident conditions and procedures.

TT210 Building Structures 2
Prerequisite: Building Structures 1.
Victorian building regulations, building classifications and construction, floor area limitations, protection of openings and penetrations, building separation and siting, building fire safety.

TT211 Detection Systems
Prerequisite: Building Structures 1.
Detector operation, performance and applications; control and indicating equipment, certification and approval, system commissioning, maintenance, equipment testing and installation, plans and drawings.

TT212 Suppression Systems
Prerequisite: Building Structures 1.
Sprinkler types and operation, plans and symbols, pipes, water supply system types — water spray, foam, gas flooding, dry chemical; explosion suppression, commissioning and maintenance.

TT213 Fire Safety Management 1
Prerequisite: Building Structures 1.
Role of fire safety managers and fire and rescue organisations, building regulations, means of escape, controlling spread of fire and smoke in buildings, fire prevention, surveys, equipment maintenance and records, fire safety and security.

TT220 Principles of Fire Behaviour
Prerequisite: Fire Chemistry, Fire Mechanics 2.
Process of combustion, mechanics of heat transfer, fire point, burning of solids, flammability of dust, explosives, fire in enclosures, fire retardant and extinguishment.

TT221 Fire Fighting Equipment and Its Application
Prerequisite: Fire Mechanics 1.
Search and rescue, ladders, pumps, ventilation and salvage, hose, breathing apparatus, specialist appliances, portable fire extinguishers, foam, hydrants and practical fire fighting.

TT229 Management Practices
Prerequisite: Communication Skills, Information Technology
Motivation, communications, styles of leadership, teams, planning and decision making, time management, counselling and conflict resolution.

TT301 Detection Systems Design
Prerequisites: Information Technology, Detection Systems, Suppression Systems.
Detectors, standards for detection systems, estimating, valve monitoring systems, fire indicator panels, manual fire alarm systems.

TT302 Suppression Systems Design 1
Prerequisites: Information Technology, Detection Systems, Suppression Systems.
Existing water supplies, documenting water supplies, specifying water supplies.

TT310 Introduction to Communications Technology
Prerequisites: Fire Mechanics 2, Information Technology.
Telecommunications, emergency warning and evacuation systems, communication process, computer systems.

TT320 Fire Investigation
Prerequisites: Fire Safety Management 1, Fire Fighting Equipment & its Application, Principles of Fire Behaviour.
Fire scene preservation, interview techniques, electrical causes, gas appliances, insurance industry, fire facilities, arson investigation, forensic analysis, fire photography, on scene investigation.

TT321 Fire Safety Management 2
Prerequisites: Fire Safety Management 1, Fire Fighting Equipment & its Application, Principles of Fire Behaviour.
Arson, human behaviour — concept of panic, training staff, fire drills and exercises, communications in building emergencies, emergency procedures, building evacuations, bomb threat management, major installations specification, fire safety policy, management of hazardous work practices, technical specifications, fire investigation.

TT322 Hazard Management
Prerequisites: Fire Safety Management 1, Fire Fighting Equipment & its Application, Principles of Fire Behaviour.
Structure and layout of oil refineries and petroleum depots, hazards from product release, computer installations, fire fighting in and near electrical installations, fire fighting on board ships, aircraft fires, airfield firefighting.

TT323 Material Science 1
Prerequisites: Fire Safety Management 1, Firefighting Equipment & its Application, Principles of Fire Behaviour.
Fundamental properties of materials, tests for fire properties, fire properties of structural elements, structural fire resistance tests, arbitrary vs fundamental properties, lining material selection, physical/chemical properties of materials, fire retardants and smoke suppressants, intumescent.

TT324 Emergency Management
Disaster prevention preparedness, response and activities in incident management, fire fighting strategies in incidents, briefing and debriefing, incident action plans, combat/support agencies, O.H. & S. considerations, acts and regulations.

TT327 Sales and Marketing
Prerequisite — Communication Skills
Role and function of salesperson, motivation, selling concepts, selling support commitment, after-order service, terms and documentation, marketing organisation strategy and research.

TT330 Building Structures 3
Prerequisites: Principles of Fire Behaviour, Building Structures 2.
Building fire safety, building safety during construction and demolition, building developments and trends versus fire safety, fire safety problems in high rise buildings, tunnels, bridges and buildings over highways, damage limiting construction.

TT331 Material Science 2
Prerequisites: Principles of Fire Behaviour, Building Structures 2.
Basic approaches to structural design, purposes of structural fire protection, cause of structural collapse, fire resistance and severity, time-temperature curves structural engineering terms, structural performance of building elements, structural damage and reinstatement.

TT332 Building Services 1
Prerequisites: Principles of Fire Behaviour, Building Structures 2.
Electrical services.

TT340 Fire Equipment Servicing 1A
Classification and servicing of a range of portable fire extinguishers to required standard.

TT341 Fire Equipment Servicing 1B
Identification of fire hose, fire hose reel and liquid foam units and the service of these units.

TT342 Fire Equipment Servicing 2
Prerequisite — Fire Equipment Servicing 1 & 2
Installation of portable fire equipment, classes of fire, halons, occupational health and safety regulations, EPA regulations.

TT343 Specialist Fire Fighting Equipment
Specialised appliance construction, layout, siting, safety requirements, training, maintenance, testing and operation.
TT351 Fire Law 1
Prerequisites: Communication Skills 1, Information Technology, Middle Management Practices 1.
Limitations of law, successful laws, history of common law, Victorian law, development of the Australian legal system, parliament, adversarial system, legal profession, court system, the jury, civil and criminal law, civil procedure, criminal procedure, doctrine of precedent.

TT360 Rural Fire Behaviour
History of rural fires in Australia, principles of fire behaviour, elements of rural fires, fire development, the rural/urban and forest/urban interface.

TT361 Agricultural & Forestry Practices in Fire Management
Prerequisite: Principles of Fire Behaviour.
Fire Fighting equipment and its application, objectives of fire management, fire buffer zones, linear fire breaks, foam and forestry management and operations.

TT370 Environmental Safety 1
Prerequisites: Fire Chemistry, Personnel Emergency Treatment.
Industrial toxicology, classification of chemical substances, local and systemic effects of toxins, threshold limit values, industrial cancer and carcinogens, epidemiology, safety data sheets.

TT371 Special Hazards
Prerequisite: Fire Chemistry.
Nature and classes of hazardous materials, labelling and placarding requirements, the United Nations numbering system, information systems, hazardous materials incidents, toxic and infectious materials, radioactive materials, decontamination.

TT372 Occupational Hygiene Measurement
Prerequisite: Environmental Safety 1.
Potential risks to health in the workplace, environmental hazard sampling, gas detector tubes, sampling equipment, biological monitoring, audiometric and spirometric testing, measurement of noise and heat stress.

TT402 Suppression Systems Design 2
Prerequisite: Suppression Systems Design 1.
Choosing a suppression system, sprinkler system design, variations on standard sprinklers.

TT403 Suppression Systems Design 3
Prerequisite: Suppression Systems Design 1.
Halon systems, carbon dioxide systems, high expansion foam systems, chemical powder systems, hand extinguishers, saponification systems.

TT410 Radio Systems
Prerequisites: Fire Mechanics 2, Information Technology.
Radio systems, video systems, mobile control units.

TT411 Fire Alarm Systems
Prerequisites: Introduction to Communication Technology.
Fire station control, security systems, fire alarm systems and attached equipment, sprinkler systems & valve monitoring devices, fire station alerting equipment, unmanned detectors.

TT412 Communication Centres
Prerequisites: Fire Mechanics 1, Information Technology.
Introduction to communication technology: communication centre design, staffing, equipment and procedures.

TT432 Building Services 2
Prerequisite: Building Services 1.
Building transport services, heating, ventilation, air conditioning.

TT451 Fire Law 2
Prerequisite: Fire Law 1.
Statutory law, statutory interpretations, delegated legislation, controlling delegated legislation, standards, history of negligence, modern negligence, rescue cases, origins of fire related law, MFB Act, CFA Act, statutory limitations to negligence, evidence.
3500EEA Associate Diploma of Engineering (Mechanical)

Course structure
May be studied on a full-time or part-time basis.
In addition to the subjects studied in the Advanced Certificate (Mechanical Engineering), the following are to be undertaken:

Professional recognition
Students completing the course are academically qualified for admission as graduate Engineering Associates of the Institution of Engineers, Australia.

Compulsory Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD031 Mechanical Design and Drafting 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD032 Mechanical Design and Drafting 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD034 Mechanical Design 2A</td>
<td>1</td>
</tr>
<tr>
<td>TD035 Mechanical Design 2B</td>
<td>1</td>
</tr>
<tr>
<td>TD028 Applied Mechanics 3A</td>
<td>1</td>
</tr>
<tr>
<td>TD029 Applied Mechanics 3B</td>
<td>1</td>
</tr>
<tr>
<td>TD030 Final Project (Applied Mechanics)</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 7

Broadening Subjects
Five broadening subjects must be selected.

Total 36

3500EEB Associate Diploma of Engineering (Manufacturing)

Course Structure
Graduates having completed the Advanced Certificate (Manufacturing Engineering) will be able to undertake the Associate Diploma (Manufacturing Engineering) on a full-time or part-time basis.

Professional recognition
Students completing the course are academically qualified for admission as graduate Engineering Associates of the Institution of Engineers, Australia.

Core Subjects
They are the same as the Advanced Certificate (Mechanical Engineering).

Compulsory Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD000 CAD/CAM Basic</td>
<td>1</td>
</tr>
<tr>
<td>TD041 Robotics</td>
<td>1</td>
</tr>
<tr>
<td>TD002 CAD/CAM Advanced</td>
<td>1</td>
</tr>
<tr>
<td>TD042 Production Planning and Control 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD043 Production Planning and Control 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD044 Production Planning and Control 2A</td>
<td>1</td>
</tr>
<tr>
<td>TD045 Production Planning and Control 2B</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 8

Elective Subjects
Elective subjects must be selected to a value of four units from the following:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD048 Mechanics 1 A/B</td>
<td>2</td>
</tr>
<tr>
<td>TD055 Numerical Control 1</td>
<td>2</td>
</tr>
<tr>
<td>TD056 Numerical Control 2</td>
<td>2</td>
</tr>
<tr>
<td>TD046 Materials Handling 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD047 Materials Handling 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD052 Jig and Tool Drafting 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD053 Jig and Tool Drafting 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD050 Fluid Power 1</td>
<td>1</td>
</tr>
<tr>
<td>TD051 Fluid Power 2</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 4

Broadening Subjects
Six broadening units must be selected.

Total 36

3500EEC Associate Diploma of Engineering (Mechanical Design Drafting)

Course structure
May be studied on a full-time or part-time basis.
In addition to the subjects studied in the Advanced Certificate (Mechanical Engineering), the following are to be undertaken:

Professional Recognition
Students completing the course are academically qualified for admission as graduate Engineering Associates of the Institution of Engineers, Australia.

Compulsory Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD031 Mechanical Design and Drafting 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD032 Mechanical Design and Drafting 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD034 Mechanical Design 2A</td>
<td>1</td>
</tr>
<tr>
<td>TD035 Mechanical Design 2B</td>
<td>1</td>
</tr>
<tr>
<td>TD036 Mechanical Design 3A</td>
<td>1</td>
</tr>
<tr>
<td>TD037 Mechanical Design 3B</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 7

Broadening Subjects
Five broadening subjects must be selected.

Total 36

Quality Technology Stream

Course structure
Students having completed the Advanced Certificate in Manufacturing Engineering: Quality Technology, may undertake the Associate Diploma in Manufacturing Engineering: Quality Technology on a part-time basis.

Elective specialist stream subjects
Four electives must be selected from the following specialist stream subjects.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF297 Statistical Quality Control 11</td>
<td>1</td>
</tr>
<tr>
<td>TF340 Principles of Measurement</td>
<td>1</td>
</tr>
<tr>
<td>TF317 Dimensional Metrology</td>
<td>1</td>
</tr>
<tr>
<td>TF253 Computer Appreciation and Applications to Quality Control</td>
<td>1</td>
</tr>
<tr>
<td>TF462 Reliability and Prototype Testing</td>
<td>1</td>
</tr>
<tr>
<td>TF464 Product Liability and Product Recall Management</td>
<td>1</td>
</tr>
<tr>
<td>TF465 Quality Control Systems and their Assessment</td>
<td>1</td>
</tr>
<tr>
<td>TF467 Human Factors</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 4

Broadening units
Up to seven broadening units to be selected for study. It is recommended that these subjects should include Metrology 1AB and 2AB if the units completed up to this stage do not include Dimensional Metrology.

Advanced Certificate courses

Entry requirements
Satisfactory completion of a VCE of equivalent course comprising four semesters' units of Mathematics and two semesters' units of English and Physics at Year 12; or
Experience and maturity deemed by Swinburne University TAFE Division necessary to succeed in the course, such as satisfactory progress in, or completion of, the 3212ERA/M Certificate in Engineering (Mechanical) trade course.

Note: For those students that do not have the prerequisite academic qualifications, then a bridging program comprising Engineering Computations, Communication Skills, Introduction to Computers and Engineering Principles is to be initially undertaken.

Awarding
The certificate is awarded after completion of the academic studies and provision of evidence of two years of relevant industrial experience.

78
Career potential

The Advanced Certificate has been designed to enable a graduate to be employed in such positions as technical assistants, supervisors, trainee detail draftspersons, junior technical officers in such industries as appropriate to the engineering discipline chosen.

These courses have been designed to meet the requirements of industry, but also allow a student to expand his/her particular engineering interests by the selection of "broadening" subjects.

3300EEM Advanced Certificate in Mechanical Engineering

Course Structure

Graduates who have completed the Advanced Certificate (Mechanical Engineering) will be able to undertake the Associate Diploma (Mechanical Design Drafting), or Associate Diploma (Mechanical Engineering). The Advanced Certificate may be studied on a full-time or part-time basis.

Core subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD001</td>
<td>Engineering Practice 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD002</td>
<td>Engineering Practice 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD003</td>
<td>Engineering Practice 2A</td>
<td>1</td>
</tr>
<tr>
<td>TD004</td>
<td>Engineering Practice 2B</td>
<td>1</td>
</tr>
<tr>
<td>TD005</td>
<td>Engineering Practice 3A</td>
<td>1</td>
</tr>
<tr>
<td>TD006</td>
<td>Engineering Practice 3B</td>
<td>1</td>
</tr>
<tr>
<td>TD007</td>
<td>Engineering Processes</td>
<td>1</td>
</tr>
<tr>
<td>TD014</td>
<td>Engineering Materials 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD015</td>
<td>Engineering Materials 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD016</td>
<td>Engineering Drafting 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD017</td>
<td>Engineering Drafting 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD021</td>
<td>Engineering Principles 1B</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 12

Compulsory Subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD024</td>
<td>Applied Mechanics 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD025</td>
<td>Applied Mechanics 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD026</td>
<td>Applied Mechanics 2A</td>
<td>1</td>
</tr>
<tr>
<td>TD027</td>
<td>Applied Mechanics 2B</td>
<td>1</td>
</tr>
<tr>
<td>TD028</td>
<td>Statistics</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 5

Broadening Subjects

One broadening unit must be selected.

For those students not having the necessary prerequisite academic qualifications, a bridging program is to be initially undertaken.

Bridging subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD010</td>
<td>Engineering Computations 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD011</td>
<td>Engineering Computations 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD012</td>
<td>Computer Studies</td>
<td>1</td>
</tr>
<tr>
<td>TD018</td>
<td>Communication Skills 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD019</td>
<td>Communication Skills 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD020</td>
<td>Engineering Principles 1A</td>
<td>1</td>
</tr>
</tbody>
</table>

3300EEN Advanced Certificate in Manufacturing Engineering

Course Structure

The core subjects are the same as the Advanced Certificate (Mechanical Engineering) and may be studied on a full-time or part-time basis.

Elective Subjects

Elective subjects must be selected to the value of two units from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD048</td>
<td>Metrology 1AB</td>
<td>2</td>
</tr>
<tr>
<td>TD055</td>
<td>Numerical Control 1</td>
<td>2</td>
</tr>
<tr>
<td>TD056</td>
<td>Numerical Control 2</td>
<td>2</td>
</tr>
<tr>
<td>TD046</td>
<td>Materials Handling 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD047</td>
<td>Materials Handling 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD052</td>
<td>Jig and Tool Drafting 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD053</td>
<td>Jig and Tool Drafting 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD050</td>
<td>Fluid Power 1</td>
<td>1</td>
</tr>
<tr>
<td>TD051</td>
<td>Fluid Power 2</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 24

Quality Technology Stream

Course Structure

The core subjects are the same as the Advanced Certificate (Mechanical Engineering) and may be studied on a full-time or part-time basis.

Compulsory subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM127</td>
<td>Statistics</td>
<td>1</td>
</tr>
<tr>
<td>TF197A</td>
<td>Statistical Quality Control A</td>
<td>1</td>
</tr>
<tr>
<td>TF197B</td>
<td>Statistical Quality Control B</td>
<td>1</td>
</tr>
<tr>
<td>TF195</td>
<td>Organisation and Management for Quality A</td>
<td>1</td>
</tr>
<tr>
<td>TF196</td>
<td>Organisation and Management for Quality B</td>
<td>1</td>
</tr>
</tbody>
</table>

Broadening subjects

One broadening subject must be selected.

Swinburne Certificate of Quality Control

Students who have successfully completed the five specialist stream units of the Advanced Certificate in Manufacturing Engineering (Quality Technology stream) and three electives from the Associate Diploma in Engineering (Manufacturing-Quality Technology stream) will be eligible for a Certificate in Quality Control awarded by Swinburne TAFE Division.

Electives

Three electives are to be selected from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF297</td>
<td>Statistical Quality Control 11</td>
<td>1</td>
</tr>
<tr>
<td>TF340</td>
<td>Principles of Measurement</td>
<td>1</td>
</tr>
<tr>
<td>TF317</td>
<td>Dimensional Metrology</td>
<td>1</td>
</tr>
<tr>
<td>TF253</td>
<td>Computer Appreciation and Application for Quality Control</td>
<td>1</td>
</tr>
<tr>
<td>TF462</td>
<td>Reliability and Prototype Testing</td>
<td>1</td>
</tr>
<tr>
<td>TF464</td>
<td>Product Liability and Recall Management</td>
<td>1</td>
</tr>
<tr>
<td>TF465</td>
<td>Quality Control Systems and their Agreement</td>
<td>1</td>
</tr>
<tr>
<td>TF467</td>
<td>Human Factors</td>
<td>1</td>
</tr>
</tbody>
</table>
3212ERA/F Certificate in Engineering
(Fabrication)

General
This course is designed to train apprentices in the many practical skills required to carry out their trade.

Course structure
The complete course consists of three years of schooling. The course is studied on a modular basis, each module dealing with a particular skill together with the necessary Theory and Developmental Drawing.

Students must complete the equivalent of 24 x 40 hour modules consisting of:
(i) Core — Compulsory 4½ modules
(ii) Stream electives — 10 modules
(iii) Free electives — 8 modules

Modules may be completed in any order provided prerequisites are observed.

Core compulsory modules:
NBB01 Communication and Industrial Relations
NBB02 Occupational Health and Safety (½ module)
NBB06 Machining
NBB08 Electrical Fundamentals
NBB09 Welding and Thermal Cutting

Core elective modules may be selected from:
NBB03 Materials Handling
NBB04 Computing in Engineering
NBB05 Quality Concepts
NBB07 Hand and Power Tools
NBB10 Fabrication Techniques 1
NBB11 Mechanical Components
NBB12 Engineering Drawing Interpretation
NBB13 Engineering Science

(ii) Stream electives — 10 modules
Stream elective subjects may be chosen from:
NFO01 Manual Metal Arc Welding 1
NFO02 Gas Metal Arc Welding 1
NFO03 Gas Tungsten Arc Welding 1
NFO04 Oxy Acetylene Welding 1 (OAW1)
NFO05 Manual Metal Arc Welding 2
NFO06 Manual Metal Arc Welding 3
NFO07 Gas Metal Arc Welding 2
NFO08 Gas Metal Arc Welding 3 (Non-Ferrous Metals)
NFO09 Gas Tungsten Arc Welding 2
NFO10 Gas Tungsten Arc Welding 3
NFO11 Oxy Acetylene Welding 2 (OAW2)
NFO12 Submerged Arc Welding
NFO13 Thermal Cutting and Associated Processes
NFO14 Gas Metal Arc Welding 4
NFO15 Material Science
NFO16 Welding Process Technology
NFO17 Welding Certificate — General Theory
NFO19 Fabrication Techniques 2
NFO20 Geometric Development
NFO21 Computer Applications
NFO22 Fabrication — Cylindrical 1
NFO23 Fabrication — Cylindrical 2
NFO24 Fabrication — Cylindrical 3
NFO25 Fabrication — Conical 1
NFO26 Fabrication — Conical 2
NFO27 Fabrication — Transitions 1 (Concentric)
NFO28 Fabrication — Transitions 2 (Offset)
NFO29 Fabrication — Pressure Vessels 1
NFO30 Fabrication — Pressure Vessels 2
NFO31 Fabrication — Pipework Drawing
NFO32 Fabrication — Pipework
NFO33 Fabrication — Structural 1
NFO34 Fabrication — Structural 2
NFO35 Fabrication — Structural 3
NFO36 Fabrication — Stainless Steel
NFO37 Fabrication — Aluminium
NFO39 Fabrication — Computer Applications 2
NFO40 Fabrication — Workshop and Site Organisation
NFO60 Welding Processes — Alloy 1
NFO61 Welding Processes — Alloy 2
NFO63 Welding — ASME
NFO64 Fabrication — Conical 3
NFO65 Welding Certificate 1 (MMAW of LCS)
NFO66 Welding Certificate 2
NFO67 Welding Certificate 3 (MMAW of Alloy Steel)
NFO68 Welding Certificate 4 (MMAW of Alloy Steel Pipe)
NFO69 Welding Certificate 5 (FCAW, MMAW Alloy Steel Pipe)
NFO70 Welding Certificate 6/8E (Fuel Gas Welding)
NFO71 Welding Certificate 7 (Gas Tungsten Arc Welding)
NFO72 Welding Certificate 8/8E (Gas Metal Arc Welding)
NFO73 Welding Certificate 9 (Automatic Welding/Submerged Arc Welding)
NFO75 Welding Metallurgy
NFO76 Weld Testing and Inspection
NFO77 Codes and Specifications — Steel Structures

(iii) Free electives — 8 modules
Free elective modules may be selected from any of the fabrication, mechanical or electrical/electronics streams. Details of modules may be obtained from the Mechanical and Manufacturing Technology Department.

Apprenticeship courses
3212ERA/M Certificate of Engineering
(Mechanical) (Fitting and Machining)

Career potential
A part-time day apprenticeship course of three years’ duration, designed to meet the requirements of the Industrial Training Commission of Victoria and industry. In the first year, the student is required to attend school 2 days per week (a total of 80 days) while in the second year they are required to attend 1 day per week.

Entrance requirements
Students must meet the requirements as specified by the Industrial Training Commission of Victoria. Currently there is no set entrance standard.

Course structure
(a) The course consists of three main areas:
   Broad Base
   Core (prerequisites for electives)
   Electives

(b) To obtain a certificate of engineering the apprentice must pass equivalent to 11 full modules from the Broad Base area plus 13 other elective modules providing all prerequisites are covered.

(c) Swinburne TAFE Division has devised a course that should suit most students with some flexibility in the elective area.

(d) Each module should take approximately 40 hours to complete.

Module details
Broad Base (compulsory modules)
NBB01 Communication and Industrial Relations
NBB02 Occupational Health & Safety (½ module)
NBB04 Computing in Engineering
NBB05 Quality Concepts (½ module)
NBB06 Machining
NBB07 Hand and Power Tools
NBB08 Electrical Fundamentals
NBB09 Welding & Thermal Cutting
NBB12 Engineering Drawing Interpretation 1
NBB13 Engineering Science
NM06 Engineering Materials
NM15 Fitting Techniques 1

Core prerequisites
NM01 Milling 1
NM05 Engineering Calculations
NM07 Principles of Machining (½ module)
NM16 Drills and Drilling
NM17 Grinding 1
NM19 Tool sharpening off hand (½ module)
NM25 Turning 1
NM26 Turning 2
NM44 End Drawing Interpretation 2
Possible elective streams

Toolmaking stream
NM02 Milling 2
NM18 Precision Measurement
NM18 Grinding 2 (Cylindrical Grinding)
NM51 Precision Machining
NM20 Tool & Cutter Grinding
NM21 Precision Measurement
NM09 CNC Machining
NM10 CNC Turning 3
NM12 CNC Milling 1

Advanced Machining stream
NM02 Milling 2
NM21 Precision Measurement
NM18 Grinding 2
NM51 Precision Machining
NM27 Turning 3

Maintenance Fluid Power
NM28 Fitting Techniques 2
NM31 Mechanical Components
NM30 Fluid Power
NM22 Machine Repair and Installation
NM29 Mechanical Power and Transmissions

Core and elective modules have been chosen from the following list of National Metals and Engineering modules.
NM01 Milling 1
NM02 Milling 2
NM03 Milling 3
NM04 Miscellaneous Machines
NM05 Engineering Calculations
NM06 CAD 1
NM07 Principles of Machining
NM08 Engineering Materials
NM09 CNC Machining
NM10 CNC Turning 1
NM11 CNC Turning 2
NM12 CNC Milling 1
NM13 CNC Milling 2
NM14 Robots
NM15 Fitting Techniques 1
NM16 Drills and Drilling Machines
NM17 Grinding 1
NM18 Grinding 2
NM19 Tool Sharpening — off-hand
NM20 Tool & Cutter Grinding
NM21 Precision Measurement
NM22 Machine Repair and Installation
NM23 Plant Conditioning and Monitoring
NM24 Turning 4
NM25 Turning 1
NM26 Turning 2
NM27 Turning 3
NM28 Fitting Techniques 2
NM29 Mechanical Power Transmission
NM30 Fluid Power
NM31 Pneumatics 1
NM32 Hydraulics 1
NM33 Fluid Power Control 1
NM34 Air Compression Distribution
NM36 Introduction to Heat Transfer
NM37 Steam Plant
NM39 Engines 1 — Spark Ignition
NM40 Engines 2 — Med Diesel
NM41 Engines 3 — Large Diesel
NM42 Water Pumping
NM43 Pumps — Application & Maintenance
NM44 Engineering Drawing Interp. 2
NM45 Electrical Discharge Machining
NM46 Press Tool 1 — Introduction
NM47 Press Tool 2 — Blank & Pierce
NM48 Press Tool 3 — Bend
NM49 Press Tool 4 — Draw Dies
NM50 Press Tool 5 — Progressive Dies
NM51 Precision Machining
NM52 Moulds & Cavity Dies — Introduction
NM53 Moulds & Cavity Dies 1
NM54 Moulds & Cavity Dies 2
NM55 Moulds & Cavity Dies 3
NM56 Moulds & Cavity Dies 4
NM57 Hydraulics 2
NM58 Hydraulics 3
NM59 Hydraulics 4
NM60 Pneumatics 2
NM61 Pneumatics 3
NM62 Pneumatics 4

Engineering & Industrial Science

4200EFG Post-apprentice Course in Toolmaking (Presstools)

Press-toolmaking is a post-apprenticeship (Fitting and Turning) course designed to provide advanced training in the area of die manufacture and design for tradespersons. Classes are available during the day and evening.

This course involves 3 years of study, the first year being common to all Toolmaking streams and can be studied in the 3rd year of the Fitting and Turning course. The following two years include theory/practical training in Press-tool manufacture and design. A certificate is awarded on completion of the course.

Career potential
Students who have already completed an apprenticeship course will develop a higher level of ability in the theoretical and practical side of die making and developmental work which will enable them to enter more highly skilled and lucrative positions such as foreman/forewoman and leading hands in a very wide variety of manufacturing industries.

Prerequisites
Satisfactory completion of a Fitting and Turning apprenticeship course, or equivalent.

Course structure
The course is of three years duration and available both day and evening, i.e. one half-day or two evenings per week.

Exemptions will be offered to those students who have successfully completed the first year of a toolmaking elective through their Fitting and Turning apprenticeship. With these exemptions, the course can be reduced to two years duration.

Area of study
1st stage
TFT01F-TFT15F level 3 (toolmaking stream)
Fitting and Turning course.

2nd stage
TFS11F Press-toolmaking Theory 1
TFS12F Press-toolmaking Prac. 1

3rd stage
TFS13F Press-toolmaking Theory 2
TFS14F Press-toolmaking Prac. 2

Welding courses
3222EPA Certificate in Basic Welding

Objectives
(a) To qualify people for the welding industry where a basic welding skill only is required.
(b) To provide basic instruction for progression to the TAFE Intermediate Welding Certificate Course.

Course content
The course content is stated as training objectives based on the Systems Approach to training. All objectives are performance objectives.

The course consists of six modules. Modules 1 to 4 are practice and modules 5 and 6 are theory.

The nominal duration of the course is 2 x 120 hour semesters.

Entry level
To obtain entry to this course the student must be not less than fifteen years of age on the first day of the course.

The student must also have basic written and oral English.

Course structure

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TW001</td>
<td>Manual Metal Arc Welding</td>
</tr>
<tr>
<td>TW002</td>
<td>Gas metal Arc Welding 2</td>
</tr>
<tr>
<td>TW003</td>
<td>Flame Cutting and Gouging</td>
</tr>
<tr>
<td>TW004</td>
<td>Flame Gas Welding 4</td>
</tr>
<tr>
<td>TW005</td>
<td>Practice Associated Theory 5</td>
</tr>
<tr>
<td>TW006</td>
<td>Additional Theory 6</td>
</tr>
<tr>
<td>TW025</td>
<td>Basic Welding Exam 25</td>
</tr>
</tbody>
</table>

81
4200EPA Intermediate Welding Course
(Endorsement to Certificate in Basic Welding)

Objectives
(a) To qualify personnel for the welding industry where an intermediate welding skill only is required.
(b) To provide instruction for progression to the TAFE Proficiency Welding Course.

Course content
The course is stated in training objectives based on the Systems Approach to training.

The course consists of six modules. Modules 7 to 10 are practice and modules 11 and 12 are theory.

The nominal duration of the course is 2 x 120 hour semesters.

Consistent with the Systems Approach to training this will vary with the individual ability of each student.

Entry level
(a) The successful completion of the TAFE Basic Welding Certificate Course; or
(b) An equivalent qualification as determined by each TAFE provider.

Course structure
TW007  Manual Metal Arc Welding
TW008  Gas Metal Arc — Flux Cord Arc Welding
TW009  Gas Tungsten Arc Welding
TW010  Allied Cutting Processes
TW011  Practice Associated Theory
TW012  Additional Theory

4200EPB Proficiency Welding Course
(Endorsement to Certificate in Basic Welding)

Objectives
(a) To qualify personnel for the welding industry where a high degree of welding skill is required, but where Statutory Certification is not necessary.
(b) To provide instruction for progression to Statutory Certification for suitably qualified personnel.

Course content
The course is stated in training objectives based on the Systems Approach to Training.

The course consists of six modules. Modules 13 to 16 are practice and modules 17 and 18 are theory.

The nominal duration of the course is 1 x 120 hour semester.

Consistent with the Systems Approach to Training this will vary with the individual ability of each student.

Entry level
(a) The successful completion of the TAFE Intermediate Welding course; or
(b) An equivalent qualification as determined by each TAFE provider.

Course structure
TW014  Module 14. Submerged Arc Welding
TW015  Module 15. Gas Metal Arc Welding
TW016  Module 16. Gas Tungsten Arc Welding
TW017  Module 17. Pract Associated Welding
TW018  Module 18. Additional Theory

Special subject
Electric Welding
A subject to enable qualified tradespersons to improve their knowledge and skills in order to pass special government welding examinations.

TF415  Electric Welding Special

Hobby courses
Engineering Workshop Practice
This is an evening hobby course in basic machine shop practice for the enthusiast. It provides the opportunity to acquire sufficient skill to undertake simple design and manufacture of projects.

Hobby Welding
An elementary welding course designed to meet the needs of hobby welding enthusiasts. It provides the opportunity to acquire sufficient skill to proceed from simple household repairs to the design and manufacture of projects.

Subject Details

NBB01  Communication skills orally, written and research skills, industrial relations, workings of unions and management.

NBB02  Legal requirements with regard to OH&S — Safety, housekeeping, sources of pollution.

NBB04  Computer applications in engineering, components of computers, keyboard skills training in spreadsheet, database and CAD.

NBB05  Principles of quality control, systematic procedures of quality control.

NBB06  Basic operations on lathe, milling machine, cut-off saws and bench work.

NBB07  Use of hand and power tools.

NBB08  Safety in electricity, fundamentals, components, lab equipment.

NBB09  Welding, fusion, soft solder, brazing, cutting using oxy acetylene, manual arc, gas metal arc.

NBB12  Interpretation of engineering drawing, orthographic, isometric, oblique. Sketching to AS1100.

NBB13  Basic mathematics, engineering physics, engineering physics, engineering materials.

NM01  Basic milling operations for both vertical and horizontal milling machines including keyway cutting, indexing, form milling etc.

NM05  Engineering calculations including use of calculations including use of calculator right angle triangle problems, manipulation of algebraic expressions sine and cosine rules.

NM07  Advanced cutting tool geometry.

NM08  Steel, heat treatment, plastics, processes of production of materials.

NM15  Fitting using scrapers and reamers and dowels, pins, pegs and other fabrication methods.
NM16 Types, function and use of drills and drilling machines.
NM17 Surface grinding flat square angled parallel grooves etc. to a high degree of accuracy.
NM19 Grinding of lathe cutting tools and drills using off-hand grinding methods.
NM25 Basic parallel turning to tolerated drawings.
NM26 Advanced turning of tapers parallels form turning face plate work and use of steadies.
NM44 Advanced engineering drawing interpretation formal 3rd angle projection drawing, sectioning, detail drawing, assembly drawing.

TD001/ Engineering Practices 1 002/003
These first three units deal with all common engineering workshop practices. Safety, marking out, hand tools, cutting fluids, lathe, milling machine, drilling machine, grinding machines.

TD004 Engineering Practices 2B

TD005 Engineering Practices 3A

TD006 Engineering Practices 3B
The comparison of NC machines to conventional machines. Use in industry. Methods of control. Tooling arrangements and tool technology. Developing a simple program.

TD007 Engineering processes
Metal cutting, forming and casting processes that are currently used in industry.

TD010 Engineering Computations 1A
To develop completely in the algebraic manipulation of equations and formulas; functions and graphs.

TD011 Engineering Computations 1B
To develop an understanding of geometry, triangleometry, mensuration, logarithmic notation and statistics as used in engineering.

TD012 Computer Studies
Introduction to computers. Peripheral equipment. Operating systems, principle of networking. Basic programming and application packages.

TD014 Engineering Materials 1A
The understanding of the properties, testing and uses of engineering materials; the structure and solidification of metals; mechanics of corrosion.

TD015 Engineering Materials 1B
The heat treatment of plain carbon steels; cast iron; alloy steels. Aluminium, copper, magnesium, nickel, zinc, lead, tin and other alloys; plastics; adhesives.

TD016 Engineering Drafting 1A
Use of office furniture and equipment; basic drafting skills; drafting practices as per Australian Standards; types of fasteners.

TD017 Engineering Drafting 1B
Basic mechanisms and their applications, detail drawings, assembly drawings, auxiliary views, basic solid geometry.

TD018 Communication Skills 1A
TD019 Communication Skills 1B
The examination of methods of collecting, organising, evaluating and presenting factual information. Oral presentation, report writing, letters, memos and media analysis.

TD020 Engineering Principles 1A
Forces, vectors, kinematics of linear, curvilinear and circular motion, Newton’s Laws, kinetics of motion.

TD021 Engineering Principles 1B
Moments, torque, friction, equilibrium, work energy and power, momentum, machines, sound.

TD023 Statics
The study of mathematical and graphical methods of determining reactions, forces and conditions of equilibrium in static systems.

TD024 Applied Mechanics 1A
TD025 Applied Mechanics 1B
Strength of materials, basic beam and column design, springs, use of commercial steel catalogues, A S codes, C A M operation and profile.

TD026 Applied Mechanics 2A
TD027 Applied Mechanics 2B
The application of principles of mechanics to multi-element systems; analysis of positive and non-positive drive systems.

TD028 Applied Mechanics 3A
Revision and extension of the principles of mechanics and the application of appropriate codes to the selection and design of machine elements; in particular those allied to power transmission.

TD029 Applied Mechanics 3B
The study of machine frames, mechanisms, balancing reciprocating masses, rotational speed variation and control, pressure vessels, strain gauges.

TD030 Applied Mechanics — Final Project
This project is aimed at ensuring that all graduates have achieved the skills, knowledge and levels of understanding required to function as a T.E. or Eng. Assistant.

TD031 Mechanical Design and Drafting 1A
Drafting practices extended; use of bearings, lubrication and application; belt and chain drives; brakes and clutches, functional design of mechanical components in assemblies.

TD032 Mechanical Design and Drafting 1B
Layout of steelwork drawings; connection methods; functional design of supports, guards, frames for mechanical equipment, platforms, ladders; corrosion protection.

TD033 Mechanical Design and Drafting 1C
Development of the drafting skills and knowledge of equipment required for the process plant and piping industry.

TD034 Mechanical Design 2A
The application of the fundamentals of engineering principles and applied mechanics to the analysis of design problems and machine elements.

TD035 Mechanical Design 2B
The application of the fundamentals of engineering principles and applied mechanics in the design of steel structures in accordance with the relevant Australian standards.

TD036 Mechanical Design 3A
Extension of knowledge in the analytical design of product and general plant and the use of reference material, codes and catalogues.

TD037 Mechanical Design 3B
Products and Mechanical Plant
Further analytical design and selection of multi-element systems, manufacturing methods and design costing.

TD039 CAD/CAM Basic
Topics include; introduction to automation, the computer, the role of the computer in manufacturing, numerical control.

TD040 CAD/CAM Advanced
Extension of the topics in CAD/CAM basic in more depth and detail.

TD041 Robotics
Includes the following components related to industrial robotics: Description, definitions, safety of operation, work layouts, tooling and end effectors, installation costs, understanding of the robots’ actuators and various types of programming.
TD042 Production Planning and Control 1A
The terminology, nature and purpose of production control. The organisation of production control and the functions within the production department. Preparation of forecasts, schedules, machine loading and inventory control.

TD043 Production Planning and Control 1B
Production control procedures, work estimating, manufacturing authority and master scheduling preparation together with material control.

TD044 Production Planning and Control 2A
The production function and its relationship with organisational policies. Budgeting and control, capacity analysis, planning techniques and quality control.

TD045 Production Planning and Control 2B
Production layouts, materials handling systems for factory situations, Computer applications in production. Group technology.

TD046 Materials Handling 1A

TD047 Materials Handling 1B
Legal handling and storage requirement. Storage technology and costs. Mobile road handling, load measuring and power drives in handling.

TD048 Metrology 1A
An introduction to fine measurement using length standards, comparators, and limit gauges. The identification of errors in fine measurement.

TD049 Metrology 1B
The fine measurement of lengths and angles. The testing of straightness, flatness, squareness and surface texture. The use of optical projection.

TD050 Fluid Power and Applications
The principles of pneumatics. Components, symbols, control methods and application. The design of circuits and an introduction to electrical control methods.

TD051 Fluid Power and Applications
The principles of hydraulics. Components, symbols, control materials and applications. The design of circuits using calculations for component sizing and selection.

TD052 Jig and Tool Drafting 1A
Planning techniques. The principles of jig and fixture design. The design of a drill jig and drawing to Australian Standards.

TD053 Jig and Tool Drafting 1B
The elements of milling and turning fixtures. The design of a milling fixture and turning fixture and drawing to Australian Standards.

TD055 Numerical Control 1
Introduction to numerical control. The planning procedure, preparation and writing of manual part programs for a CNC lathe and machining centre.

TD056 Numerical Control 2
Introduction to computer assisted programming. Geometry and motion statements, post processor statements and operation system manipulation.

TD058 Thermodynamics A
Theory and applications related to generation and use of steam, heat transfer, selection of air compressors and internal combustion engines, combustion of fuels.

TF195 Organisation and Management for Quality A

TF196 Organisation and Management for Quality B
Introduction to the concept of quality control as a system. Quality control systems Standards AS1057, AS1821-3, AS2000, quality manuals, policy and planning, standardisation, specification, quality of design, conformance and performance, laboratory management, quality review and audit.

TF197 Statistical Quality Control 1
Application of principles of statistics to production quality control, process control, control of 20 and 30 limits, charting systems, sampling inspection, operating characteristic curves, inspection levels and severity.

TF253 Computer Appreciation and Applications to Quality Control
This subject provides an appreciation of the range of uses and methods of application of computers in quality control work, including: concepts of computer, BASIC, FORTRAN and COBOL programming, microprocessors, computer graphics, use of computer packages in quality control.

TF297 Statistical Quality Control 2
Study of methods applied in measuring and assessing variance in quality. Continuous sampling techniques, acceptance sampling by variables, design of experiments, failure modes, cumulative sum techniques, defects analysis.

TF317 Dimensional Metrology
Precision measuring techniques and application of principles of measurement. Length metrology (standards and gauges), flatness assessment, auto-collimator and alignment, telescope, surface texture, roundness, squareness and parallelism, co-ordinate measurement.

TF383 Material Cutting Technology
A theoretical approach to aspects of cutting materials, chip control, turning — tool wear, cutting efficiency and economics, chatter, milling — lead angles, cutter diameter and number of teeth, power requirements, vibration and surface finish, drilling — performance comparison, laser drills.

TF385 Training Techniques
Introduction to training aids, methods and presentation examining questioning techniques, training situations and the evaluation of training.

TF462 Reliability and Prototype Testing
Introduces the concepts and techniques of reliability and looks at the application of basic reliability analysis techniques to technical, administration and managerial areas of quality control. Also covers aspects relating to timing in application of reliability methods and the reporting of results.

TF463 Quality Costs and Budgeting
The economic aspects of production quality and quality control systems. Collection and analysis of quality cost data, quality cost indices, quality improvement and cost reduction, budgeting process, planning and operating the budget.

TF464 Product Liability and Product Recall Management
Provides a general appreciation of the legal responsibilities associated with quality control and methods adopted to meet these responsibilities. Current legislation, protection procedures, Australian design rules and standards recall process, documentation systems.

TF465 Quality Control Systems and their Assessment
The concepts and techniques of quality system audit, calibration system requirements, quality control system assessment concepts, contractor/supplier quality requirements, customer/supplier agreement of quality control assessment, AS2000, quality control system and product audits.

TF467 Human Factors
A study of the relationship between human factors and quality control. Ergonomics, motivation programs, job design and job quality, planning for people.

TF485 Hydraulics and Pneumatics
There are three main areas covered in these units: (i) terminology and graphic symbols, (ii) transmission mediums, and (iii) operating principles.

TM127 Statistics
Introduction to basic statistical techniques, including arithmetic and geometric progressions, histograms, normal, binomial, Poisson and hypergeometric distributions, standard deviation, regression and correlation.
TS250 Production Techniques 2A
More sophisticated examination of the production management roles in organisation, policies, forecasting, estimating and control to achieve economic operation of the company.

TS453 Industrial Supervision
This subject covers the topics: job analysis and description, industrial relations, methods improvement, plant layout, estimating and planning, production control, materials handling and control, quality control, equipment and maintenance, factory records, personnel department, accident prevention program, first-aid.

TW001 Module 1 (Manual Metal Arc Welding)
Pad fillet and butt welding in various positions. Rolled steel sections to plate. Rolled steel sections end to end butt.

TW002 Module 2 (Gas Metal Arc Welding)
Flat and horizontal fillets in various positions. Flat single vee butt. Rolled hollow section tee joint. Dip and spray transfer techniques.

TW003 Module 3 (Flame Cutting and Gouging)
Setting up and closing down equipment. Flame cutting freehand and using roller guides. Flame bevelling by machine. Flame and arc gouging.

TW004 Module 4 (Flame Gas Welding)
Flat outside corner with and without filler rod. Flat open butt. Hollow section end to end butt. Pipe to plate braze. Flat bronze weld on cast iron.

TW005 Module 5 (Practice Associated Theory)

TW006 Module 6 (Additional Theory)

TW007 Module 7 (Manual Metal Arc Welding)
Pad, fillet and butt welding in various positions with various types of electrode.

TW008 Module 8 (Gas Metal Arc Welding/Flux Cored Arc Welding)
Vertical fillet (FCAW) pipe butt-horiziontal fillet (GMAW) stainless steel flat butt (GMAW).

TW009 Module 9 (Gas Tungsten Arc Welding)
Various butt welds in steel. Flat butt weld in Aluminium.

TW010 Module 10 (Cutting Processes)
Plasma cutting. Flame pipe bevelling by machine. Mechanical bevelling.

TW011 Module 11 (Prac Associated Theory)

TW012 Module 12 (Additional Theory)
Production of Iron and Steel. Alloying elements. Pre-heating, weldability and characteristics of Stainless Steel, Aluminium, Copper and Copper alloys.

TW013 Module 13 (Manual Metal Arch Welding)
Fillet and butt welds with Hydrogen controlled electrodes. Vertical and Horizontal fillet — Chrome, Nickel, Steel.

TW014 Module 14 (Submerged Arc Welding)
Flat fillet multi-pass, Flat butt double welded.

TW015 Module 15 (Gas Metal Arc Welding/Flux Cored Arc Welding)
Vertical Fillet Aluminium (GMAW). Horizontal butt (FCAW). Rolled section to plate (GMAW).

TW016 Module 16 (Gas Tungsten Arc Welding)
Horizontal fillet Aluminium, Pipe butt Axis vertical.

TW017 Module 17 (Practice Associated Theory)
Submerged Arc Welding, application, twin/tandem. Shielding gases.
GMAW/GTAW/GMAW. Applications characteristics.

TW018 Module 18 (Additional Theory)
Welding economics and costing. Cast Iron — types, characteristics, weldability. Heat treatment — applications, temperature measuring devices, Mechanical properties of materials.

TW025 Module 25 (Basic Welding Exam)
This test is to be taken after successful completion of modules 1 to 6 inclusive.
Theory 100 minutes
Practice 4 hours

TW026 Module 26 (Intermediate Welding Exam)
This test is to be taken after the successful completion of Modules 7 to 12 inclusive.
Theory 90 minutes
Practice 4 hours

TW027 Module 27 (Proficiency Welding Exam)
This test is to be taken after the successful completion of Modules 13 to 18 inclusive.
Theory 3 hours
Practice 4 hours
further education and community services

Academic staff ........................................... 88
Workplace Skills Unit ................................ 88
English Language Centre ............................. 88

Courses offered ........................................... 88

Access Education Department
Volunteer Tutor Training ................................ 89
Vocational Evening Class ................................ 89
Transition Program ..................................... 89
Vocational Preparation Program ...................... 89
Basic Studies Program .................................. 89
Certificate in Work Education .......................... 89

General and Community Studies Department
Victorian Certificate of Education ................. 89
Arts Preparatory Program ............................. 90
Migrant English ......................................... 90
Home Carers' Training Course ......................... 90
Child Care Assistant Certificate ..................... 90
Community Information Workers' Certificate .... 90
Associate Diploma of Social Science
(Community Development) ............................ 90

Subjects Details ........................................... 91

General Information ..................................... 1
Swinburne TAFE Division Information ................ 19
Further Education and Community Services School

Head (Acting)
R. Carmichael, BA, BEd

Secretary
G. Ng, 819 8433

Access Education Department

Head (Acting)
R. Thomas, BA, MEdSt(Mon)

Academic staff
P. Cross, BA, DipEd
C. Davis, BA, DipEd
P. Dickinson, BA(Hons), DipEd, MACE
D. Hall, GradDipSpEd, TTTC, DipFD&P
S. McBride, TSTC, DipDomArts
N. Moncrieff, BA, BEd, GradDipTESL
N. Morrissey, BA, BEdSci
M. Ridsdale, BA, BEd, GradDip, TESL
D. Talamo, BA, DipEd, GDIESE

Secretary
C. Boykett

General and Community Studies Department

Head
G. Arnott, BEd, BEd, GradDipBusAdmin

Academic staff
N. Backstrom, BA, MEdSt(Studies), TPTC, TSpTC
J. Blankiron, BA, DipEd
E. Bolton, BEd
S. Chakman, BA, DipEd
C. Davies, BEd, DipEd
P. Dickinson, BA(Hons), DipEd
M. Elliott, BA, MEd, PhD
A. Gelfand, BA, Teaching Diploma
P. Gibson, BA(Hons), DipEd
J. Hannon, BA, GradDipAppArt, DipEd
A. Hase Gibson, BA, DipEd, GradDipMovt&Dance
D. Holmes, BA, DipEd
K. Matthiisson, BA(Hons), DipEd
J. Paisley, BA, LRAM, TTTC
C. Papalia, BA, DipEd
O. Pavlinov, BA(Hons), TSTC
D. Poyser, BA, DipEd
L. Price, BEd, GradDipMovt&Dance, GradDipCareersEd
V. Reddaway, BA, DipEd, GradDipMulticultEd
R. Rivett, BA(Hons), BEd, GradDipSecStud
M. Stretford, BA, TTTC, RSA, TEFLCert
J. Sutherland, BBSc, DipEd, GradDipAppPsych
N. Vallins, BA(Hons), SecTeachersDip
K. Wittshire, BA, BEd

Secretary
P. Hayward, 819 8370

English Language Centre

Director of Studies
A. Redpath, BA, DipEd, GradDipTESL

Academic Staff
C. Cheong, BEd, DipEd, AssDipTESOL
H. Consolvo, BEd, RSA(TEFLA)
D. Kinnally, BA, BEd(TESL), GradDipComputing
I. Lording, BSc, DipAppChem, DipEd, RSA(TEFLA)
E. Neil, BA, GradDipTESOL

Secretary
H. Heathcock, 819 8595

Workplace Skills Unit

Manager
S. Naylor, TPTC, TSpTC
Australian Council for Adult Literacy Victorian Delegate

Secretary
G. Lyall, 819 8492

Industrial Designer
H. Lopaczuk, DipElecEng, DipEd, SMIREE, MIAust

Teacher
O.C. Serle, BA(Hons), DipEd

Industry Consultant
J.L. Sutherland, BBSc, DipEd, GradDip, AppPsych

English Language Centre

The English Language Centre runs intensive English courses for international students.
Course length: 40, 30, 20, 10 or 6 weeks.
Level: General English
    Academic English
    English for Business
    English for Science
    English for Computer Studies

Study tours and customised courses for industry clients can be arranged.

Workplace Skills Unit

The Workplace Skills Unit was established in 1990 as a cross-
divisional joint venture to address the need for basic skills
education in the workplace.
The unit:
* offers a wide range of programs in numeracy, literacy, language and general communication skills which are
customised to meet the needs of specific organisations;
* provides consultancy services in the area of teachers/
  learning and strategies and conducts training needs
  analysis;
* conducts staff development programs for Adult Literacy
  and Basic Education Tutors.

Courses offered

Access Education Department

Code Title
4290LDJ Volunteer Tutor Training
4290LVP Vocational Preparation Program
2100LDO Basic Studies Program
2100LZE Vocationally-Oriented Evening Classes
2100LZT Transition Program

General and Community Studies Department

Code Title
2200LZA VCE
2200BZF Arts Preparatory Program
2100LZD Migrant English Access
3100MCB Home Carers Training Course
3222KFA Child Care Assistant Certificate
4200MCA Community Information Workers' Course
3500MDA Associate Diploma of Social Science
    (Community Development)
Course details

Access Education Department

4290LDJ Volunteer Tutor Training
Two courses of training are offered. One prepares volunteers to work on a one-to-one basis with adult students who need individual tuition in the basics of reading, writing and spelling. The second prepares volunteers to tutor mildly intellectually disabled adults in life-coping skills.
TR100 Basic Literacy
TR106 Life Skills

2100LZE Vocationally-oriented Evening Classes
The course provides practical subjects for mildly intellectually disabled adults in the evening.
Subjects offered are:
TR120F Fitting & Machining
TR121F Literacy/Numeracy

2100LZT Transition Program
Students attend for five days per week. The program encourages mildly intellectually disabled adults to develop their practical skills and to improve their levels of literacy, communication and independence, as well as offering practical work experience.
Subjects offered are:
TR113F Fitting and Machining
TR115F Literacy and Numeracy
TR117F Introduction to Computers
TR118F Work Education
TR122F Office Procedures

4290LVP Vocational Preparation Program
This short course is for mature age students who wish to sit an examination to enter their chosen field in nursing, fire brigade, or the police force.
TR139 Nursing (SRN)
TR140 Nursing (SEN), Police Force, Fire Brigade, Ambulance and Armed Services Entrance Exam preparation

2100LDO Basic Studies Program
TR101 English Workshop
TR102 Mathematics Workshop
TR103 Spelling Workshop
TR107 Volunteer Tutor Program student
   (Adult Literacy) — Regular
TR108 Volunteer Tutor Program students
   (Life Skills) — MIDA
TR109 Literacy in the Workplace — MIDA
TR125 Literacy for Jobseekers
TR126 Reading with Children
TR127 Writing for Work (NESB)
TR128 Basic Reading and Writing
TR129 Introduction to Basic Reading and Writing (NESB)
TR145 English Written Communication Skills
   (for the deaf)
TR150 Basic Mathematics for Women
TR160 Preparation for VCE

2100DZE Certificate in Work Education
This course aims to provide people with special learning needs with basic literacy, numeracy and vocational training skills. The course duration is 1200 hours with a minimum of 600 hours per year.
TR001F Communication Skills
TR002F Community and Career Studies
TR003F Drama
TR004F Health and Recreation
TR005F Numeracy
TR006F Vocational Studies
TR117F Information Technology

General and Community Studies Department

2200LZA Victorian Certificate of Education
The VCE at Swinburne is designed to meet the needs of students who intend to proceed to tertiary education, in particular, to the diploma and degree courses offered by the faculties of arts, applied science, business and engineering of Swinburne University, Higher Education.
The program is studied in a tertiary environment. First class educational facilities are available; these include library, audio-visual, computer, student amenities and counselling.
For entry into full-time VCE applicants must be over 18 years of age and have been away from study for at least 12 months.

Course structure
Twenty subjects are offered. Students usually take five subjects and are required to pass a minimum of four including English, to meet tertiary entrance requirements. A wide range of subjects is available for full-time, part-time, day and evening students.
Subjects may be taken in approved combination, subject to timetable considerations.
Before choosing subjects, students, especially part-time, are advised to check the entrance requirements for tertiary courses in which they may be interested.
Assessment procedures are based on Work Requirements and Common Assessment Tasks (CAs) as set by VCAB (Victorian Curriculum and Assessment Board).

Subjects
TG001F English Units 3 & 4
TG002F Legal Studies
TG003F Economics
TG004F Accounting
TG005F Physics
TG006F Chemistry
TG007F Biology
TG008F Information Technology
TG009F Media
TG010F Literature
TG011F Australian History
TG012F Psychology
TG013F Environmental Studies
TG014F Political Studies
TG015F Human Development in Society
TG016F English Units 1 & 2 or English as a Second Language (ESL)
TG031F Space and Number 3 & 4
TG033F Reasoning & Data 3 & 4
TG036F Change & Approximation 3 & 4 Ext.
* New subjects to be advised on V.C.E. brochure.
* These are Swinburne internal codes not official VCAB codes.
2200BZF Arts Preparatory Program

The Arts Preparatory Program is a "bridging" program which aims to attract mature-age students from a variety of backgrounds and to prepare students enrolled for subsequent entry into a bachelor of arts degree program at a university. In particular, the course is intended for mature-age students who have failed to gain entry into an arts faculty at a tertiary institution, or who are not qualified for entry into a tertiary institution in the area of arts, or who do not have a year twelve qualification or its equivalent.

The course as structured in 1993 places emphasis on Australian studies to provide the content focus for a program which is geared to cater for students enrolling in a range of arts subjects. At present the program consists of four units with the following titles:

TH303 Images of Australia through Film and Television
TH306 Research Skills
TH307 Argument & Analysis: Selected Issues Affecting Australians
TH308 Australian Writing

The program offers support and training in preparing a range of assessment tasks and helps provide the skills required to undertake tertiary programs for those students who are returning to study.

The program is available in semester one and semester two: full-time enrolment requires one semester study (approximately eighteen weeks duration), and part-time enrolment can be taken over two or more semesters.

2100Lzd Migrant English

These are programs to prepare students of a non-English speaking background for tertiary study. Day VCE/ESL English classes are offered as part of a full VCE program and there is a summer school in January 1993.

VCE English (ESL) Units 1 & 2 is offered as a single subject on a part-time evening basis, and prepares students for VCE English Units 3 & 4, which is offered both day and evening.

TJ005 Further Reading & Writing Practice
TJ006 Further Listening & Speaking Practice

In-course English language support is offered by some departments. Extra time and specialist ESL teaching is offered when possible, to students enrolled in certificate and associate diploma courses who need help to successfully complete their Communication Skills units.

The Migrant English Co-ordinator is happy to assist potential students with ESL language and course enquiries.

3100MCB Home Carers Training Course

This course provides basic training for council home care workers. The program is run in conjunction with Hawthorn, Kew, Prahran, Fitzroy, Caulfield, Camberwell City Councils and others.

A further component of this program has been the development of the specific Home Carers course which is held once a year, at present.

3222KFA Child Care Assistant Course

The Child Care Assistant Course is an introductory vocational course designed to help caregivers increase their skills in looking after children 0-6 years. Students will attend once a week for approximately 7 hours for one year.

Studies will cover infant and child development, caregiving skills, children's experiences and communication and life skills.

Intending students should be in paid employment in the child care field for at least fifteen hours or two days a week as supervised assessment is an important component of the course.

The following subjects are studied:

TH310 Infant and Child Development
TH311 Caregiving Skills
TH312 Children's Experiences
TH313 Communication and Life Skills
TH314 Practical Work with Children

Community Information Workers Certificate

This course is offered in conjunction with the Camberwell Community Centre. It is designed to provide training for workers who provide advice, counselling and practical assistance to individuals seeking information relating to community resources.

3500MDA Associate Diploma of Social Science (Community Development)

The Associate Diploma gives training and qualifications for people working in community organisations. The course is suitable for mature age people with experience in community work and/or few formal qualifications in the area.

Prospective students who are not mature age are encouraged to apply if they can demonstrate some community work interest and experience.

The Associate Diploma is 2 years full-time or 4 years part-time study. There is a field work provision in the course. The Associate Diploma articulates into the third year of a Bachelor of Arts (Community Development) at Deakin University and the Victoria University of Technology.

Entry dates to the course will vary, so prospective students are advised to contact the Department, General and Community Studies before submitting an application.

The following subjects are studied:

TH200F Australian Society — A Sociological Introduction
TH201 Community Development Theory and Practice 1
TH202 Community Development Theory and Practice 2
TH203 Community Development Workshop 1 — Study Skills/Return to Study
TH204 Community Development Workshop 2 — Information and Access
TH205F Australian Economy
TH206F Australian Political System — An Introduction
TH207 Community Development Workshop 3 — Interpersonal Skills
TH208 Introduction to Research
TH209 Research
TH210 Introduction to Social Policy
TH211 Community Development Theory and Practice 3
TH212 Community Development Theory and Practice 4
TH213 Community Development Workshop 4 — Groups
TH214 Community Development Workshop 5 — Societal Communication
TH215 Poverty and Social Security
TH216F Field Work
TH217F Ageing in Australian Society
TH218F Housing
Subject Details

TG001F English Units 3 & 4
This subject, which is compulsory at VCE level, aims to enable all students to develop their critical understanding and control of the English language so that they can use it in a wide range of situations, ranging from expository writing to formal public occasions, and to develop a level of competence adequate for the demands of post-school employment and further education.

TG002F Legal Studies
Unit 3: Making and Changing the Law
This unit is about the institutions and processes which determine laws in Australia and the process by which laws are changed. In particular, it examines the roles of parliament and the country as law-making bodies.
Unit 4: Dispute Settlement and the Attainment of Justice
This unit focuses on the dispute-settling institutions, processes and procedures which operate within the legal system and an evaluation of the legal system as a whole. The evaluation including consideration of the strengths and weaknesses of the legal system, and areas possibly in need of change and reform.

TG003F Economics
Unit 3: Economic Objectives
This unit examines particular economic objectives of the Australian economy and the performance of the economy in relation to those objectives. The concept of standard of living provides a context within which economic objectives and the performance of the economy are studied.
Unit 4: Economic Management
This unit focuses on government management of the Australian economy. Management is reflected in both micro-economic and macro-economic policy and seeks to achieve, as far as possible, the objectives of the economy.

TG004F Accounting
Unit 3: Double Entry Accounting for Service Firms
This unit introduces double entry accounting procedures for recording from verifiable evidence. This system is supported by the accrual method of recognition of revenue and expense. The unit focuses on service firms: those firms which rely predominantly on the skill or expertise of personnel to satisfy client needs.
Unit 4: Double Entry Accounting for Trading Firms
This unit focuses on the further development of double entry accounting procedures through the introduction of trading firms: firms principally engaged in selling goods to customers for a profit. The unit emphasises accounting for management, the design of appropriate reports, and the alternatives available to accountants both in recording and reporting transactions.

TG005F Physics
Unit 3: Investigation, Sound, Electronics and Electric Power
This unit examines sound, electronics, electric power and the principles of investigation in selected contexts.
Unit 4: Motion, Gravity, Structures, Light and Matter
This unit provides an overview of physics through a study of universal gravitation, force-energy relationships and an exploration of ideas of modern physics.

TG006F Chemistry
Unit 3: Chemistry and the Market Place
This unit adopts a global perspective by examining the large-scale industrial production of some chemicals. The work of chemists in these industries is examined. The idea that molecular structure can be modified is introduced in an investigation of surface chemistry. The investigation of quality control in everyday students to a range of analytical techniques and the work of analytical chemists.
Unit 4: Energy and Matter
This unit examines the relationship between the production and use of energy in inanimate and living systems. It provides an opportunity to revisit the concept of the mole, chemical reactions, stoichiometry, equilibrium, organic chemistry and atomic structure, and illustrates the development of chemical ideas within the context of the Periodic Table.

TG007F Biology
Unit 3: Survival Mechanism
This unit examines molecular processes and the various mechanisms which enhance the survival of individual organisms.
Unit 4: Biological Continuity and Change
This unit examines the mechanisms of biological inheritance and the processes of evolution.

TG008F Information Technology
Unit 3: Information Technology in Society
This unit examines the development of the technology and techniques associated with processing, managing and communicating information, and the impact of these developments on information systems and society. Practical work may be required.
Unit 4: Information Technology in Society
This unit examines information technologies, the means by which their development and use can be controlled by society, and philosophies about the nature of future society.

TG009F Media
Unit 3:
This unit looks at the way stories are constructed in feature films and the production techniques that are used such as camera work and sound track. It also includes a study of televised violence and its effect on children.
Unit 4:
This unit involves a major practical project in broadcast radio. Students will make segments of a radio program but in some cases they may work in video or still photography. It also includes an analysis of the way women are portrayed in the mass media.

TG010F Literature
Unit 3: Literature
This unit explores the use of language in various kinds of texts and the ways in which readers respond to and interpret them. It considers the ideas and beliefs that texts represent, and the values and views of the society to which they are addressed through texts. It also examines how literature may reflect or comment on social, historical and cultural contexts.
Unit 4: Literature
This unit explores the use of language in various kinds of texts and the ways in which readers respond to and interpret them. It considers the ideas and beliefs that texts represent, and the values and views of life expressed through texts. It also examines how literature may reflect or comment on social, historical and cultural contexts.

TG011F Australian History
Units 3 & 4: Australian History
These units examine the meanings that have been made of Australia's past by historians, film makers, politicians, novelists, artists and others. Sources such as these are used to explore issues and problems involved with the role of history in society and the nature of historical inquiry.
Students are required to: complete an introductory activity; maintain a workbook; analyse representations of power and cultural identity; research and report on aspects of the way in which Australian people lived their lives during selected historical periods; and investigate and prepare essays on changes in the Australian economy and in the organisation and distribution of power.

TG012F Psychology
Students will be introduced to Psychology as the science of human behaviour. This subject examines almost every aspect of our lives and should provide students with insight into the everyday phenomena of human actions, attitudes and motives. The course combines theory with practical exercises and activities.

TG013F Environmental Studies
Unit 3:
This involves an investigation of the components of the ecosphere which are used or developed to satisfy human needs. The conceptual framework environment function, human impact and conservation is used to consider the environmental implications of the extraction, production and consumption of resources. Examples are selected from flora, fauna, living and non-living resources, with at least one resource examined in an Australian context.
Unit 4: A Sustainable Earth
This unit focuses on the interdependence of the biotic and abiotic components of the ecosphere and the role of human activity in both modifying and restoring the self-sustaining nature of the Earth's life support systems. Two examples of disruption to the Earth's natural systems are investigated: atmospheric modification and reduction of genetic diversity.

TG014F Political Studies
Unit 3: Political Systems and Structures of Power
This unit looks at the political systems of Australia and one other country. In each case, the relationship between political institutions and the core values, beliefs and principles of the society are explored. The actual operation of political systems is considered with reference to the institutional framework on which they are based.
Unit 4: Political Systems and Structures of Power
This unit takes a key example of public policy in Australia and examines it in detail to enhance understanding of political decision making. Attention is paid to the ways in which debate is conducted, support for various positions is mobilised and influence exerted. The implications for the role of government in the system are explored. Political change in another country is analysed in terms of its source, opposition and effect both within the country and beyond.

TG015F Human Development in Society
Unit 3: People, Food and Nutrition
This unit examines the vital role of food in people's lives, its importance in physiological development and its role in the development of social and cultural patterns. The numerous influences on food choice and the effect of the availability of a great variety of foods on food trends in Australia is also examined.

Unit 4: Growth and Development
This unit examines growth and development across the human life span, including factors affecting growth and development, the management of resources at different stages of the life span, and community resources available to assist growth and development.

TG016F English Units 1 & 2 or ESL
Although no longer a separate subject, a special English course conducted within VCE English guidelines will cater specifically for students whose first language is not English. Students may apply to be assessed under VCAL ESL guidelines if they have been living in Australia for less than six (6) years and their first language is not English.

TG031F Space & Number 3 & 4
This subject involves Arithmetic, Algebra, Geometry and Trigonometry as the major areas of study plus four additional topics chosen from Financial arithmetic, Descriptive statistics, Coordinate Geometry, Trigonometric applications and Matrices. The course includes skills practice and standard applications, problem solving and independent investigative projects.

TG033F Reasoning & Data 3 & 4
This subject involves the study of statistics, probability, logic and algebra (covering the use of formulas and equations relevant to statistics, probability and logic). The course includes problem-solving and independent investigative projects.

TG036F Change & Approximation 3 & 4 Ext.
This subject extends work previously undertaken in calculus, coordinate geometry and algebra and includes the study of an additional area of mathematics selected from arithmetic, trigonometry, statistics or probability. The course includes problem-solving and independent investigative projects.

TH200F Australian Society — A Sociological Introduction
Covers the structures, forces and pressures which operate within society, concentrating on sociological concepts like inequalities and its emergence in race, gender and class. Assessment is based on two major research papers.

TH201 Community Development Theory and Practice 1
Provides an overview of the historical development and key issues of community development. Explores and analyses models and theories of community development through students own experiences. Assessment: internal projects and essays.

TH202 Community Development Theory and Practice 2
Concentrates on rights work, for instance welfare rights. How to use a rights approach to develop skills and issues of community development. Assessment: practical work and case study.

TH203 Community Development Workshop 1 — Study Skills/Return to Study
Introduces the main theories and central issues in human communication. Assists students in developing their own communication skills. Assessment: assignments and participation.

TH204 Community Development Workshop 2 — Information & Access
Examines informs, groups, individuals, groups, communities, policies and society. Raises professional and ethical issues about information collection, storage and use. Introduces issues associated with working within community organisations such as policy constraints, report and submission writing and the construction of community profiles. Assessment: assignments and a community profile project.

TH205F Australian Economy — An Introduction
Introduces students to the economic context of community development in Australia. Examines unemployment, inflation, income distribution and the role of the State in the economy. Internal project assessment.

TH206F The Australian Political System — An Introduction
Covers politics, policy processes and the role of the State in Australian society and its application to community development. Assessment: internal assignments.

TH207 Community Development Workshop 3 — Interpersonal Skills
Covers effective communication skills for the fulfilment of work commitments. Focuses on interpersonal communication, interviewing, problem solving and negotiation with various community development contexts. Assessment: internal assignments and case study.

TH208 Introduction to Research
Provides an introduction and overview to the use of research in community development. Examines issues and concepts necessary for understanding and interpreting research and applying the principles of research. Assessment: internal assignments and research projects.

TH209 Research
Develops skills and knowledge gained in Introduction to Research further. Concentrates particularly on action research. Assessment: internal assignments.

TH210 Introduction to Social Policy
Provides an introduction to social policy formation processes, decisions and outcomes. Also students gain an understanding of how to implement social change within their community. Assessment: internal assignments.

TH211 Community Development Theory and Practice 3
Explores the way organisations operate in terms of their relationships, objectives and power. Alternative structures are also examined. Assessment: internal assignments.

TH212 Community Development Theory and Practice 4
Covers the theory and practice of socialisation within community development; an analysis of the relationship of social movements to political processes and political parties. Assessment: internal social action project and participation in class.

TH213 Community Development Workshop 4 — Groups
Explores the setting up and maintenance of practical groups by committees of management, tenants groups. Assessment: internal assignments.

TH214 Community Development Workshop 5 — Societal Communication
Further develops the communication skills of interpersonal and small group level to the public arena of wider society. Explores skills, knowledge techniques and strategies for enhancing community awareness and support for community development issues. Assessment: internal research brief and plan.

TH215 Poverty and Social Security
Emphasis is placed on a theoretical approach to poverty and on the specific effect of poverty of those groups and services most vulnerable to its impact. Assessment: internal research assignment and written assignment.
TH216F Fieldwork
Provides opportunity to apply skills and knowledge to practical situations. Tutorials are held for discussion about experiences within community development organisations.

TH303 Images of Australia Through Film and Television
The first part of the course introduces students to some of the key terms and concepts involved in understanding films as commentaries. Students will be required to complete an initial exercise designed to focus on such interpretative ideas. The second part of the course is concerned with analysis of a range of issues derived from an examination of Australian contexts as they are revealed, interpreted and structured through selected Australian films.

TH306 Research Skills
The first part of the course introduces students to some of the key terms involved in understanding arguments and interpretation and evaluation of research data and methodology. Students will be required to complete a series of exercises designed to focus on such structures. The second part of the course is concerned with students proposing and deciding on their own research studies within an Australian context and incorporating selected research techniques to develop a research report, reflecting a carefully considered and implemented research strategy. Computer literacy is seen as an important skill and will be taught at various stages throughout the course. Selected assessment items will be required to be presented using computer skills, in particular word processing.

TH307 Argument and Analysis: Selected Issues Affecting Australians
The first part of the course introduces students to some of the key terms involved in argumentative structures. Students will be required to complete a series of exercises designed to focus on such structures. The second part of the course is concerned with analysis of a range of issues derived from an examination of varied different Australian contexts.

TH308 Australian Writing
A survey of Australian writing covering short stories, novels and literature. Students are encouraged to read widely and to experiment with different writing styles themselves.

TH310 Infant and Child Development
Deals with the physical, intellectual, social and emotional development of children from 0-6 years old. It will deal with such issues as language, behaviour, the importance of play and coping with a variety of situations characteristic of early childhood with the day care setting. Practical assignments are part of this subject.

TH311 Caregiving Skills
This unit is concerned with the care of the child — daily routines, nutrition, hygiene and safety. Some of the topics covered are food hygiene, cleanliness and personal hygiene, toiletting and nappy changing and will give students the opportunity to practise basic skills.

TH312 Children's Experiences
This unit will introduce the caregiver to skills and knowledge needed to provide an enjoyable environment for children in order to further their learning and development. Students will have the opportunity to practice a range of media that can be used in the care setting. These media include construction activities, art/craft activities, dramatic play among others.

TH313 Communication and Life Skills
This unit aims to provide students with effective written and spoken communication skills: increase their self-confidence; increase their reading proficiency and provide topics for discussion: reading and writing related to family and day care issues.

TH314 Practical Work with Children
Provides opportunity to apply skills and knowledge to practical situations with young children.

TJ005 Further Reading and Writing Practice
The course will be based on an assessment of the applicant’s language skills. The reading and writing needs of the students in the workplace is given considerable emphasis.

TJ006 Further Listening and Speaking Practice
The course aims at developing listening and speaking skills. The development of self-confidence and assertiveness in work and study is given considerable emphasis. Pronunciation and fluency is covered.

TR001F Communication Skills
Knowledge of consumer awareness, citizens' rights, community agencies. Reading, writing, talking, listening.

TR002F Community and Career Studies
Aids the development of an informed and realistic career plan based on personal interest skill and aptitudes and an analysis of course and career information.

TR003F Drama
To develop confidence and increased competence in employment related vocational training and social personal relations.

TR004F Health and Recreation
Knowledge of current health issues, occupational health and safety, nutrition and diet, exercise and leisure options.

TR005F Numeracy
To develop knowledge and confidence to enable the use of mathematical skills in relevant vocational and personal contexts.

TR006F Vocational Studies
Practical elective classes to develop vocational skills e.g. electrical, welding, horticulture, office procedures.

TR100 Basic Literacy
The tutor training course is two hours per week, for seven weeks. Topics covered include adult learning theory and practical ways to develop reading and writing skills.

TR101 English Workshop
The subject gives students the opportunity to upgrade their oral and written skills to enable entry into more formal courses. Participants are expected to be able to speak and write basic English before taking this subject.

TR102 Mathematics Workshop
This is a flexible program which gives people who wish to improve their basic mathematics knowledge an opportunity to work individually in an informal learning situation.

TR103 Spelling Workshop
A short course offered both during the day and evening for adults who are keen to improve their spelling.

TR106 Life Skills
The tutor training course is two hours per week for seven weeks. Topics include strategies used in tutoring adults with a mild intellectual disability.

TR107 Volunteer Tutor Program (Adult Literacy)
Adult students are matched with an individual tutor for tuition in basic reading, writing and spelling. Students are required to be able to speak fluent English.

TR108 Volunteer Tutor Program (Life Skills)
Students are matched with a tutor for tuition in literacy and numeracy related to life-coping skills. It is a program for mildly intellectually disabled adults.

TR109 Literacy in the Workplace — MIDA
For mildly intellectually disabled adults. Literacy emphasis on life skills — banking, time, advertising, consumer education.

TR113F Fitting and Machining — MIDA
A practical class held in the workshops. Students learn safety workshop procedures, use of hand tools and equipment.

TR115F Literacy and Numeracy — MIDA
Develops practical literacy and numeracy skills — money management, time, advertisements, application forms, numerical measurement.
TR117F Information Technology — MIDA
Develops understanding of basics of computer software and hardware and practical use of data bases and word processing.

TR118F Work Education — MIDA
An introduction to the world of work through role-play, preparation of job applications, interviews.

TR120F Fitting and Machining — MIDA
A practical class held in the workshops. Two hours in the evening, once a week.

TR121F Literacy/Numeracy
Develops literacy and numeracy skills for daily living.

TR122F Office Procedures
Develops basic keyboarding skills, proof reading, reception and telephone skills, and customer relations.

TR125 Literacy for Job Seekers
For the long term unemployed. Develops literacy, numeracy and computer skills relevant to the workplace and the opportunity to study for the Occupational First Aid Certificate.

TR126 Reading with Children
Develops parents’ competence and confidence to assist their primary school children with everyday reading tasks.

TR127 Writing for Work (NESB)
For long term migrants who speak fluent English. Develops confidence in presenting ideas, focuses writing on practical purposes and enhances reading comprehension.

TR128 Basic Reading and Writing
Develops independence in reading and writing skills for everyday use, as well as access to resources in the community.

TR129 Introduction to Reading and Writing (NESB)
For long-term migrants who speak fluent English. Develops independence in reading and writing Latin script, spelling.

TR131 Vocational Education for Migrant Jobseekers
English communication, reading and writing skills. Maths — computer literacy, career planning and personal development skills.

TR139 Nursing (SRN)
Two evenings per week concentrating on English and mathematical skills and test techniques.

TR140 Nursing (SEN), Police Force, Fire Brigade, Ambulance and Armed Services Entrance Exam Preparation
Two evenings per week concentrating on English and mathematical skills and test techniques.

TR145 English Written Communication Skills (for the deaf)
This course provides tuition in basic English for deaf adults as a preparation for entry into mainstream TAFE programs. Provision of an interpreter is an integral feature of the course.

TR150 Basic Mathematics for Women
This program facilitates an introduction to useful mathematics including basic skills, the metric system and use of calculators, in a small informal group.

TR160 Preparation for VCE
Provides a gentle introduction to the research, reading and writing skills needed to attempt either a science or humanities based course.
Centres
Advising Centre for Women ........................................ 11
Business Development and Training ..................... 32,34
Child-care .......................................................... 11
Computer .......................................................... 12
Higher Education Division .................................. 12
TAFE Division .................................................... 32
Conference ........................................................ 11
Engineering ......................................................... 32,52
English Language ................................................ 32,88
National Scientific Instrumentation .................. 32,53
Short course ......................................................... 32
Workplace Skills ............................................... 88

Certificates
Basic Electronics .................................................... 55
Basic Welding ....................................................... 81
Child Care (Assistant) ............................................. 90
Computer Business Applications ....................... 38
Engineering (Fabrication) ...................................... 80
Engineering (Mechanical) ....................................... 80
Home Carers ......................................................... 90
Intermediate Welding ............................................. 82
Office and Secretarial Skills ................................. 40
Proficiency Welding .............................................. 82
Quality Control (Swinburne) ................................... 79
Quality Technology ............................................... 79

Chancellery .................................................................. 3
Chaplain .................................................................. 11
Child Care Assistant Course ................................... 90
Child-care Centre .................................................. 11
Clubs and Societies .................................................. 15

Commercial Centres
Centre for Business Development and Training .... 32,34
Centre for Engineering Technology .................. 32,52
English Language Centre ....................................... 32,88
National Scientific Instrumentation Training Centre .................................................. 32,53
Workplace Skills Unit ............................................ 88

Community Access Programs .................................. 11,89

Community Development, Associate Diploma in Social Science ................................ 90
Community Information Workers' Course ............. 90
Community Services (see Social and Community Service Courses) ........................................ 90

Community Studies Department (see School of Further Education and Community Services) ........................................ 11

Compensatory Education .......................................... 11

Complaints, students (see Grievance Procedure for Students) ................................................................. 10
Completion of courses (see Awards) ................................................................. 38

Computer Business Applications, Certificate .... 38
Computer Centre ...................................................... 12
Computer Services Unit .......................................... 32
Computing and Applied Physics, Associate Diploma ................................................................. 62
Concession Tickets .................................................... 10
Conference Centre ................................................... 11
Contact, Student Information Centre .................. 15

Corporate Division .................................................. 5
Council, Swinburne ................................................. 3
Counselling, Student ............................................... 9

Course Codes (see appropriate School for details of courses)

Courses Offered
School of Business Studies ................................ 34
School of Engineering and Industrial Science ..... 54
School of Further Education and Community Services ................................................................. 88

Credit Transfer (see TAFE system) ......................... 20
Curriculum/Staff Development Unit ...................... 32

Departments
Business Studies (School of) ................................. 33
Finance and Information Technology .................. 35
Marketing and Administration ............................. 39
Engineering and Industrial Science
(School of) ............................................................. 51
Electrical and Electronics Technology ................ 54
Industrial Sciences .................................................. 59
Mechanical and Manufacturing Technology .......... 77
Further Education and Community Services
(School of) ............................................................. 87
Access Education ..................................................... 89
General and Community Studies ......................... 89

Design Drafting, Mechanical, Associate Diploma .... 78

Diplomas (see Associate Diplomas)

Directorate (see Chancellery)

Disabled Students
Counselling ............................................................. 9
Equity Unit ............................................................. 12
Examinations (TAFE Division) .............................. 28
Parking ................................................................. 13
Programs for Disabled Students ......................... 87,89

Discipline, Student: General Policy and Procedure ................................................................. 23

Divisions (see also Schools, TAFE Division)
Corporate ............................................................. 5
Higher Education .................................................... 4
TAFE ................................................................. 4

Drafting, Mechanical Design, Associate Diploma .... 78

Eastern Campus (Higher Education Division) ....... 2,5,7, 9,16

Education, Welfare and Research Department, Student Union .............................................. 16

Electric Welding ..................................................... 82

Electrical and Electronics Technology (see Electrical and Electronic Department, School of Engineering and Industrial Science) ................................................................. 56

Electrical Trades (Apprenticeships) ....................... 56
ELICOS Programs ................................................... 88

Employment, Student
Part-time and vacation .......................................... 10
Graduate placement and full-time ......................... 9

Engineering (see School of Engineering and Industrial Science) .................................................................
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Industrial Science (see School of Engineering and Industrial Science)</td>
<td>32,52</td>
</tr>
<tr>
<td>Engineering Technology, Centre for</td>
<td>82</td>
</tr>
<tr>
<td>Engineering Workshop Practice, Hobby course</td>
<td>89,90</td>
</tr>
<tr>
<td>English as a Second Language (Adult Migrants)</td>
<td>89,90</td>
</tr>
<tr>
<td>English (basic skills)</td>
<td>32,88</td>
</tr>
<tr>
<td>English courses for overseas students</td>
<td>89,90</td>
</tr>
<tr>
<td>English for Further Study</td>
<td>32,88</td>
</tr>
<tr>
<td>English Language Centre</td>
<td>22,23</td>
</tr>
<tr>
<td>Enrolment, Numbers</td>
<td>22,23</td>
</tr>
<tr>
<td>Full-time and part-time</td>
<td>2</td>
</tr>
<tr>
<td>Enrolment Procedure</td>
<td>22,23</td>
</tr>
<tr>
<td>Enrolment Regulations (see also Application Procedure)</td>
<td>20</td>
</tr>
<tr>
<td>Entrance Requirements (see also appropriate School and Application Procedure)</td>
<td>12</td>
</tr>
<tr>
<td>Equal Opportunity Office (see Equity Unit)</td>
<td>15</td>
</tr>
<tr>
<td>Equity Unit</td>
<td>59</td>
</tr>
<tr>
<td>Ethel Hall</td>
<td>89</td>
</tr>
<tr>
<td>Evening Classes</td>
<td>40</td>
</tr>
<tr>
<td>Access Education</td>
<td>89,90</td>
</tr>
<tr>
<td>Business Studies</td>
<td>99,90</td>
</tr>
<tr>
<td>ESL</td>
<td>23</td>
</tr>
<tr>
<td>VCE</td>
<td>23</td>
</tr>
<tr>
<td>Examinations</td>
<td>30</td>
</tr>
<tr>
<td>External, State Training Board</td>
<td>27</td>
</tr>
<tr>
<td>Internal, TAFE Division</td>
<td>25</td>
</tr>
<tr>
<td>Reassessment (appeals etc.)</td>
<td>27</td>
</tr>
<tr>
<td>Regulations</td>
<td>29</td>
</tr>
<tr>
<td>Results (categories, processing)</td>
<td>30</td>
</tr>
<tr>
<td>Special Examination</td>
<td>38</td>
</tr>
<tr>
<td>Exemptions, Applications for (see also appropriate School)</td>
<td>38</td>
</tr>
<tr>
<td>Fabrication (see Apprenticeships)</td>
<td>89</td>
</tr>
<tr>
<td>Fees</td>
<td>23</td>
</tr>
<tr>
<td>General Service Fee</td>
<td>22</td>
</tr>
<tr>
<td>Late Fees</td>
<td>23</td>
</tr>
<tr>
<td>Refund of Fees</td>
<td>35</td>
</tr>
<tr>
<td>Finance and Information Technology Department (see also School of Business Studies)</td>
<td>89,90</td>
</tr>
<tr>
<td>Finance, Student (see Loans, Student or Assistance Schemes, Student)</td>
<td>89,90</td>
</tr>
<tr>
<td>Fire Technology</td>
<td>63</td>
</tr>
<tr>
<td>Advanced Certificate</td>
<td>61</td>
</tr>
<tr>
<td>Associate Diploma</td>
<td>61</td>
</tr>
<tr>
<td>Fitting and Machining (Apprenticeship)</td>
<td>80</td>
</tr>
<tr>
<td>Foundation Year</td>
<td>41</td>
</tr>
<tr>
<td>Foundation Studies (see English Language Centre)</td>
<td>89</td>
</tr>
<tr>
<td>Further Education and Community Services (see School of Further Education and Community Services)</td>
<td>89</td>
</tr>
<tr>
<td>General and Community Studies Department (see also School of Further Education and Community Services)</td>
<td>23,24</td>
</tr>
<tr>
<td>General Policy and Procedure for Student Discipline</td>
<td>24</td>
</tr>
<tr>
<td>Grievance Procedure for Students</td>
<td>9</td>
</tr>
<tr>
<td>Hawthorn Campus (see under Campuses)</td>
<td>4</td>
</tr>
<tr>
<td>Health and Welfare, Student</td>
<td>11</td>
</tr>
<tr>
<td>Higher Education Division</td>
<td>38</td>
</tr>
<tr>
<td>Hire of Swinburne Facilities</td>
<td>38</td>
</tr>
<tr>
<td>Hobby Courses</td>
<td>38</td>
</tr>
<tr>
<td>Engineering Workshop Practice</td>
<td>82</td>
</tr>
<tr>
<td>Welding</td>
<td>82</td>
</tr>
<tr>
<td>Home Carers Training Course</td>
<td>90</td>
</tr>
<tr>
<td>Housing, Student</td>
<td>10</td>
</tr>
<tr>
<td>Humanities</td>
<td>89</td>
</tr>
<tr>
<td>General and Community Studies Department</td>
<td>89</td>
</tr>
<tr>
<td>VCE</td>
<td>89</td>
</tr>
<tr>
<td>Identity Cards</td>
<td>23</td>
</tr>
<tr>
<td>Industrial Electronics, Advanced Certificate</td>
<td>55</td>
</tr>
<tr>
<td>Industrial Sciences Department (see also School of Engineering and Industrial Science)</td>
<td>59</td>
</tr>
<tr>
<td>Information Technology (see also Finance and Information Technology Department)</td>
<td>38</td>
</tr>
<tr>
<td>Advanced Certificate</td>
<td>38</td>
</tr>
<tr>
<td>Associate Diploma of Business (Microcomputing)</td>
<td>38</td>
</tr>
<tr>
<td>Information Technology Services (see Learning Services)</td>
<td>89</td>
</tr>
<tr>
<td>Insurance, Personal Accident</td>
<td>15</td>
</tr>
<tr>
<td>Intermediate Welding Certificate</td>
<td>82</td>
</tr>
<tr>
<td>International Student Unit</td>
<td>13</td>
</tr>
<tr>
<td>Job Seeking Skills (see Access Education)</td>
<td>6</td>
</tr>
<tr>
<td>Laboratory Technology</td>
<td>59</td>
</tr>
<tr>
<td>Advanced Certificate</td>
<td>62</td>
</tr>
<tr>
<td>Associate Diploma</td>
<td>59</td>
</tr>
<tr>
<td>Learning Services</td>
<td>6</td>
</tr>
<tr>
<td>Legal Advice, Students</td>
<td>15</td>
</tr>
<tr>
<td>Library</td>
<td>6</td>
</tr>
<tr>
<td>Borrowing regulations and conditions of use</td>
<td>7</td>
</tr>
<tr>
<td>Prahran Campus</td>
<td>7</td>
</tr>
<tr>
<td>Loans, Student</td>
<td>10</td>
</tr>
<tr>
<td>Machining Apprenticeships (Fitting and Machining)</td>
<td>80</td>
</tr>
<tr>
<td>Manufacturing Engineering (see also Mechanical and Manufacturing Technology Department)</td>
<td>97</td>
</tr>
<tr>
<td>Advanced Certificate of Engineering</td>
<td>79</td>
</tr>
<tr>
<td>Associate Diploma of Engineering</td>
<td>78</td>
</tr>
</tbody>
</table>
Map of Hawthorn Campus (see inside back cover of handbook)

Marketing (see also Marketing and Administration Department)
  Advanced Certificate ........................................ 39
  Associate Diploma ........................................... 39

Marketing and Administration Department (see also School of Business Studies) ........................................ 39

Materials Technology
  Advanced Certificate ........................................ 63
  Associate Diploma ........................................... 60

Maths/Science Bridging Course for Women ........................................ 64

Mechanical
  Advanced Certificate ........................................ 79
  Associate Diploma ........................................... 78
  Apprenticeship — Fitting and Machining .................... 80

Mechanical and Manufacturing Technology Department (see also School of Engineering and Industrial Science) ........................................ 77

Mechanical Design Drafting, Associate Diploma ........................................ 78

Mechanical Engineering
  Advanced Certificate ........................................ 79
  Associate Diploma ........................................... 78

Microcomputing
  Advanced Certificate ........................................ 38
  Associate Diploma ........................................... 38

Migrant English Access ........................................... 90

National Scientific Instrumentation Training Centre ........................................ 32,53

New Opportunities for Women (Science and Maths) ........................................ 64

Occupational Health and Safety
  Advanced Certificate ........................................ 36
  Associate Diploma ........................................... 36

Office Administration
  Advanced Certificate ........................................ 39
  Associate Diploma ........................................... 39

Office and Secretarial Studies
  Certificate .................................................. 40

Operations Management, Associate Diploma of Business, Advanced Certificate
  Occupational Health and Safety ........................................ 36
  Purchasing and Planning ........................................ 37
  Work Study .................................................. 37

Overseas Students (see International Student Unit and Programs for Overseas Students)

Parking
  Car Parks (see map) ........................................ 13
  Enquiries ..................................................... 13
  Permits, etc. ................................................ 13

Personnel, Advanced Certificate ........................................ 40

Physics (Applied), Associate Diploma in Computing and Applied Physics ........................................ 62

Post-Apprenticeship Courses
  Electrical .................................................... 82
  Toolmaking ................................................... 81

Prahran Campus
  Bookshop ..................................................... 14
  Courses offered ............................................. 6
  Introduction ................................................ 2
  Student Services ........................................... 9
  Student Union ............................................... 17

Preparatory Courses ........................................... 64,89,90

Prior Learning .................................................. 20,21
  Articulation (and Credit Transfer) ........................................ 21
  Exemptions
    Other academic studies ...................................... 20
    Recognition of Prior Learning (formal and informal) .............. 21
    Interchangeable Subjects .................................. 20

Prizes (see Scholarships and Awards)
  Proficiency Welding Certificate ........................................ 82

Programs for Overseas Students ........................................... 13,32

Publications
  Publicity and Information Unit ........................................ 13
  Student ..................................................... 16

Publicity and Information Unit ........................................... 13

Purchasing and Planning
  Advanced Certificate ........................................ 37
  Associate Diploma ........................................... 37

Quality Control Certificate ........................................... 79

Quality Technology
  Advanced Certificate ........................................ 79
  Associate Diploma ........................................... 78

Radio Station ................................................... 15

Reading (see Access Education Programs)

Reading Room, Students ........................................... 15

Recognition of Prior Learning ........................................... 21

Registrar ....................................................... 5

Results
  Categories ................................................ 29
  Examinations ................................................ 27-32
  Processing ................................................ 28
  Regulations (see Assessment Regulations) ...................... 27
  Statement (see Academic Statements) .......................... 21

Reports ....................................................... 21,22,29

Sales Management (see also Associate Diploma of Business (Marketing))
  Advanced Certificate ........................................ 39

Scholarships and Awards ........................................... 11

Schools
  Business Studies ........................................... 33
    Finance and Information Technology Department 35
      Associate Diploma of Business .......................... 35
      Accounting ................................................ 35
      Microcomputing .......................................... 38
      Operations Management .................................. 35
    • Occupational Health and Safety ........................................ 36
    • Purchasing and Planning .................................... 37
    • Work Study ............................................... 37
<table>
<thead>
<tr>
<th>Certificate</th>
<th>Address</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informatization</td>
<td></td>
<td>38</td>
</tr>
<tr>
<td>Operations Management</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Complex Health and Safety</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Purchasing and Planning</td>
<td></td>
<td>37</td>
</tr>
<tr>
<td>Work Study</td>
<td></td>
<td>37</td>
</tr>
<tr>
<td>Certificate</td>
<td>Computer Business Applications</td>
<td>38</td>
</tr>
<tr>
<td>Marketing and Administration Department</td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>Associate Diploma of Business</td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>Office Administration</td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>Advanced Certificate</td>
<td>Marketing</td>
<td>39</td>
</tr>
<tr>
<td>Office Administration</td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>Personnel</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>Sales Management</td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>Certificate</td>
<td>Office and Secretarial Studies</td>
<td>40</td>
</tr>
<tr>
<td>Victorian Certificate of Education</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>Evening classes</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>Centre for Business Development and Training</td>
<td></td>
<td>32,34</td>
</tr>
<tr>
<td>Engineering and Industrial Science</td>
<td></td>
<td>51</td>
</tr>
<tr>
<td>Electrical and Electronics Technology Department</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Associate Diploma of Engineering</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Electronics</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Advanced Certificate</td>
<td>Industrial Electronics</td>
<td>55</td>
</tr>
<tr>
<td>Certificate</td>
<td>Basic Electronics</td>
<td>55</td>
</tr>
<tr>
<td>Apprenticeship</td>
<td>Electrical Trades</td>
<td>56</td>
</tr>
<tr>
<td>Industrial Sciences Department</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>Associate Diploma of Applied Science</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>Computing and Applied Physics</td>
<td></td>
<td>62</td>
</tr>
<tr>
<td>Fire Technology</td>
<td></td>
<td>61</td>
</tr>
<tr>
<td>Laboratory Technology</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>Manufacturing Technology</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>Mechanical Design Drafting</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Advanced Certificate</td>
<td>Fire Technology</td>
<td>62</td>
</tr>
<tr>
<td>Laboratory Technology</td>
<td></td>
<td>62</td>
</tr>
<tr>
<td>Materials Technology</td>
<td></td>
<td>63</td>
</tr>
<tr>
<td>Bridging and Preparatory Courses</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Bridging Technology</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Foundation Year</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>New Opportunities for Women</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Mechanical and Manufacturing Technology Department</td>
<td></td>
<td>77</td>
</tr>
<tr>
<td>Associate Diploma of Engineering</td>
<td></td>
<td>77</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Manufacturing Engineering</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Quality Technology</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Mechanical Design Drafting</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Advanced Certificate</td>
<td>Mechanical Engineering</td>
<td>78</td>
</tr>
<tr>
<td>* Quality Technology</td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>Manufacturing Engineering</td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>Apprenticeship</td>
<td>Fabrication</td>
<td>80</td>
</tr>
<tr>
<td>Mechanical (Fitting and Machining)</td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>Post-apprenticeship</td>
<td>Toolmaking</td>
<td>81</td>
</tr>
<tr>
<td>Certificate</td>
<td>Quality Control</td>
<td>79</td>
</tr>
<tr>
<td>Welding</td>
<td>Basic Welding Certificate</td>
<td>81</td>
</tr>
<tr>
<td>Intermediate Welding Certificate</td>
<td></td>
<td>81</td>
</tr>
<tr>
<td>Proficiency Welding Certificate</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>Electric Welding</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>Hobby</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>Engineering Workshop Practice</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>Hobby Welding</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>Centre for Engineering Technology</td>
<td></td>
<td>32,52</td>
</tr>
<tr>
<td>National Scientific Instrumentation Training Centre</td>
<td></td>
<td>32,53</td>
</tr>
<tr>
<td>Further Education and Community Services</td>
<td></td>
<td>87</td>
</tr>
<tr>
<td>Access Education Department</td>
<td>Voluntary Tutor Training</td>
<td>89</td>
</tr>
<tr>
<td>Vocational Evening Class</td>
<td></td>
<td>89</td>
</tr>
<tr>
<td>Transition Program</td>
<td></td>
<td>89</td>
</tr>
<tr>
<td>Vocational Preparation Program</td>
<td></td>
<td>89</td>
</tr>
<tr>
<td>Basic Studies Program</td>
<td></td>
<td>89</td>
</tr>
<tr>
<td>Certificate in Work Education</td>
<td></td>
<td>89</td>
</tr>
<tr>
<td>General and Community Studies Department</td>
<td>Associate Diploma in Social Science</td>
<td>90</td>
</tr>
<tr>
<td>(Social Development)</td>
<td>Victorian Certificate of Education</td>
<td>89</td>
</tr>
<tr>
<td>Business/Humanities</td>
<td></td>
<td>89</td>
</tr>
<tr>
<td>Science/Engineering</td>
<td></td>
<td>89</td>
</tr>
<tr>
<td>Certificate</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>Bridging and Preparatory</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>Arts Preparatory Program</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>Preparatory for VCE</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>Community Information — Worker’s Course</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>Migrant English Access (ELICOS)</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>English Language Centre</td>
<td></td>
<td>32,88</td>
</tr>
<tr>
<td>English courses for overseas students</td>
<td></td>
<td>13,88</td>
</tr>
<tr>
<td>ELICOS programs</td>
<td></td>
<td>32,88</td>
</tr>
<tr>
<td>Workplace Skills Unit</td>
<td></td>
<td>88</td>
</tr>
<tr>
<td>Science (see School of Engineering and Industrial Science)</td>
<td></td>
<td>89</td>
</tr>
<tr>
<td>Social (see General and Community Studies)</td>
<td>VCE</td>
<td></td>
</tr>
<tr>
<td>Scientific Instrumentation Training Centre, National</td>
<td></td>
<td>32,53</td>
</tr>
<tr>
<td>Services</td>
<td>Computer</td>
<td></td>
</tr>
<tr>
<td>Learning</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Student Child Care (Assistant)</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Swinburne</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Short Course Centre (see Centre for Business Development and Training)</td>
<td></td>
<td>32,34</td>
</tr>
<tr>
<td>Bookings</td>
<td></td>
<td>32,34</td>
</tr>
<tr>
<td>Short Courses</td>
<td>Centre for Business Development and Training</td>
<td>32,34</td>
</tr>
<tr>
<td>Centre for Engineering Technology (CAD Skills)</td>
<td></td>
<td>32,52</td>
</tr>
<tr>
<td>Social and Community Services Courses</td>
<td></td>
<td>88</td>
</tr>
<tr>
<td>Social Science, Associate Diploma (Community Development)</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>Societies and Clubs</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Spelling (see Access Education Programs)</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Sports Association</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff</td>
<td>Corporate Division</td>
<td></td>
</tr>
<tr>
<td>Higher Education Division</td>
<td>TAFE Division</td>
<td></td>
</tr>
<tr>
<td>(see also appropriate School)</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>State Training Board Examinations</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Student Activities (see Student Union)</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

99
Student Administration Office .................................. 21
Student Assistance ............................................. 13
  Bookshops .................................................. 13
  Disabilities (see Disabled Students) ...................... 10
  Financial Assistance Schemes (Austudy, loans, etc.) .... 10
  Health and Welfare Unit ................................... 9
  Parking ...................................................... 13
  Sports Association .......................................... 17
Student Bookshops ............................................ 13
Student Services ............................................... 11
  Advising Centre for Women ................................ 9
  Careers and course information .......................... 9
  Counselling .................................................. 9
  Employment .................................................. 10
    Graduate placement and full-time ....................... 9
    Part-time and vacation .................................. 10
  Health ....................................................... 9
  Housing ...................................................... 10
Student Union ................................................ 14
  Activities .................................................. 14,15
  Appeals and Advocacy Unit ................................ 16
  Campaign and Pressure Group Co-ordination Centre .... 16
  Cafes ........................................................ 15
  Clubs and Societies ....................................... 15
  Coffee Lounge ............................................. 15
  Computer Centre .......................................... 16
  Contact/Information desk ................................ 15
  Education, Welfare and Research Department .......... 16
  Insurance — Personal Accident .......................... 15
  Legal Adviser ............................................... 15
  Office ....................................................... 15
  Publication, Printing and Binding ....................... 16
  Radio Station .............................................. 15
  Reading Room .............................................. 15
  Tax Return Adviser ....................................... 16
  Tool Library ............................................... 15
  Typing Service ............................................ 16
  Union Bus .................................................. 15
Subjects (see appropriate School) .......................... 2
Subject Details — subjects listed in each course outline are detailed at the end of each School entry, in order of subject code

Swinburne, George (Founder) .................................. 2
Swinburne University of Technology .......................... 3
  Chancellor .................................................. 3
  Coat of arms ................................................ 3
  Corporate Division ....................................... 5
  Council ...................................................... 3
  Courses, Higher Education (see separate Handbook) 
    Courses, TAFE Division (see under specific Schools) 
  Divisions (see separate entry under Division)
    Eastern Campus at Lilydale ............................ 2,5,7,
    .......................................................... 9,16
    Geographical Locations ................................ 2
    History .................................................... 2
    Prahran Campus ......................................... 2,6,7,
    .......................................................... 9,14,
    .......................................................... 17
  Services .................................................... 6
  Schools (TAFE Divisions) .................................. 19
  Staff (see separate entry under Staff)
TAFE System (interchangeable subjects) .................... 20
  Technicians courses 
    Mechanical ............................................... 78,79
  Technology 
    Bridging .................................................. 64
    Fire ....................................................... 61,63
    Information ............................................. 38
    Laboratory ............................................... 59,62
    Materials ................................................ 60,63
  Tool Library ............................................... 15
  Toolmaking (Post-apprenticeship) ......................... 81
  Trade Programs (see Apprenticeships) ....................
  Transition Program (Access Education) ................. 89
  Tutor Training, Volunteer ................................ 89
  Typing Service ............................................ 16
  Union, Student ............................................. 14
  Victorian Certificate of Education — VCE ............... 89
    Business/Humanities .................................. 89
    Science/Engineering ................................... 89
  Vocational Preparation Program ......................... 89
    Evening Classes ........................................ 89
  Volunteer Tutor Training ................................ 89
  Welding ..................................................... 81
    Certificate ............................................... 81
      Basic .................................................... 81
      Intermediate .......................................... 82
      Proficiency ........................................... 82
      Electric (Post-trade) .................................. 82
      Hobby ................................................... 82
  Welfare ..................................................... 9
  Women ....................................................... 11
    Advising Centre for Women at Swinburne .......... 11
    Basic Maths .............................................. 64
    Maths/Science Bridging Course ......................... 64
    New Opportunities for Women (Maths and Science) .. 64
  Word Processing Centre .................................. 16
  Workplace Skills Unit .................................... 88
  Workstudy 
    Advanced Certificate .................................. 37
    Associate Diploma ....................................... 37
  Writing (see Access Education Programs)