Please note

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1990 Calendar

January
1 New Year's Day
2 Swinburne re-opens
15 VCE (HSC) results
29 Australia Day

February
5 SCT semester 1 begins
12 SCT all other classes begin
15 VCE (HSC) results
19 SCT enrolment period begins for Round 1 offers through VTAC
22 SCT enrolment period begins for Round 2 offers through VTAC
26 SIT teaching begins: Applied Science (later years) and Engineering (except final year)

March
5 SIT teaching begins: Arts and Business (all years)
12 Labour Day
31 SCT last day of applications for awards for students completing courses in Semester 1

April
2 SIT last day for application for awards for General Service Fee
9 SCT last day for subject variations to enrolment for Semester 1
11 SIT classes end for Easter break
12 SIT classes end for Easter break
19 SIT classes resume after Easter break
25 Anzac Day
30 SCT classes resume

May
2 SIT Graduation ceremony
31 SIT last day for application for awards for students completing courses in Semester 1 1990

June
11 Queen's Birthday
13 SCT certificate and award presentation ceremony
15 SIT Business semester 1 examination period begins
18 SIT semester 1 examination period begins
29 SIT semester 1 examination period ends

July
9 SIT inter-semester break begins (except Art)
16 SCT semester 2 begins
23 SIT semester 2 begins

August
31 SCT last day for subject variations to enrolments for semester 2
SIT last day for amendments to enrolments without penalty of failure

September
21 SIT classes end for mid-semester break

October
1 SIT classes resume
9 SCT classes resume
17 SIT graduation ceremony

November
5 SIT Business semester 2 examination period begins
6 Melbourne Cup Day
12 SCT examination period begins: Applied Science, Arts and Engineering
16 SIT Business: semester 2 examination period ends
23 SCT examination period ends
26 SCT end of year examination begin (internal and external)

December
3 SIT re-enrolments begin
7 SCT examination period ends
22 SCT semester 2 ends
Swinburne closes for Christmas break

SIT: Swinburne Institute of Technology
SCT: Swinburne College of TAFE
Swinburne Handbook '90
The information given in this Handbook is intended as a guide for persons seeking admission to Swinburne Institute of Technology or Swinburne College of TAFE and shall not be deemed to constitute a contract on the terms thereof between Swinburne Institute of Technology or Swinburne College of TAFE and a student or any third party. Both divisions 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; Swinburne Limited.

Equality of educational opportunity is Swinburne policy

Swinburne Institute of Technology
and
Swinburne College of TAFE
John Street, Hawthorn 3122
Australia

P.O. Box 218, Hawthorn 3122
Telephone: (03) 819 8911
Telex: Swinbn AA37789
Facsimile: (03) 819 5454

Divisions of Swinburne Ltd

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sections

- general information
- Swinburne College of TAFE
- Business Studies
- Engineering (including building construction)
- Social and Applied Sciences
Swinburne

Swinburne was established in 1908 under the name of 'Eastern Suburbs Technical College'. The first students were enrolled in 1909, when classes were begun 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 Hon. 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 in that year by an Act of the Parliament of Victoria to 'foster the development and improvement of tertiary education in technical, agricultural, commercial and other fields of learning (including the liberal arts and the humanities) in institutions other than in the universities of Victoria'.

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

An extensive re-organisation 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 were awarded at a conferring ceremony held on Thursday 21 May 1981 at the Camberwell Civic Centre.

To facilitate operations, teaching is carried out within two divisions, under the control of one council. They are:

- Swinburne Institute of Technology — a college of advanced education offering courses for professional qualifications (diploma and degree of Bachelor) and graduate qualifications (diploma and degree of Master). Enrolments in 1989 were 3,999 full-time and 2,821 part-time students.

- Swinburne College of Technical and Further Education — a technical and further education college, offering courses at middle-level or para-professional, trade, technical and Victorian Certificate of Education (Tertiary Orientation Program) levels. A number of courses are provided also, for specialist or steering interests, for the community. Enrolments in 1989 were 9,077 full-time and 3,082 part-time students.

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

The arms: the basic colours of red and white, and the cinquefoils charged on the shield, commemorate the arms of the Swinburne family. The omission of the third cinquefoil which appears in the family coat and the addition of the Bordure 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 crest: the demi-Boar and the cinquefoil perpetuate the Swinburne connection; the book is symbolic of learning.

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

Swinburne Council

Membership as at 8 May 1989

Appointees of the Governor-in-Council
J.J. Eastwood, BA(Hons), DipEd(Melb) (Vice-President)
J.P. Hall, BE(Elec)(Melb), FAIM
K. Lahey, BA(Hons), MBA
M.A. Pugliesi, LLB(Melb), Barrister and Solicitor (Vic) Supreme Court
L.R. Stephens, BEd(MCAE), GradDiplIndRel(PIT)

One vacancy

Nominee of the Minister for Education
M.M. Montague, PhD(Qld), BA(Hons)(Lond), GradDiplPubPol(Melb)

Members elected by the Council of Swinburne
G.J. Allen, PhD, MEd, BCom, MAPS, FACE
T.P. Coman, DipAppChem(STC), ARACI (President)
J.M. Day, BE Mech and Elec (Syd), FIEAust, SME
J.M. Harrison, CBE, AM, FAIM
D.M. Reilly, MA(Mon), ALAA
J. Short
H.S. Wragge, AM, MEngSc, BEE, FTS, FIEAust, FIEE

Member ex officio
J.G. Wallace, MA(Glas), MEd(Glas), PhD(Brist), FASSA
(Director and Chief Executive Officer)

Member elected by Academic Board
F.X. Walsh, BA(Melb), BEd(Mon) (Vice-President)

Member elected by Board of Studies
R.C. Chamberlain, DipMechEng, CertEng(Aero), TTTC

Member elected by academic staff, SIT
G.C.J. Morieson, BA(Mon), DipSocStud(Melb), GradDiplEd(Haw)

Member elected by academic staff, SCT
J. Learmont, BA(Hons), MEd(Mon), MACE

Members elected by general staff
N.H. Nilsen
L. Scheuch-Evans, BS in Foreign Service (G'town)

Member elected by students, SCT
M.L. Quaremba

Member elected by students, SIT
L.J. King

Council Secretariat

Secretary
F.G. Bannon, BCom(Melb), FASA, ACIS, LCA

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

Directorate

Director, Swinburne Institute of Technology and Swinburne College of TAFE
J.G. Wallace, MA(Glas), MEd(Glas), PhD(Brist), FASSA

Associate Directors
F.G. Bannon, BCom(Melb), FASA, ACIS, LCA
B.J. MacDonald, BEd(Mon), DipEd(Rusd)

Office of the Director

Assistant Director (Academic)
J.A. McCormick, BCom(Melb), MAdmin(Mon), FASA, CPA

Project Officers
A.R. Grigg, BA(Hons), PhD(Otago)
E. Ramsay, DipPhysEd(Tas), BA(Hons)(Mon), GradDipl(InfoServ)(RMIT)
Swinburne Institute of Technology

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

Faculty of Applied Science
Dean
J.G. McLean, PhD(Melb), BSc(Syd), HDA(Hons)
Head, Department of Applied Chemistry
I.K. Jones, PhD, BAGrSc, DipEd(Melb)
Head, Department of Computer Science
D.D. Grant, PhD(Reading), MSc(Melb), MACM, MIEEE
Head, Department of Mathematics
R.P. Kavanagh, MA(Dub), MSc(Gal), MASOR, MORS
Head, Department of Physics
R.B. Silberstein, PhD(Melb), BSc(Hons)(Mon), MAIP, MIBME, MACPSM

Faculty of Art
Dean
To be appointed
Director, Computer Image Program
P.G. Brown, BA(Hons), HDA(Lo)nd
Head, Department of Film & Television
J. Sabine, BA(ANU)
Head, Department of Graphic Design
D.G. Murray, BA(Graphic Design)(SIT) TTTC (Acting)

Faculty of Arts
Dean
L.A. Kilnartin, BA(Qld), MA(ANU), PhD(LaT), MAPsS
Chair, Department of Humanities
P. Excell, BA(Hons)(Melb), MA(Mon)
Head, Department of Liberal Studies
M. Hamer, MA, DipEd(Melb), PhD(ANU), GradDipArt(App&TV)(SIT)
Chair, Department of Psychology
K. Heskin, PhD(Queens)
Chair, Department of Social & Political Studies
F.X. Walsh, BA(Melb), BEd(Mon)

Faculty of Business
Dean
M.C. Frazer, BSc(Hons)(Mon), GradDipEdTert(DDIAE), MBA(PhD(Camb))
Head, Department of Accounting
B.C. McDonald, BCom, DipEd(Melb), FASA, CPA
Head, Department of Data Processing and Quantitative Methods
D.G. Adams, BCom(Melb), MAEdMan(Mon), TTSC
Head, Department of Economics
J.B. Welgosz, BComm(Hons), MA, DipEd(Melb)
Head, Department of Law
B.R. Clarke, LLB, BEc, LL(Mon), GradDipMkt(CIT), Barrister and Solicitor (Vic) Supreme Court
Head, Department of Marketing and Organisation Behaviour
L.A.J. Zimmerman, BCom, MBA(Melb)

Faculty of Engineering
Dean
L.M. Gillin, PhD(Cantab), MEd, MEngSc, BMEC(Acting), ASME(Bali'), FIEAus, FAIM, MACE, AAI, MAIP, MIBME, MAA
Head, Department of Civil Engineering
R.B. Sandie, MEngSc, BEng(Melb), FIEAust, MASCE, MACE
Head, Department of Electrical and Electronic Engineering
N. Zorbas, MEngSc, MEd(Melb), BE(Hons)(W.Aust), MIEEES, FIEAust

Head, Department of Manufacturing Engineering
J.K. Russell, MEngSc, BE(InStr)(Melb), CEng, FIProdE, MI MechE, FIEAust
Head, Department of Mechanical Engineering
J.H. Perry, PhD(S'ton), BSc(tech)(NSW), MIEAust

Swinburne College of TAFE

Director
J.G. Wallace, MA(Glas), MEd(Glas), PhD(Brist), FASSA
Assistant Director
R.C. Chamberlain, DipMechEng, CertEng(Aero), TTTC
Head, Business Studies Division
R.W. Corn, BBus, DipEd, AASA, CPA(Acting)
Head, Finance and Information Technology Department
M.J. Joyce, BBus, DipEd, AASA, CPA
Head, Marketing and Administration Department
I.M. Walker, MA, BComm, DipEd
Manager, Centre for Small Business
M.J. Joyce, BBus, DipEd, AASA, CPA

Head, Engineering Division
P.J. Bryant, BEd, CertEng(Mech)

Head, Building Construction Department
R.L. d’Argaville, DipIT, BuildlnspCert, BTrIC (Acting)
Head, Electrical and Electronics Technology Department
F.A. Gaunt, SEC A Grade Licence, DipIT, TechCert(Elec)
Head, Mechanical and Manufacturing Technology Department
J. Brennan, BEng(Mech), DipEng(Naval Arch), DipEd, CEng, MI MechE
Manager, Centre for Engineering Technology
L.J. McLaughlan, BTrIC, DipIT
Head, Social and Applied Sciences Division
G.A. Harrison, BSc, DipMechEng, TTTC
Head, Applied Science Department
R. Fallu, BSc, DipEd(Acting)
Head, Social Science and Humanities Department
G. Arnot, BEng, BEd, GradDipBusAdmin
Head, Access Education Department
L. Learmont, BA(Hons), MEd(Mon), MACE
Senior Curriculum Development Officer
R.M. Carmichael, BA, BEd
Manager, Computer Services Unit
C.A. Burgess, BSc, DipEd

Swinburne services
Computer-based Developments and Information Systems
Manager, Computer Centre
M.D. Plunkett, BSc(Adel)
Education Unit
Head
B. Hawkins, BA(NewEng), MEd(Melb), MACE
Library and Information Technology Services
Swinburne Librarian
P.C. Simmenauer, BA, Dip(Lib)(NSW)
Head, Information Technology Services
K. Anderson, MA(Grad), BSc(Melb), DipEE, MIEAust, MACE, TTTC
The major purpose of the library is to supplement and support formal course instruction in the two teaching divisions of Swinburne and to provide ample opportunity for recreational and general reading. All books, periodicals and other materials in the collection are available for use in the library and most may be borrowed.

In 1988 the collection comprised approximately 170,000 items. In addition, 3,000 periodical titles are received, including a wide range of indexes and abstracts. There is a large collection of audiovisual material, including records, audio and video-tapes, slides, films, videodiscs and computer software.

General Information

Library and Information Technology Services

Library
Swinburne Librarian (Acting)
PC. Simmensauer, BA, DiplLib(NSW)
Administration
E. Turner, CertAppSocSc(LibTech)
Audiovisual
B. Nichol, BSocSc(Lib'ship)(RMIT), BA(Melb)
M. Hawkins, CertAppSocSc(LibTech)
Vacant
Periodicals
K.M. McGrath, BA(Mon), GradDipLib(RMIT), ALAA
C. Barnes, BA(UNE)
Technical services
K.M. Villwock, BA(Mon), ALAA
Acquisitions/Collection management
C. Ellson, BSocSc(Lib'ship)(RMIT), ALAA
A. Davies, BA(Melb), GradDipLib(MCAE)
M. Wilkinson
C. Jenkin, BTh(MCD), MLib(Monash), GradDipLibSc(SAIT), ALAA
Cataloguing
V. Bott, BA(Hons)(Mon), DiplMLib(UNSW)
J. Saul, RAII, RAC(I)
J. Meggysys, CertAppSocSc(Lib Tech)
Readers’ services (Acting)
J.A. Douglas, BA(ADP), MSc(Strath)
Circulation
E. Carter, BSocSc(Lib’ship)(RMIT)
Reader education
B.J. Donkin, DipArts(SIT), GradDipEd(Haw), ALAA
Reference (Acting)
J.M. Ager, BA(Melb), GradDipLib(CAEE)
Reference and reader education
B. Jones, BSocSc(Lib’ship)(RMIT), ALAA
B.A. Carrfield, BA(SIT), AssocDiplLib(RMIT)
G. Turnbull, BEd(Lat), GradDipLib(RMIT), GradDipTeach(Bris CAE), AssocDipl-MAScT(OCA), CertComm. III. (OCA)
S. Whelan, BAI(Lat), GradDiplLib(MCAE)
A. Copeland, BSocSc(Lib’ship)(RMIT)
Vacant

Library

Swinburne Librarian (Acting)
PC. Simmensauer, BA, DiplLib(NSW)
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S. Whelan, BAI(Lat), GradDiplLib(MCAE)
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Vacant

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In 1988 the collection comprised approximately 170,000 items. In addition, 3,000 periodical titles are received, including a wide range of indexes and abstracts. There is a large collection of audiovisual material, including records, audio and video-tapes, slides, films, videodiscs and computer software.
Library staff work in close association with teaching staff in developing these resources and, in helping the students by introducing them to a diversified collection of literature and a wide range of media on all types of subjects. Formal and informal instruction is given to students on the use of the catalogue, reference works and bibliographical aids. Reciprocal borrowing facilities at other tertiary educational institutions have been arranged to increase the resources available to students and staff.

**Rules and procedures**

Persons entitled to use the Library

The library at Swinburne is available for the use of students and staff who accept the following rules and procedures officially decided and agreed upon by the Library and Information Technology Services Committee, the Academic Board, and the Board of Studies.

Members of the general public, including past students and staff, are welcome to read or use audiovisual facilities within the library, provided that they, too, accept the rules. They may also borrow from the library on payment of a membership fee to the Swinburne Library Information Service.

The Swinburne 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 Swinburne Council.

Full-time and part-time staff members of the Institute and the College of TAFE.

Registered borrowers from other educational institutions with which Swinburne has a reciprocal borrowing agreement.

Registered members of the Swinburne Library Information Service.

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

**Hours of opening**

Normal hours of opening for the library during semesters are:
- Monday to Thursday inclusive — 8.45am to 10.00pm
- Friday — 8.45am to 8.30pm

**Public holidays**
- Anzac Day
- Queen's Birthday
- Show Day
- Cup Day
- Closed on all other public holidays.

**Teaching breaks**
- Monday to Friday
- Long vacation
- Monday to Friday
- Closed between Christmas and New Year, with limited opening hours in January.

**Saturday 12 noon to 5.00pm**
- From the first Saturday in March, up to and including the Saturday at the end of the first week of examinations in second semester.
- Sunday 1.00pm to 5.00pm
- A limited number of Sundays towards the end of each semester.

Library loans to students

Loans will only be made on presentation of a valid borrower's card, which in the case of Swinburne students and staff is the Swinburne identity card.

**General**

All materials borrowed must be recorded at the loan, reserve, periodical or audiovisual counters and must be returned by the date and time indicated. Items borrowed, with the exception of audiovisual and periodical material, should be returned through the chute located outside the main entrance.

Materials on loan that are required for inclusion in the Counter Reserve collection will be recalled. Failure to respond to a recall will incur suspension of borrowing entitlement and fines.

**Borrowing periods**

**Fortnightly loans**

For items not available in the Reference collection (distinguished by the prefix 'R' in the call number), rare books ('V'), archives ('AR'), maps ('M'), microfilms and those materials marked 'Not for loan' or 'Display'.

Bound periodicals, newspapers and government publications from the deposit collection may not be borrowed.

Most video cassettes and slides (other than Art slides) are available for use on learning stations located in the area. Both material and equipment must be booked.

Items not available

Items not available for loan outside the library include: material in the Reference collection (distinguished by the prefix 'R' in the call number), rare books ('V'), archives ('AR'), maps ('M'), microfilms and those materials marked 'Not for loan' or 'Display'.

Fines and penalties

Loans are issued subject to the imposition of penalties for late return as below. Fines will not increase once the item has been returned, but all penalties shall continue to apply until the fine has been paid.

- Fortnightly loans and audiovisual loans — per item $0.50 per day or part thereof overdue, to a maximum of $5.00, suspension of borrowing privileges and withholding of examination results.
- 3-day loans — per item $1.25 per day or part thereof overdue to a maximum of $5.00 per item, suspension of borrowing privileges and withholding of examination results.
- Periodicals — per item $1.25 per day or part thereof overdue to a maximum of $5.00 per item, suspension of borrowing privileges and withholding of examination results.

**3-day loans**

For items not available in the Reference collection (distinguished by the prefix 'R' in the call number), rare books ('V'), archives ('AR'), maps ('M'), microfilms and those materials marked 'Not for loan' or 'Display'.

Bound periodicals, newspapers and government publications from the deposit collection may not be borrowed.

Most video cassettes and slides (other than Art slides) are available for use on the Swinburne campus only.

Fines and penalties

Loans are issued subject to the imposition of penalties for late return as below. Fines will not increase once the item has been returned, but all penalties shall continue to apply until the fine has been paid.

- Fortnightly loans and audiovisual loans — per item $0.50 per day or part thereof overdue, to a maximum of $5.00, suspension of borrowing privileges and withholding of examination results.
- 3-day loans — per item $1.25 per day or part thereof overdue to a maximum of $5.00 per item, suspension of borrowing privileges and withholding of examination results.
- Periodicals — per item $1.25 per day or part thereof overdue to a maximum of $5.00 per item, suspension of borrowing privileges and withholding of examination results.

See the Guide to the Library for further details.

**Audiovisual materials and equipment**

Many videocassettes are available for 2-day home loan, others together with slide sets are available for classroom use only.

Art slides may be borrowed for one week. Language tapes may be borrowed for four weeks. Most other material may be borrowed for one week and renewed if not reserved or overdue.

A range of videodiscs and instructional personal computer software is available for use on learning stations located in the area. Both material and equipment must be booked.

Items not available

Items not available for loan outside the library include: material in the Reference collection (distinguished by the prefix 'R' in the call number), rare books ('V'), archives ('AR'), maps ('M'), microfilms and those materials marked 'Not for loan' or 'Display'.

Bound periodicals, newspapers and government publications from the deposit collection may not be borrowed.

Most video cassettes and slides (other than Art slides) are available for use on the Swinburne campus only.

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- Periodicals — per item $1.25 per day or part thereof overdue to a maximum of $5.00 per item, suspension of borrowing privileges and withholding of examination results.

See the Guide to the Library for further details.
Overdues
First day: $0.50 per hour late. For each day thereafter: a further $2.00 to a maximum of $5.00. suspension of borrowing privileges and withholding of examination results.

Counter Reserve loans (within the Library Building) — per item
$0.50 per hour late, to a maximum of $5.00. suspension of borrowing privileges and withholding of examination results.

Recalls
Any items required for Counter Reserve will be recalled. Failure to return recalled items by the specified date will result in suspension of borrowing privileges and imposition of fines.

Lost library material
If an item is lost, the loss must be reported immediately to the Overdues Section, level 2. If after a reasonable search has been made, the item cannot be found, the borrower shall be responsible for the replacement cost plus a processing charge.

identity cards
These are not transferable. Loss of an identity card must be reported immediately to the Overdues Section on level 2 of the library otherwise the library can take no responsibility for items borrowed on that card. A current card must be produced when borrowing otherwise service will be refused. Lost or damaged cards must be replaced at Student Administration at a cost of $5.00.

Rules for general conduct
Eating is not allowed in areas of the library open to the public.

Drinking, except from the drinking fountain, is not allowed in areas of the library open to the public.

Playing games in the library is not allowed.

Smoking is not permitted in areas of the library open to the public.

Bags and cases may be brought into the library, but must be offered for inspection on leaving.

An atmosphere of quiet must be maintained in the library so that it is at all times a place conducive to independent study an quiet reading. Silence must be kept in the areas indicated and conversation restricted to the areas set aside for this purpose.

Any person who, in the opinion of a member of the library staff and the senior staff member on the premises, repeatedly fails to observe the above rules, or who disfigures or damages a book, periodical or any other library resource or fitting in any way, may be excluded from the library for the rest of the day, and shall be responsible for all damage caused.

Persistent or serious offenders may be reported by the Swinburne Librarian to the Swinburne Registrar for disciplinary action which may include suspension of borrowing privileges, exclusion from the library, and withholding of examination results.

Power to alter rules
One or more of the rules for general conduct may be changed from time to time by the Director, on the recommendation of the Swinburne Librarian.

At the discretion of the Swinburne Librarian one or more of the rules may, under special circumstances, be temporarily suspended. Each suspension shall be reported at the earliest opportunity to the Director and to the Library and Information Technology Services Committee.

Photocopying
Photocopying machines available to staff and students are located on level 1 of the library building. These are operated by the Berwel Copytex card system; cards for $2.00 and $5.00 can be purchased from dispensers in the library. Users must abide by the relevant provisions of the Copyright Act.

Information Technology Services
Head, Information Technology Services
K. Anderson, MA(Brad), BSc(Melb), DipEE, MIEAust, MACE, TITTC
Located in room BA309 of the Business and Arts Building, Information Technology Services is available for use by all full-time and part-time staff of both divisions.

The services offered include the locating, booking and screening of educational films; audio and video recording, including micro-teaching; 35mm slide and overhead projector transparency making; general photographic assignments; high speed audio duplicating, sound studio production and editing, and production of computer-based learning resources.

Intending users of audio and video studio recording facilities are advised to consult with the staff of Information Technology Services well in advance of the recording date.

Also available is the short-term loan of slide projectors, overhead projectors, audio and videotape recorders and other audio-visual equipment.

Student Health and Welfare Unit
Unit staff
Head, Student Health and Welfare Unit
R. Vines, BA(Hons)(Melb), MSc(Adobn), MAPsS, AssocBPsS
Administrative Officer
M. Mancl, BSc(SAirl), BEd(Couns)(LaT)
Student Counselling staff
Student Counsellors
R. Vines, BA(Hons)(Melb), MSc(Adobn), MAPsS, AssocBPsS
J. Shopland, BSc(Melb), GDipEdCouns(RMIT), EdD(Mass), MAPsS
R. MacDonald, BA(Melb), DipEdPsych(Mon), MAPsS
H. Silberg, BA(Mon), GDipVocCouns(RMIT)
Receptionist
J. Ralph
Careers Information Centre staff
Careers Information Counsellor in Charge
S. Wayth, BA(Melb), GDipLibStud(WAIT), ALIAA
Schools Liaison Co-ordinator
J. Van, BA(Melb), DipEdPsych(Mon), MAPsS
Administrative Officer
J. Dufry, MA(Mon)
Graduate Placement, Student Employment and Housing staff
Graduate Employment Adviser
W. Balfour, BA(Adobn), GDipCouns(MSC), PostGDip in Careers (VicColl)
Housing Officer
B. Graham, BAppSc(Pharm)(TCAE)
Secretary
S. Davis
Student Health Service staff
Medical Officer
S. Clarke, MB, BS(Lond)
Sisters
J. Fischer, RN, RM(Vic)(UK), RN(USA)
A. Hart, RN(Vic)
Administrative Assistant
J. Wright
Chaplaincy
Ecumenical Chaplain
H. Aveling, MA(Syd), BEd(WACAE), TSSF, STM(Wston)
Jewish Chaplain
M. Katz, BJuris(Mon)
Student health and welfare services

The following services are available to all students:

- **Counselling** — course and vocational, financial, personal, post-secondary survival strategies.
- **Careers and course information**
- **Employment** — graduate part-time.
- **Health**
- **Housing**
- **Loans**
- **Schools liaison program**
- **Chaplaincy**

These services, with the exception of those of the Chaplain, are administered by the Student Health and Welfare Unit.

**Student counselling**

Location: room 206, level 2, Business and Arts Building
Telephone: 819 8025

The Student Counselling Service is available to students, staff, former students, parents and partners of students. The service is free and strictly confidential.

Counsellors help in areas such as loneliness, adjustment to life at Swinburne, subject choice, deferment, choosing a course, examination anxiety, exclusion, vocational choice, studying part-time, leave of absence, academic difficulties, concern about others, study problems, marital and pre-marital counselling, relationships, disabilities, sexuality, family, financial problems, career planning and decisions, and student allowances. 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 Security and the Commonwealth Department of Education.

The Counselling Service is open from 9.00am to 5.00pm on Monday, Tuesday, Thursday and Friday and from 12.00pm to 8.00pm on Wednesday throughout the year. Times outside the advertised hours may also be arranged. The service operates on both a fixed appointment and ‘drop in’ basis.

**Careers Information Centre**

Location: room 206, level 2, Business and Arts Building
Telephone: 819 8023

The CIC is available to Swinburne students and staff, parents, prospective students and school teachers. The CIC service is free and offers a confidential Careers Information Counselling Service.

The CIC maintains an up-to-date Careers Library with information about courses from TAFE to post-graduate levels, careers, prerequisites and recommended subjects, application and selection procedures, transition to the educational campus, special entry procedures and student financial assistance schemes, in particular, AUSTUDY. Students are assisted in accessing and understanding the information through a Careers Information Counselling Service.

A Schools Liaison Program is developed within the CIC to facilitate communication between secondary schools and Swinburne, and to assist prospective students to explore the educational opportunities available at Swinburne.

The CIC is open throughout the year from 9.00am to 5.00pm Monday, Friday.

Information on employers and employment opportunities is provided by the Student Employment Office.

**Student health**

Location: laneway behind library between John and William Street
Telephone: 819 8483 & 819 8703

The service is available to all students. It is free and strictly confidential. The service is available to staff for emergency treatment only.

The service offers all students the opportunity to seek help and answers to their problems in a confidential and non-judgmental 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. physical therapy, dental care and local doctors).

The service is open during teaching time, Monday to Friday: 8.45am — 5.00pm.

Doctor by appointment — 3 hours daily.

**Student housing, part-time and vacation employment**

Location: room 401b, level 4, Student Union Building (above the cafeteria)
Telephone: 819 8882

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, casual and vacation 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 and vacation employment notice-board.

The office is open from 9.00am to 5.00pm Monday to Friday (later on Wednesday by appointment for the convenience of part-time students).

Graduate placement and student employment advice
Location: room 401a, level 4, Student Union Building (above the cafeteria)
Telephone: 819 8521

Assistance is provided for students, former students and graduates seeking full-time employment.

Several services are available including:

- an information and placement service for students seeking full-time employment, and details of major recruiting campaigns;
- an employment register for students and graduates seeking work and wishing to change their employment;
- assistance with job application and interview techniques, individually or in group workshops;
- personal guidance and support for students in their search for appropriate employment;
- a campus interview program, where a range of employers visit the campus to interview final-year diploma and degree students;
- an employment resources library, including details of employment prospects and career opportunities with private and public employers.

The office is open from 9.00am to 5.00pm Monday to Friday (later on Wednesday by appointment, for the convenience of part-time students).
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, 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. The Student Counselling Service is located in room 206 on level 2, Business and Arts Building. Telephone: 819 8025.

Swinburne Chaplaincy
Location: room 207, level 2, Business and Arts Building
Telephone: 819 8489

The Chaplain provides spiritual support and pastoral care to members of specific faiths, those seeking a personal framework of meaning and purpose for their own lives and to persons of no particular commitment at all. The Chaplain can provide spiritual advice and direction as well as counselling in an open manner aimed at assisting the individual to find his or her own personal solution to a particular problem or problems. He is also involved in the community life of Swinburne and takes part in student activities where appropriate. In particular, he seeks to promote a deeper awareness of the dignity and value of human life in all its aspects, and is available to celebrate weddings and christenings for members of the Swinburne community. The Chaplain works in close cooperation with the Student Health and Welfare Unit. Students and staff are invited to drop into the Chaplaincy at any time. New students especially, are encouraged to introduce themselves early during their course.

Student loans
With approval of the Loans Fund Committee, long-term and short-term financial assistance may be obtained for full-time students from the following emergency loan funds, some of which are restricted to SIT:

Commonwealth Help for Needy Students Loan Fund
Special Assistance for Students Program
Student Aid Fund
Student Union Aid Fund
Rotary Swinburne Bursary Fund

Enquiries should be made to the Student Counselling Service. Telephone: 819 8025.

Student assistance schemes

**AUSTUDY**
The Commonwealth Government provides financial assistance for students aged 16 and over engaged in full-time secondary or tertiary education. To be eligible, students must meet certain requirements regarding previous study, income, other awards held, etc. As from 1 January 1989 the following weekly benefits were available: These amounts will be adjusted in 1990.

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<tr>
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<th>16-17 years</th>
<th>18+ years</th>
<th>Special</th>
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<td>Dependent t</td>
<td>$53.55 p.w. ($2,764)</td>
<td>$64.90 ($3,343)</td>
<td>$78.30 ($3,967)</td>
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<td>t away from home</td>
<td>$81.40 p.w. ($4,232)</td>
<td>$97.70 ($5,080)</td>
<td>$116.00 ($6,032)</td>
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<tr>
<td>Independent students</td>
<td>$81.40 p.w. ($4,232)</td>
<td>$97.70 ($5,080)</td>
<td>$116.00 ($6,032)</td>
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The maximum allowance for a dependent spouse is $42.70 p.w. ($2,226).

Some students are eligible for a fares allowance. There is an education supplement of $30.00 p.w. ($1,560) for certain groups of pensioners and beneficiaries (normal AUSTUDY requirements must also be met).
Access Education Department
Head
J. Learmont, BA(Hons), MEd(Mon), MACE, 819 8816
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 TAFE and SIT 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 at the Centre 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 1:1 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 or the fire brigade.

The Centre 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.

Catering Department
Manager
P. Boxshall, AFCIA, 819 8174
The Cafeteria is located above the Ethel Swinburne Hall (shown as building no. 10 on campus map on inside back cover of this Handbook). Entrances are from the corner of John Street and Burwood Road, from level 3 of the South Engineering Building and level 3 of the new Union Building. The Cafeteria provides a range of hot food including casseroles, sandwiches, cakes, fruit, home-made soup and vegetarian lines. We also have a range of fruit juices, yoghurt and hot drinks.

The Department also operates a Coffee Shop in the SCT area (no. 30 on campus map). Hot and cold drinks and food are available.

The Staff Dining Room is located on level 3 of the South Engineering Building, Room no. SE318.

Central Technical Workshops
Manager
G. Nettleship, CEng, MIMarE, 819 8326
The technical workshop manufactures teaching aids and prepares experimental work for staff and students (in consultation with lecturers).

Equipment available includes lathes, milling machines, sheet metal, welding facilities including aluminium and stainless steel.

The instrument workshop repairs and maintains instrumentation in the electronic, mechanical, electrical, and to a minor degree, optical fields. Some manufacturing for student projects in consultation with lecturers, is also undertaken.

Child-care Centre
Co-ordinator
S. Kelly, 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
I. Carthy
Senior Programmer
R. Schorer, BSct(Hons)(Mon)
Operations Supervisor
L. McGie
Telephone: 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 gigabytes 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 college. 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 30001120 are CICS/DB2, and CULLINET IDMS; support for artificial intelligence applications is provided by IBM's Expert System Environment (ESE) and the operating systems available include VM/ESA and MVS/ESA.
Swinburne has entered an arrangement with McCormack and Dodge which has resulted in that company’s financial participation being included in Swinburne’s undergraduate accounting program. Along with arrangements with IBM (Aus) Ltd 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.

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 restriction of their usage rights to Swinburne computing facilities as well as any other penalties which may be determined from time to time.

Education Unit
Head, Education Unit
B. Hawkins, BA(New Eng), MEd(Melb), MACE, 819 8384

The function of the Education Unit is to assist the teaching/learning departments throughout the Institute by keeping them informed of developments in education and related disciplines through seminars, workshops and a newsletter, by working with staff who are developing and introducing new methods and courses; by channelling funds to staff who need to be relieved temporarily of their teaching duties or who require special encouragement in other arrangements in order to introduce new methods of technology; and by providing facilities for research into specific educational topics.

Equal Opportunity Office
Equal Opportunity Officer
S. Reilly, PhD(Oregon), BEd, BA(Melb), 819 8855, 819 8804
Location: 463 Burwood Road

Equality of educational opportunity is Swinburne policy. Council’s policy on equal opportunity forbids discrimination on the grounds of sex, race, marital status, impairments, religious or political beliefs, age, sexual preference, and being a parent, childless and de facto spouse. Council is committed to providing an environment which is free from sexual harassment. Admission to courses and assessments of student performance will be conducted according to merit. Special efforts will be made to address imbalances in the distribution of male and female students in some disciplines.

Shalini Reilly may be contacted for advice and assistance.

Publicity and Information Unit
Head
E. Gerrand, BBus(SIT), CPA, AASA, 819 8847

Publicity Assistant/Journalist
AP. Sanger, BA(m-d)(VicColl), 819 8554

Editorial Assistant
F. Heylan, BA(SIT), 819 8548

Advertising
L. Burnell, 819 8463

Conference Centre, Bookings
J. O’Neil, 819 8709

Enquiries
R. Boschen
E. O’Brien, 819 8444

The major function of the Publicity and Information Unit is to facilitate clear, effective and direct communication both within and without the Swinburne community. The fundamental goal is to publicise the Swinburne Institute of Technology and College of TAFE activities both internally and externally.

The specific functions of the Unit consist in the production of publications, liaison with staff in regard to Swinburne activities and course structural changes, liaison with media with the purpose of promoting Swinburne’s public profile and quality of education and staffing the Swinburne Enquiries Office.

The Publicity and Information Unit’s publications include:
- Swinburne Institute of Technology Handbook;
- Swinburne College of TAFE Handbook;
- Swinburne News (external magazine);
- Swinburne Staff News;
- Swinburne Student Newsletter, “Update”;
- Swinburne course brochures;
- Swinburne Prospectus.

The Publicity and Information Unit also manages:
- the Swinburne Conference Centre, the hiring of facilities to external parties, etc;
- advertising, all course advertisements and general corporate advertising;
- and plays a major role in the co-ordination and organisation of exhibitions (for example Open Day and Careers Expos).

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, 819 8709.
**Hire of Swinburne facilities**

Outside groups wishing to use Swinburne facilities should contact the office to discuss their requirements. Swinburne lecture theatres and classrooms may be booked for use by outside organisations and such bookings must be made through the Swinburne Conference Centre.

**Student parking**

**Enquiries**
Planning, 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 windshield;
- 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 Planning. Student ID 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**

Parking infringement on Swinburne land attract the same fines that apply on public roads, currently $30.00. Under the Road Safety Act 1986, the fines are enforceable in court.

Those who abuse the system are also liable to have their parking privileges withdrawn and the parking permits for their cars revoked.

**Students with disabilities**

Consideration is given to the provision of reserved spaces for students with physical disabilities.

Enquiries should be directed to Student Administration.

**Conveniences**

- Full range of stationery supplies.
- Secondhand books.
- Gifts, cards, wrapping paper and novelties.
- Calculators and accessories.
- Computers, monitors, printers etc.
- Typewriters.
- Binding service for presentation of assignments etc.
- You are also able to sell your used and unwanted books through the bookshop.

**Swinburne Press**

Manager
D. McNaughton, 819 8123

The publications department was established in 1952 with a staff of three and one duplicating machine. Over the years this department has developed into the Swinburne Press with a staff of 12 and a full offset printing capacity.

The Press is primarily designed to give a fast print service geared to meet requirements for the production of class notes, students material and various types of administrative stationery. The major requirement is for single colour work but in addition the Press has a limited line colour production capacity.

In support of its printing element the Press operates a small bindery to collate, staple and trim publications and a computer typesetting service.

Swinburne Press is registered under the Business Names Act 1962 and is a recognised printing and publishing house.

**Swinburne Student Bookshop Co-operative Limited**

Manager
R. Wilkens, 819 8225

**General enquiries:** 819 4406

**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 A.G.M.’s and are also eligible to be elected a Board member of the Co-operative as per the society’s rules.

To become a member of the Co-op 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-op to receive your discount.

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

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

We sell:
- Text and references, novels, 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.
- Computers, monitors, printers etc.
- Typewriters.
- Binding service for presentation of assignments etc.
- You are also able to sell your used and unwanted books through the bookshop.

**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.
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 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 bookstore during terms and semesters are:

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

**Public holidays**

Closed during vacations

Mid-semester, term and semester breaks:

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

**Christmas vacation:**

Closed mid-December to early February

**Services**

The bookstore 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 activities**

**Student Union — what is it?**

This is a campus-based organisation that is independently managed by students. It unites all students who are enrolled at Swinburne. It is a trade union in its role of representing and fighting for the rights and entitlements of students. Through the Student Representative Council, the Union allows students to have input into, and be creative with, their academic courses. Fundamentally, the Student Union strives to ensure that the time a student spends on campus is rewarding, educational, memorable and safe.

**Membership and its aims**

The Student Union is an incorporated association under the Victorian Government's Association Incorporation Act 1981. Under this Act the Student Union is a legal entity and membership to the Union is automatic on receipt of your 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 Ltd 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 recognition and quality of the standard of the academic awards of Swinburne Ltd.

The 1989 Executive of the Union consisted of:

- **President**: Lisa King
- **Vice-president**: David Powell
- **Activities Director**: John Peat
- **Education Director**: Sanchia Draper
- **Media Director**: John Beno
- **Finance Director**: Renee Wahlstrom

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

The affairs of the Union fall principally into the following areas: education and welfare, resource, social activities, and media.

These areas are governed by management committees, whose responsibility is to develop and implement the 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 from the Union Executive, two to four persons elected from the student body. The Executive shall convene a general meeting to receive and consider the statement submitted by the management committees.

In February or March of each year the Executive calls an Annual General Meeting of the members of the Union. 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 during 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 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 Department — clubs and societies
The Activities Department of the Student Union and various clubs and societies organise numerous functions, both of a social and educational nature. The range of activities includes lunchtime concerts with bands, solo performers, Union nights, Union days with entertainment and barbecues, comedy and contemporary performers, Union/Issue days, part-time evenings, film afternoons, street theatre and plays, and not forgetting the event of the year — "The Union Ball". The Activities Department is also responsible for co-ordinating and assisting the student based clubs and societies on campus. Those active in 1989 included:

- ACES (Association of Civil Engineering Students)
- ASPS (Association of Swinburne Psychology Students)
- Baha'I Faith
- BIT.P.C. (Bachelor of Information Technology P.Club)
- S.F.C. (Blood Film Club of Swinburne)
- Christian Association
- Croatian Club
- Explorers Club
- Greek Club
- Italian Club
- Klub
- Morana
- MEKS (Mechanical Engineering Klub of Swinburne)
- Mental Health Club
- Students for Christ
- SAM (Swinburne Association of Marketing)
- SCABS (Swinburne Chemical and Biology Students)
- SIS (Swinburne Islamic Society)
- SOSA (Swinburne Overseas Students Association)
- Swinburne University Campus Chapter of Engineers
- SWINUSS (Swinburne Jewish Students Society)
- SPACE (Swinburne Production Chemical Engineers)
- SYE (Swinburne Young Engineers)
- Vietnamese Society
- Wargaming and Role-Playing Society
- Womens Support Network

For further information on clubs and societies (e.g. how to start a club, applying for affiliation and financial support from the Union etc.) see the Activities officer.

Union van
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 both Swinburne Institute and Swinburne College of TAFE who have paid their union fees are automatically covered by accident insurance. This insurance scheme covers all accidents, 24 hours a day, worldwide. For further details, please contact the Administration Officer 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 Advice, bookings, insurance claims, administration forms for clubs and societies, and general information. Union personnel that are located in the Union Office include the President, Manager, Education Research Officer and Assistant, and the Administration Officer.

Telephone numbers: 819 2156/2656/2966/8520/8553

Union Staff
Manager: T.M.B. Krishnan
Administrative Officer: Patricia Bardini
Education Co-ordinator: Tony Doss
Education Research Officer: Maree Thompson
Activities Officer: Angie Venuto
Word Processing Officer: Andrea Brislin
Contact Officer: Emma Armstrong
Media Officer: Craig Silva
Catering Officer: Henk Scholtmeyer
TAFE Officer: Nick Katiforis

ContactInformation Desk
The Contact/Information Desk 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 political/solidarity 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 Union merchandise.

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 enquiries. The Contact/Information Desk operates Monday to Thursday from 9:00am to 6:00pm, Friday from 9:00am to 4:00pm, and is located in the Student Services Centre (opposite Earle Hall in John Street).

Reading Room
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 in the lounge are two photocopiers. These copiers are cheaper than the library — only five cents per copy (A3 or A4). The Reading Room is open Monday to Thursday from 9:00am to 6:00pm and Friday 9:00am to 4:00pm. It is located in the Student Services Centre.

Tool Library
The Tool Library is located in the Student Services Centre, telephone 819 8291. As the library is a non-profit organisation, its hire rates are very reasonable. All equipment requires a deposit and student/staff ID for borrowing. Deposits can be waived for students/staff if current ID is left in lieu of deposit.

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, electronic typewriters, auto tools, orbital sanders, percussion drills, belt sanders, barbeques, PA system, tents and rucksacks.

The Tool Library is open:
Monday 9:00am — 5:00pm
Tuesday 9:00am — 6:30pm
Wednesday 9:00am — 5:00pm
Thursday 2:00pm — 6:30pm
Friday 9:00am — 5:00pm
Equipment may be borrowed and returned only during the above hours.

Union coffee lounge
Situated on the third level of the Union Building, this is a comfortable and popular lounge which serves tea, cappucinos, iced coffee, fresh fruit juices, and quality coffee 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 Cafe is conveniently located on the ground floor of the Union Building (next to the Bookshop).
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.

SCT Resource and Drop-in Centre

To meet the needs of TAFE students a Resource and Drop-in Centre is located on the TAFE campus. In this Centre, parlour games, magazines and tea and coffee making facilities are available free of charge to students. A lounge and study area is also provided for student use.

Radio station

3SSR — Swinburne Student Radio.

Location: fourth level of the Union Building. 3SSR provides students with a variety of music and other programs which are broadcast to a number of outlets throughout the Swinburne campus. Students are involved in various activities at the station including supervisory work, 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, sound-proof recording studios 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 Advisor

The Student Union provides a free legal service for full and part-time students. The solicitor is available every Tuesday during the academic year, between 2.15pm and 6.15pm. Appointments must be made at the Union Office.

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 the department and can be contacted at the Union Office, 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, whether in regard to their course/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 Union Office.

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 these 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 Union Office.

Campaigns and Pressure Group Co-ordination Centre

The Union undertakes actions against those organisations and 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, Anti-Education Tax, Travel Concession for all Tertiary Students, 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), or by ringing same on 819 2966.

Campus Clippe Shoppe

The Union Hairdresser provides an excellent service at very competitive rates. Situated adjacent to the Video Pit — 4th level of the Union Building — the Shoppe is open three days a week. To check opening times, or make bookings, ring the hairdresser direct on 819 8495; or the Union Desk on 819 8520.

Student publications

The Student Union publishes two once-weekly publications called “The Swine” and “Sibull”. “Sibull” which comes out on Tuesday provides information about on-campus student activities as well as free non-commercial advertising. “The Swine”, published on Thursday, covers broader news and entertainment. Both provide a forum for students to present and discuss their views on all matters.

“Scram” is the Student magazine that provides a vehicle for students to publish creative, analytical and political articles on various subjects which won’t be found in the monopoly media. We hope it provokes discussion around social issues that are relevant to students on and off campus.

All of 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 its 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 Media Office 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 theses, all printed out on a high quality Apple Laser Printer.

Student Computer Centre

Desperately seeking computers

Now there is a solution, students will have access to an ergonomically designed Computer Centre, consisting of 24 brand new computers and access to popular software packages, such as Microsoft Word, Database III, Lotus 123, as well as your own software packages.

For further information contact Andrea at Campus Typing, 4th floor S.U. 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 $2.00.
Tax Return Lodgement Advisor
Prior to the period when Tax returns have to be completed for lodgement, the Union organises 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.

Sports Association
Executive Officer
A. Clarke, BAppSci(FIT), DipEd(Haw), 819 8018
Physical Education/Recreation officer
D. Shanahan, BAppSci(FIT)
Administrative Assistant
R. Smith, BEd(Ball)

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 Recreation/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 three 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, Hang-gliding, Hockey, Horse riding, Indoor cricket, Indoor soccer, Meditation, Motorcycle, Netball, Nordic skiing, Orienteering, Sailboarding, SCUBA diving, Skydiving, Snowski, Soccer, Squash, Surfing, Tai Chi, Taekwondo, Tang Soo Do, Tennis, Volleyball and Waterskiing.
Swinburne competes in many intercollegiate sports and recreation events throughout the year. Affiliation with Victorian and Australian college 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.
Swinburne College of TAFE

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

Assistant Director
R.C. Chamberlain, DipMechEng, CertEng(Aero), TTTC

Head, Business Studies Division
R.W. Conn, BBus, DipEd, AASA, CPA (Acting)

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

Head, Marketing and Administration Department
I.M. Walker, MA, BCom, DipEd

Manager, Centre for Small Business
M.J. Joyce, BBus, DipEd, AASA, CPA

Head, Engineering Division
P.J. Bryant, BEd, CertEng(Mech)

Head, Building Construction Department
R.L. d’Argaville, DipTT, BuildInspCert, TTrlC(Acting)

Head, Electrical and Electronics Technology Department
F.A. Gaunt, SEC A Grade Licence, DipTT, Tech Cert(Electronics)

Head, Mechanical and Manufacturing Technology Department
J. Brennan, BEng(Mech), DipEng(NAval Arch), DipEd, CEng, MIMechE

Manager, Centre for Engineering Technology
L.J. McLaughlan, TTrlC, DipTT

Head, Social and Applied Sciences Division
G.A. Harrison, BSc, DipMechEng, TTTC

Head, Applied Science Department
R.J. Fallu, BSc, DipEd (Acting)

Head, Social Science and Humanities Department
G. Arnott, BEc, BEd, GradDipBusAdmin

Head, Access Education Department
J. Learmont, BA(Hons), MEd(Mon), MACE

Senior Curriculum Development Officer
R.M. Carrmichael, BA, BEd

Manager, Computer Services Unit
C.A. Burgess, BSc, DipEd

Membership of Board of Studies

Members ex-officio
President of Council
Director
Associate Director
Assistant Director, SCT
Heads of Division (3)
Senior Curriculum Development Officer

Elected members
4 heads of teaching departments elected by and from the heads of teaching departments, with one to be elected from each division.
6 teaching staff elected from and by the members of the TTS at Swinburne with at least two from each division.
6 members drawn from and elected by the general staff of Swinburne College of TAFE and the staff of the Corporate Division, with at least one member to be drawn from the general staff of Swinburne College of TAFE.
5 students one to be elected by the Executive Committee of the Students Union and 4 SCT students elected in such a way that there is at least one from each division.
Application procedure

Entrance requirements
Apprenticeship courses
To be eligible to enter an apprenticeship in any of the trades for which a course is offered at Swinburne, a candidate should be at least fifteen years old and after having selected a trade, should:

1. Apply to the State Training Board, Nauru House, 80 Collins Street, Melbourne, 3000, for a certificate of qualification to enter into an apprenticeship.
2. Obtain work with an appropriate employer.
3. Serve a probationary period at the trade, then sign an indenture of apprenticeship.

After entering into the indenture, it is the responsibility of the apprentice in conjunction with the employer, to enrol at an appropriate TAFE college for the course of study to be undertaken.

Certificate courses
See under the entry in the appropriate Division.

Victorian Certificate of Education
(Tertiary Orientation Program)
See under Social and Applied Sciences Division.

Mature-age entry
Special provision is made for mature-age entry. The scheme is designed for applicants who have not satisfied the standard entry requirements but who are able to show that they can cope with their proposed course of study. Prospective students should contact the appropriate department for advice.

Closing dates for applications
Full-time study
For consideration in the first round of offers:

- Applied Science 26 January 1990
- Business 20 January 1990
- Certificate Course 8 December 1989
- Building 26 January 1990
- Social Science & Humanities 27 November 1989
- Engineering
  - Associate Diplomas 26 January 1990
  - Advanced Certificate 26 January 1990
  - Mechanical & Manufacturing Technology 26 January 1990

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

Part-time study
Applicants should contact the appropriate department for information on application procedures.

Student Administration Office
The Student Administration Office provides information for students on admissions, enrolment and examinations 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 examinations regulations and procedures is outlined below.

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.

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 College of TAFE 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 the College;
- the undertaking of the student to abide by the regulations, procedures and standards of conduct of Swinburne College of TAFE and to grant to the Registrar the power to provide appropriate authorities who have permitted a particular student to enrol at the College, 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 tuition fee (unless exempt);
- 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 the College may send to the body an invoice for fees.

The College reserves the right to withdraw any class which does not attract viable student numbers.

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, within seven days.
Students must notify the Student Administration Office of any withdrawal and/or additions of subjects:

(a) by Friday 30 March 1990 for subjects with a mid-year final examination result, and
(b) by Friday 31 August 1990 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.

**Withdrawing 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 2nd April 1990. Applications received after this date will be considered in exceptional circumstances only.

A College service fee is deducted from the refund. Students must provide a copy of their enrolment receipt with their application.

**Enrolling in an additional course**

Students who enrol for a course and then later decide to do extra subjects in the same or a different course should only complete an Amendment to Enrolment form to add those subjects. A new enrolment form is not required and 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 2 and has only paid fees for Semester 1, or where the additional subject is part of a fee paying short course.

**Enrolling in a different course**

In this case students are also required to fill in an Amendment to Enrolment form to change their course and subjects information. A new enrolment form is not required and additional fees are not required to be paid except in circumstances as outlined in the previous paragraph.

**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.

**Exemptions**

Students seeking exemptions from subjects should complete an Application for Exemption form obtainable 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 the subject area.

**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**

Original documents should be submitted in person so that they may be photocopied by an officer of the College and returned immediately.

**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 the library as soon as the loss is detected. Cardholders are under library rules, responsible for any transaction made on the card up to the time of notification of the loss. A replacement card will be issued for a fee of $5.00.

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.

**Fare concessions**

Metropolitan Transit Authority, country and interstate rail concession application forms are available from the Student Administration Office. Students must present their student card when applying for a concession form. Australian Airlines and Ansett Airline concessions are available from the Sports Association. Only full-time students are eligible for fare concessions.

Full-time students are also eligible for an international student card which is available from the Student Union Office.

**General Service Fee**

All enrolling students are required to pay a general service fee. At the time of printing, fees for 1990 had not been determined.

As a guide those for 1989 were:

<table>
<thead>
<tr>
<th>Category</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time students</td>
<td>— more than one semester academics $122.00</td>
</tr>
<tr>
<td>Full-time students</td>
<td>— at least one semester work experience $68.00</td>
</tr>
<tr>
<td>Part-time students</td>
<td>— $55.00</td>
</tr>
</tbody>
</table>

For all College purposes, a full-time student is one enrolled for subjects which require a total class, tutorial and laboratory contact time of 14 or more hours per week.

**Awards**

Students eligible to receive certificates 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 College before an application for a certificate can be made, in order to prevent delays in granting of the certificate.

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.
Examinations

General
1. Timetables
   Approximately half-way through each semester, a provisional examination timetable is displayed on notice boards around Swinburne. 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, without room allocations, is posted approximately one month later. Room allocations are posted at least one week before classes end.
   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 commitments. 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 reference 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 windows of the Ethel Swinburne Hall in Burwood Road on the date or dates announced by the Registrar.

Internal examinations
Swinburne College of TAFE
Examinations and Assessment Regulations

1. Scope
   1.1 The following rules apply to all courses and subjects taught and examined by the Swinburne College of TAFE, 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 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: laboratory work, field work, projects, class problems, essays, 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 Director of Swinburne. Responsibilities of the Chief Examiner are, for the time being, delegated to the Assistant Director, Swinburne College of TAFE.
   2.6 An awarding division board is the Division Board responsible for making recommendations to the Swinburne Council for the grant of a particular award.

2.7 Irregularity: 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 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 SCT, 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 appropriate material and submit same through its convener to a moderator appointed by the head of department.
   3.3 A moderator shall be responsible for final submissions 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 maintenance 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 proof-reading 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 slide rules, calculators, and drawing instruments. Students will not be permitted to borrow or lend any equipment or material during an examination.

4.2 Special 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 who will recommend appropriate arrangements to the Chief Examiner for approval. The Chief Examiner will notify approved 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 circumstance 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;
(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 departments:

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 the College of TAFE 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 Director. 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 College 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 College nominated by the head of the teaching division; 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 enrolled for the subject;

5.1.2 A signed subject report in form approved by the head of the teaching department;

5.1.3 Before recommending the results to the awarding faculty board, including:

(a) certification that these regulations have been carried out;
(b) a statement of the assessment procedure followed;
(c) copies of all examinations, tests and assignments;
(d) where appropriate, copies of solutions or statements of minimum qualities; and
(e) an appraisal of the subject as a whole.

The results under section 5.1.1 above shall be transmitted by the head of the teaching department to Student Administration.

5.1.3 Before recommending the results to the awarding division board or its committee established for the purpose, the head of department shall ensure that a review has been carried out of the work of all candidates who are recommended as having failed a subject, or whose results are borderline to an assessment category.

5.1.4 After the awarding division board (or the Board Committee established for the purpose) has approved the results the chair shall advise Student Administration of the final result category for each student.

5.1.5 Student Administration shall arrange for the publication of the results in a public place as soon as practicable after the determination by the division board or its committee and for the posting to each student a certificate showing his or her results for the semester concerned.
5.2 Result categories

5.2.1 Unless indicated below, results for subjects which are internally assessed shall use the following gradings:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 – 100%</td>
<td>Credit CR</td>
</tr>
<tr>
<td>50 – 74%</td>
<td>Pass P</td>
</tr>
<tr>
<td>0 – 49%</td>
<td>Fail N</td>
</tr>
</tbody>
</table>

5.2.2 Subjects undertaken as part of a Victorian Certificate of Education (Tertiary Orientation Program) will be recorded and reported using the following grades:

- Pass with 80% – 100% A
- Various 70% – 79% B
- Grades of 60% – 69% C
- Distinction 50% – 59% D
- 40% – 49% E
- 0% – 39% F

5.2.3 Subjects undertaken as part of a Victorian Certificate of Education (Higher School Certificate) will use the following grades where report by grades is used:

- Pass with 80% – 100% A
- Various 70% – 79% B
- Grades of 60% – 69% C
- Distinction 50% – 59% D
- 40% – 49% E
- 0% – 39% F

5.2.4 Apprenticeship module results are recorded as:

- Credit CR
- Pass P
- Not Completed NC

5.2.5 The following notations are applicable in special circumstances:

- Special Exam SPX
- Deferred Result DEF
- Not Completed NC
- Continuing NC
- Ceased — No Withdrawal CNW
- Special circumstances in connection with the NC category must be approved by the Board of Studies.

5.2.6 The following categories are applicable in the assessment of students in access courses:

- Access course completed ACC
- Access course not completed ACX

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 within forty-eight (48) hours of the examination, weekends and public holidays excluded.

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 deferment must be set out in writing to the chair of the awarding division board.

7.2 When a deferred result has been granted, the result must be finalised in readiness for notification to the awarding division board by a date, to be fixed by the board, not later than three months after the date of publication of the deferment. 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 deferment must have the prior approval of the head of the awarding division 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 division 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 the final result, to the head of division for onward transmission to the division board.

7.6 Student Administration shall notify the head of the awarding division of any deferred result which has not been finalised within three months of the date of publication of the deferment. The division 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 written examination paper. This does not apply to practical examinations. Reports are in the following categories:

(a) Breakdown of marks allocated for each question, or
(b) A full report.

Fees

Fees for such reports shall be determined from time to time by the Director.

Enquiries regarding marks or access to scripts should be made directly to the appropriate department or division 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 division.

The head of division 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 divisional board responsible for the teaching department involved for approval.
State Training Board External Examinations and special consideration applications

The following is an extract from STB Regulations Examination Instruction Booklet (TEX1).

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 the time limits shown in 3.10.3. 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 in the form set out in Appendix I, attached to these instructions. 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 Program Planning shall be final. Any special examination will be conducted in accordance with directions issued from time to time by the Director, Programs Planning 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. Refer 8.11.2.

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 is 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 unfortunate candidates 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. Misreading 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 office within that time limit.

3.8 Acceptable grounds for application are restricted to:

(a) Severe current illness at the 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 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 TEX 20 Examiners Handbook. Colleges must not proceed without the permission of the STB Examinations Branch.

3.10 Guidelines for Special Consideration

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 unspecific doctor's certificates are not acceptable.

(b) Close death in a family involving immediate family members.
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 borderline cases. General exemptions are not given in any subject. Therefore special consideration is extended to the student only if 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 time,
(b) extra reading time,
(c) provision of scribe,
(d) isolation provision.

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

STB — Application for Examiners report

Recorrections

1 Any candidate who fails an externally set and marked examination other than a practice examination may, on payment of a fee of $20.00 (made payable to the STB, Victoria), have 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
P.O. 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.

(e) Please note deadlines are strictly applied.

STB Examinations — Application for access to examinations script

Applications must be made on appropriate form available from Student Administration.

A fee of $8.00 per examination script requested is payable to the following address: —

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

The following points should also be noted: —

— Copy drawings larger than A4 are not available however inspection is possible.
— Papers are only kept for 6 months after examination date.
— Practical assessments are not kept, theory scripts only may be applied for.
— A college and student number must be quoted.
— A separate form must be completed for each subject requested together with $8.00 payment per examination script.
Swinburne College of TAFE
Centre for Engineering Technology

Manager:  L.J. McLaughlan
Co-ordinator, CAD:  E.C. Oliver
Co-ordinator, Communication Systems:  P.S. Stroude
CAD/CAM Systems:  H. Ramaekers
Technical Officer:  S. Fisher

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

Current offerings in short courses are:
- Computer aided drafting (CAD)
- Computer aided manufacture (CAM)
- Numerical control
- Combined computer aided drafting and computer aided manufacture (CADCAM)

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

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 Business Studies Division.

Swinburne College of TAFE
Centre for Small Business

Manager:  M.J. Joyce, BBus, DipEd, AASA, CPA

The Centre was established in July 1986. Its aim is to provide a service for the needs of the small business community. At present the following services are provided:

- A variety of short courses and workshops specialising in:
  - Small business establishment and management
  - Secretarial and word processing
  - Computer business applications
  - Selling and marketing techniques

- A reference and consulting service concentrating on advising small business on:
  - Setting up a business
  - Bookkeeping/accounting requirements

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

- A training service that can organize and design day or evening in-house training courses to suit individual needs.

Swinburne College of TAFE
Computer Service

Manager:  C.A. Burgess, BSc(Geo), BSc(Phys), DipEd
Technical Officer:  C. Huber, CertTechElectronics
Technical Assistant:  A. Patocs

The Swinburne College of TAFE Computer Service provides modern computing facilities for teaching computer related subjects and offers some computer aided instructional facilities. It offers hardware and software support to all users.

Computing facilities are located in rooms N7 to N12 and 66 Park Street, Hawthorn. The Unit is equipped with 150 IBM and compatible microcomputers arranged in local area networks. A substantial software library is maintained, which includes languages, current application packages and development tools. Communications facilities are also available.
business studies

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**Business Studies Division**

Head  
R.W. Conn, BBus, DipEd, AASA, CPA, (Acting)

**Finance and Information Technology Department**

Head  
M.J. Joyce, BBus, DipEd, AASA, CPA, (Acting)

**Academic Staff**

- M. Aronfeld, DipAcc, DipEd, AASA
- P. Brewer, BBus
- J. Chong, BEc
- C. Contesotto, BCom, GradDipAcc, ACA, ACIS
- L.G. Corrie, BCom, TSTU
- M.G. Doig, BBus, AASA, CPA, DipEd
- M. Hakim, BCom, MBA, DipEd
- B. Halloran, BEc
- M. Hamilton, BSc(Hons), PhD
- F.M. Lawler, BA, DipBusStuds, DipEd, GradDipAcc, AASA
- R.N. Lewis, BCom, DipEd, AASA, CPA
- E. McLennan, BSc, BA, DipEd
- M. Reaper, BEd
- R.E. Rimmington, BCom, DipEd
- F. Rossi, BEc, GradDipLS, DipEd
- J. Rudolph, BEc, DipEd
- B. Senarantne, FCMA(UK), GradDipEd, GradDipBusTech, AASA
- M. Waterhouse, BEc, DipEd

**Marketing and Administration Department**

Head  
I.M. Walker, BCom, DipEd, MA

**Academic Staff**

- K. Allen, BCom, DipEd
- G. Arnot, BEc, BEd, GradDipBusAdmin
- L. Cimino, AssDipBusStudsLaw, DipTT
- B. Havenhand, BA, DipEd, GradDipMktg
- C.M. Kent, BA, NZTC
- J.A. Mullen, AssDipPSP, DipTT, AIPS
- M. Neilson, DipBusStud
- S.E. Quail, BA, DipEd
- M. Reardon, DipTT, AssDipSecStud, CertSupervision
- J. Ryan, AssDipBusStud, TTTC
- G.J. Scott, BA, DipComPrac, TTTC
- G.P. Trahair, BA, DipEd, GradDipSecStud
- J. Tulk, BEd
- L.D. Wynton, AssDipPSP, DipTT
- N. Zubeckis, BA, DipEd, Off&SecStudCert

**Centre for Small Business**

Manager  
M.J. Joyce, BBus, DipEd, AASA, CPA

**Business associate diploma courses**

The following associate diploma courses are offered by the Business Studies Division:

- Accounting
- Computing
- Marketing
- Secretarial and Administrative Studies

**Business certificate courses**

The following advanced certificate and certificate courses are offered by the Business Studies Division:

- Advanced Certificate in Sales Management
- Advanced Certificate in Marketing
- Advanced Certificate in Accounting
- Advanced Certificate in Management Accounting
- Advanced Certificate in Taxation Practice
- Advanced Certificate in Information Technology
- Advanced Certificate in Computer Operations
- Advanced Certificate in Personnel
- Certificate in Computer Business Applications
- Office and Secretarial Studies Certificate

- Certificate of Business Studies — Operations Management: Occupational Health and Safety
  - Purchasing and Planning
  - Work Study
- Certificate in Retailing
- Advanced Certificate in Management (not in 1990)

**Full-time Courses**

All Associate Diplomas (Accounting, Computing, Marketing and Secretarial and Administrative Studies) are offered on a full-time basis over two years. The Advanced Certificates in Accounting, Information Technology, Computer Operations and the Office and Secretarial Studies Certificate are one year full-time courses.

**Part-time Courses**

All courses except the Associate Diploma in Secretarial and Administrative Studies and the Office and Secretarial Studies Certificate are also available as part-time, evening study programs. In addition, it is unlikely that the Associate Diploma of Business (Computer Programming) and (Microcomputer Systems) will be offered part-time.

The Certificate in Retailing is presently under review and is only offered as a part-time evening course. The Certificate in Computer Business Applications is a one-year part-time evening course.

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

Students pursuing the Operations Management course in any of the three specialist areas may be awarded a Short Middle Level Certificate on completion of the eight compulsory specialist units.

Students pursuing other certificate courses, with the exception of the Certificate in Computer Business Applications, the Certificate in Retailing and the Advanced Certificate in Personnel may attend for one full year in common subjects followed by two year's part-time evening studies in specialised subjects.
Specialist areas
In addition to the above areas of study a wide range of specialist areas may be incorporated by attending other TAFE colleges for a few subjects. These include:

- Advertising
- Banking
- Book trade
- Building societies
- Credit management
- Customs procedures
- Insurance
- Law
- Materials handling
- Public relations
- Real estate
- Transport administration
- Travel and tourism

Any students interested in these specialist areas should also enquire for advice regarding a plan of study.

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.

Career potential
The general aim of the Certificate, Advanced Certificate and Associate Diploma courses is to provide a variety of para-professional courses which are designed to suit the needs of potential section of department supervisors, senior clerical staff, industrial supervisors, sales supervisors, account staff, secretarial support staff and other supporting staff with specialist areas of responsibility.

Membership of associations
These courses are recognised for the purpose of admission to membership of a number of professional institutes, these are listed under the individual courses.

Applications for exemptions
Certificate, Advanced Certificate and Associate Diploma (CBS) units passed at other colleges.

- If a Victorian Certificate, Advanced Certificate or Associate Diploma of Business Studies unit has been passed at an institution other than Swinburne it is necessary to apply for an exemption. The unit will count towards a certificate regardless of where it was studied. When applying for your award, the student should provide the awarding college where you passed the unit with result statements from the colleges where you studied the other units.

- Subjects other than CBS units
  - (a) Where less than twelve units are applied for: these are granted by Swinburne and the application forms are available from Student Administration. The Head, Business Studies Division should be consulted if the student requires advice.
  - (b) Where more than twelve units are applied for: these applications can only be granted by the TAFE Board. Application forms are available from and must be submitted to the Head, Business Studies Division.

Practical experience
Students cannot be granted an exemption solely on the basis of practical experience.

Specialist units
Students will not be granted exemptions for all the specialist units in a particular course. They are required to pass at least two Business Studies specialist units.

General rules for granting exemptions

1. 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.

Provision of additional information
If the alternative is not part of a well-known course, it may be necessary to provide extensive details on the:

- (a) subject matter covered by the syllabus;
- (b) length of the course;
- (c) assessment methods used.

Sighting of original documents
Photocopied documents supporting applications must be marked 'original sighted' by an officer of the College, therefore it is suggested that applications be submitted in person to Student Administration so that original documents are not left at Swinburne.

Early application
It is advisable to apply for exemptions as soon as possible after enrolling. This will allow you to select subjects at the time knowing exactly which units are needed 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 Business Studies Division Board which meets monthly. Exemptions for Communication Skills units 1 & 2 must be recommended by the Head of Social Science & Humanities. After approval, letters of notification are prepared and rechecked, therefore students should expect this process to take approximately two to three months.

Further information
Additional details about Associate Diploma or Certificate Courses may be obtained from:

- Mr. M.J. Joyce
  Head, Finance & Information Technology Dept.
  Telephone: 819 8165
- OR
- Mr. I. Walker
  Head, Marketing & Administration Dept.
  Telephone: 819 8165

Changes in course structures
Due to a major review of all TAFE courses and the resulting changes that are being implemented, 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 Business Studies Division and the Library.
3500DBB Associate Diploma of Business (Accounting)

Career potential:
The Associate Diploma in Accounting encompasses practical training for a variety of oara-professional accounting positions. Candidates will be trained to independently train in a variety of areas requiring a minimum of supervision while working under a professional accountant. 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.

Course structure:
The structure of the Associate Diploma in Accounting requires the successful completion of twelve compulsory units to be undertaken in the first year of full-time study, followed by three alternative accounting specialisations, one of which is to be chosen and undertaken in the second year of full-time study. Each area of specialisation consists of twelve units (compulsory units plus electives).

Part-time students will be required to complete first-year units prior to commencing the second-year specialisation.

Note: This course is post Year 12 or mature age entry level. Post Year 11 students enrol for the Advanced Certificate in Accounting.

Compulsory Units:
- TS301 Introduction to Accounting
- TS302 Accounting Reports
- TS303 Computer Based Accounting
- TS304 Accounting Systems
- TS312 Introduction to Business Computer Concepts
- TS313 Business Computer Applications
- TS314 Partnership and Introductory Company Accounting
- TS315 Costing Principles
- TS316 Costing Systems
- TS317 Manufacturing Budgets
- TS318 Advanced Accounting

Management Accounting:
- TS306 Costing Principles
- TS307 Costing Systems
- TS316 Manufacturing Budgets
- TS318 Advanced Accounting

Government Accounting (NOT offered at Swinburne):
- Financial Procedures in Government
- Public Sector Accounting

Taxation Practice:
- TS311 Taxation Fundamentals
- TS312 Taxation Practice
- TS313 Taxation Procedures

Electives:
- TS236 Economics 1
- TS237 Economics 2
- TS238 Applied Business Statistics
- TS239 Communication Skills 3
- TS240 Communication Skills 4
- TS241 Introduction to Computer Programming
- TS242 Systems Analysis and Design
- TS306 Auditing

Unit Sequence for Part-time students:
Students are advised to start this course with the following subjects:

Semester 1:
- TS301 Introduction to Accounting
- TS302 Accounting Reports
- TS312 Business Computer Applications
- TS314 Company Financial Reporting
- TS315 Costing Principles
- TS316 Costing Systems

Semester 2:
- TS302 Accounting Reports
- TS304 Accounting Systems
- TS313 Business Computer Applications
- TS315 Costing Principles
- TS316 Costing Systems
- TS318 Advanced Accounting

Duration of course:
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.

Membership of associations:
Students completing the Associate Diploma in Accounting will be eligible for membership in the National Institute of Accountants. Eligibility will be dependent on successful completion of two elective units:
- TS236 Economics 1
- TS306 Auditing

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

3500DYB Associate Diploma of Business (Computer Programming)

Career potential:
The course is primarily designed to prepare students for employment in four key areas of the computer industry. Although some graduates will find work in other related fields, the four labour market areas targeted are computer sales, computer operation, computer programming and micro-computer user support. 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.

Course structure:
This course offers four major qualifications:
- Advanced Certificate — Information Technology
- Advanced Certificate — Computer Operations
- Associate Diploma of Business (Computer Programming)
- Associate Diploma of Business (Micro-computer Systems)

3500DYA Associate Diploma of Business (Micro-computer Systems)

Career potential:
The course is primarily designed to prepare students for employment in four key areas of the computer industry. Although some graduates will find work in other related fields, the four labour market areas targeted are computer sales, computer operation, computer programming and micro-computer user support. 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.

Course structure:
This course offers four major qualifications:
- Advanced Certificate — Information Technology
- Advanced Certificate — Computer Operations
- Associate Diploma of Business (Computer Programming)
- Associate Diploma of Business (Micro-computer Systems)
Students wishing to complete the Associate Diploma of Business in either Computer Programming or Microcomputer Systems must have successfully completed the Advanced Certificate — Information Technology. Students entering into the Advanced Certificate — Computer Operations and wishing to complete the Associate Diploma of Business (either stream) must also complete the outstanding units from the Advanced Certificate — Information Technology.

Course participants may exit at Advanced Certificate or Associate Diploma level. The integration of common elements of study in the course facilitate job retraining and enable qualification upgrading.

Compulsory units

Advanced Certificate — Information Technology

Semester 1:

**T5711** Intro to Microcomputer Applications A
**T5712** Communication Skills A
**T5713** Programming Concepts A
**T5721** Computer Architecture
**T5722** Using a Micro-computer
**T5723** Business Organisations
**T5724** Keyboarding
**T5725** Communication Skills B
**T5726** Programming Concepts B
**T5727** Introduction to Peripheral Devices
**T5728** Using a Microcomputer

Semester 2:

**T5729** Communication Skills C
**T5730** Cobol Programming A
**T5731** Programming Concepts C
**T5732** Operating Systems
**T5733** Data Processing System Documentation Techniques
**T5734** Communication Skills D
**T5735** Cobol Programming B
**T5736** Programming Concepts B
**T5737** Intro to Data Communications & Networks
**T5738** Micro-computer Hardware & Software Selection
**T5739** Computer Sales & Marketing
**T5740** Accounting Concepts

Electives:

**T5741** Plus two electives

Advanced Certificate — Computer Operations

Semester 1:

**T5742** Intro to Microcomputer Applications A
**T5743** Communication Skills A
**T5744** Programming Concepts A
**T5745** Computer Architecture
**T5746** Using a Micro-computer
**T5747** Business Organisations
**T5748** Keyboarding
**T5749** Communication Skills B
**T5750** Accounting Concepts

Semester 2:

**T5751** Intro to Microcomputer Applications B
**T5752** Communication Skills C
**T5753** Cobol Programming A
**T5754** Programming Concepts C
**T5755** Operating Systems
**T5756** Data Processing System Documentation Techniques
**T5757** Communication Skills D
**T5758** Using a Microcomputer

Electives:

**T5759** Plus two electives

Associate Diploma of Business (Computer Programming)

Semester 1:

**T5761** Intro to Systems Analysis & Design
**T5762** Database Design
**T5763** Database Programming A
**T5764** 4GL Programming Option A
**T5765** Advanced Systems Analysis & Design
**T5766** Cobol Programming C
**T5767** Advanced Cobol Programming A
**T5768** 4GL Programming Option B
**T5769** Microcomputer Systems Analysis & Design
**T5770** Microcomputer Development Tools
**T5771** User Training Techniques
**T5772** Data Communications
**T5773** Multiuser Microcomputer Systems
**T5774** Introduction to Expert Systems
**T5775** User Documentation
**T5776** Drafting & Display Graphics
**T5777** Local Area Networks
**T5778** Microcomputer Architecture
**T5779** Assembly Programming

The above sequences of subjects for both the Advanced Certificates and the Associate Diplomas are recommended only. Changes to these sequences may occur.

Prerequisites:

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:

The Advanced Certificates may be obtained after one year of full-time study or up to three years of part-time study. The Associate Diplomas may be undertaken by two years of full-time study or approximately five years of part-time study. Part-time study is normally conducted in the evenings.

3300DBH Advanced Certificate in Accounting

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

For a list of the subjects, see the first-year subjects for the Advanced Diploma in Accounting.
3300DBD Advanced Certificate in Taxation Practice

Students who successfully complete the compulsory units of the Taxation Practice Specialisation plus five elective units from the Advanced Diploma in Accounting will be eligible to obtain the Advanced Certificate in Taxation Practice.

For the list of subjects, see the second-year specialisations of the Associate Diploma in Accounting.

3400DDT Associate Diploma in Secretarial and Administrative Studies

Career potential
This course provides extensive training for students seeking employment in secretarial office work. The first year concentrates on the basic core of skills with opportunity to specialise in shorthand or accounting. The second year provides the opportunity for the student to further these basic skills and to develop specialist areas.

Prerequisites
Normal proficiency satisfactory completion of Year 11. Mature age students with suitable business background will also be admitted to the course.

Course structure
First year
Communication Skills 1
Communication Skills 2
Typewriting Production 1
Word Processing 1
Administrative Procedures 1
Administrative Procedures 2
Intro to Business Computer Concepts
Business Computer Applications
Two specialist electives
Practical Placement

Second year
Typewriting Production 3
Typewriting Production 4
Administrative Procedures 3
Administrative Procedures 4
Notetaking 1
Notetaking 2
Australian Business Environment 1
Australian Business Environment 2
Supervision (full year)
Two specialist electives
Practical Placement

Specialist electives:
In the first year, students may choose two electives in Accounting (Introduction to Accounting and Accounting Reports) or two in shorthand (Shorthand Theory and Stenography). These are recommended studies only, they are not requisites for awarding the Associate Diploma in Accounting and Secretary Studies Certificate. Students from a non-English speaking background are advised not to take electives in first year.

3222DYC Certificate in Computer Business Applications

Career potential
The general aim of this certificate is to enable students to identify the information requirements of a business, use representative examples of the main types of business software, recommend a micro-computer system to meet the information needs of a business and to manage the development and implementation of a computer system. This course is designed to educate those in employment who use a micro-computer or a terminal on a larger computer system for business applications as an integral part of their job. It is especially suited to employees of smaller organisations lacking in-house specialist data processing professionals.

Prerequisites
Students are eligible to enter this course of study if they have completed satisfactorily an approved course at Year 11 level or an approved equivalent course or are considered to be sufficiently mature and experienced enough to undertake the course successfully.

Course structure
Compulsory units
TS001 Introduction to Computers
TS002 Keyboard Familiarisation
TS003 Using a Time Sharing System
TS004 Organisational Communications
TS005 Technical Writing and Report Writing
TS006 Business Information Requirements
TS007 Micro-computer Concepts and Usage
TS008 Developing Computer Systems

Students must complete all of the above compulsory units.

Subject prerequisites
Keyboard Familiarisation should be completed in the first semester of the course. This unit is a prerequisite for the units Using a Time Sharing System and Micro-computer Systems and Usage.

Completion of the unit Business Information Requirements is a prerequisite for Developing Computer Systems.

It is recommended that Using a Time Sharing System and Business Information Requirements be completed prior to commencing Micro-computer Concepts and Usage.
3300DGK Advanced Certificate in Management

This course is unlikely to run in 1990. Please contact the Head, Marketing and Administration Department on 819 8165.

3300DDA Office and Secretarial Studies Certificate

Career potential
The general aim of this certificate course is to provide a range of middle-level vocational courses designed for those who wish to become secretaries to middle-level management.

Students are admitted with or without a background of stenography skills, additional time being allocated within the course for the development of these.

Prerequisite
Students are eligible to enter this course of study if they have completed satisfactorily an approved course at Year 11 level with a pass in English, or an approved equivalent course or are considered to be sufficiently mature and experienced enough to undertake the course successfully.

Course details

Compulsory units
- TS866 Administrative Procedures 1
- TS866 Administrative Procedures 2
- TS121 Intro to Business Computer Concepts
- TS112 Business Computer Applications
- TH133 Communication Skills 1
- TH134 Communication Skills 2
- TS880 Typewriting Production 1
- TS881 Typewriting Production 2
- TS863 Word Processing 1
- TS864 Word Processing 2
- TS800 Practical Placement

To qualify for the award of the Certificate, students must gain passes in all compulsory units.

Students studying for the Office and Secretarial Studies Certificate have the option of selecting one specialist unit from the accounting or shorthand areas.

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

3000DFJ Certificate of Business Studies — Operations Management

Career potential
The general aim of this course is to provide a range of middle-level vocational subjects designed to educate staff who will be responsible for evaluating the need for and nature of accident prevention; to apply the techniques of accident reporting, accident investigation, accident loss statistical analysis and the development of a safety measurement program; and to implement occupational health and safety training programs for all levels of management and employees.

Prerequisites
Students are eligible to enter this course of study if they have completed satisfactorily an approved course at Year 11 level or an approved equivalent course or are considered to be sufficiently mature and experienced enough to undertake the course successfully.

Course structure

Eight compulsory specialist units
- TS501 Method Study
- TS502 Implementation of Changes
- TS403 Time Study
- TS504 Predetermined Motion Time Standards
- TS505 Statistical and Estimating Techniques
- TS506 Financial Analysis and Labour Control
- TS507 Plant Layout and Network Analysis
- TS508 Management — Team Techniques
- TS509 Work Analysis Clerical and Services
- TS510 Minicomputer Applications
- TS511 Safety 1
- TS522 Safety 2
- TS523 Safety 3
- TS524 Safety 4
- TS551 Planning Procedures 1
- TS552 Planning Procedures 2
- TS553 Materials Management 1
- TS554 Materials Management 2
- TS571 Purchasing 1
- TS572 Purchasing 2

Full list of Module A subjects
- TS501 Method Study
- TS502 Implementation of Changes
- TS403 Time Study
- TS504 Predetermined Motion Time Standards
- TS505 Statistical and Estimating Techniques
- TS506 Financial Analysis and Labour Control
- TS507 Plant Layout and Network Analysis
- TS508 Management — Team Techniques
- TS509 Work Analysis Clerical and Services
- TS510 Minicomputer Applications
- TS511 Safety 1
- TS522 Safety 2
- TS523 Safety 3
- TS524 Safety 4
- TS551 Planning Procedures 1
- TS552 Planning Procedures 2
- TS553 Materials Management 1
- TS554 Materials Management 2
- TS571 Purchasing 1
- TS572 Purchasing 2

Completion of this group of units (Stage 1 of the course) leads to the award of an Occupational Health and Safety Certificate. This is an eight-unit intermediate qualification which forms part of the CBS — Operations Management. The Occupational Health and Safety Certificate is a TAFE accredited Short Middle Level Certificate.

Six compulsory general units
- TH133 Communication Skills 1
- TH134 Communication Skills 2
- TS112 Business Mathematics 1
- TS113 Business Mathematics 2
- TS226 Middle-management Practices 1
- TS326 Middle-management Practices 2

This course provides three areas of specialisation:
(1) Occupational Health and Safety
(2) Purchasing and Planning
(3) Work Study

The course structure can best be explained by dividing the full Certificate of Operations Management into three:
Module A
Module B
Module C

Module A consists of eight compulsory units. The units to be studied depend upon the area of specialisation chosen by the student.

A Short Middle Level Certificate will be awarded to students who successfully complete Module A.

Module B consists of six common non-specialist compulsory units.

Module C consists of any six elective units. This group must include at least four of the specialist units not already selected.
Six elective units from the Certificate of Business Studies subjects.

This group must include at least four of the specialist Operations Management units not already studied. The specialist electives may be chosen from the following.

- Time Study
- Predetermined Motion Time Standards
- Statistical and Estimating Techniques
- Financial Analysis and Labour Control
- Planning Procedures 1
- Planning Procedures 2
- Materials Management 1
- Materials Management 2
- Purchasing 1
- Purchasing 2
- 3000DFJ

Study sequence

It is not necessary to complete the compulsory specialist units before progressing to the other units. Students may choose to study units from any three groups concurrently or complete the specialist units for the Short Middle Level Certificate before the remainder of the course. However, where there is a sequence of units, students must study these in the order indicated by the subject title (Safety 1, 2, 3 and 4).

Duration of course

On a study pattern of two nights per week, the full course could be completed in four to five years.

Membership of associations

Students completing the course of study can apply for membership of the Institute of Purchasing and Supply Management.

3000DFJ Certificate of Business Studies

- Operations Management
- Purchasing and Planning

Career potential

The general aim of this course is to provide a range of middle-level vocational courses 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. production managers, purchasing and supply officers.
2. Smaller operators who need to be proficient in a variety of technical or business tasks as well as management decision-making.

Prerequisites

Students are eligible to enter this course of study if they have completed satisfactorily an approved course at Year 11 level or an approved equivalent course or are considered to be sufficiently mature and experienced enough to undertake the course successfully.

Course structure

Eight compulsory specialist units
- Method Study
- Implementation of Changes
- Planning Procedures 1
- Planning Procedures 2
- Materials Management 1
- Materials Management 2
- Purchasing 1
- Purchasing 2

Completion of this group of units (Stage 1 of the course) leads to the award of a Purchasing and Planning Certificate. This is an eight unit intermediate qualification which forms part of the CBS — Operations Management. The Purchasing and Planning Certificate is a TAFE accredited Short Middle Level Certificate.

Six compulsory general units
- Communication Skills 1
- Communication Skills 2
- Business Mathematics 1
- Business Mathematics 2
- Middle-management Practices 1
- Middle-management Practices 2

Six elective units from the Certificate of Business Studies subjects.

This group must include at least four of the specialist Operations Management units not already studied, e.g. Safety 1 and 2, Management — Team Techniques, Plant Layout and Network Analysis.

Study sequence

It is not necessary to complete the compulsory specialist units before progressing to the other units. Students may choose to study units from all three groups concurrently or complete the specialist units for the Short Middle Level Certificate before the remainder of the course. However, where there is a sequence of units, students must study these in the order indicated by the subject title (Safety 1, 2, 3 and 4).

Duration of course

On a study pattern of two nights per week, the full course could be completed in four to five years.

Membership of associations

Students completing the course of study can apply for membership of the Institute of Purchasing and Supply Management.
Study sequence
It is not necessary to complete the compulsory specialist units before progressing to the other units. Students may choose to study units from all three groups concurrently or complete the specialist units for the Short Middle Level Certificate before the remainder of the course. However, where there is a sequence of units, students must study these in the order indicated by the subject title (Safety 1, 2, 3 and 4).

Duration of course
On a study pattern of two nights per week, the full course could be completed in four to five years.

Membership of associations
Students completing the course can apply for membership of the Institute of Industrial Engineers.

3300DGB Advanced Certificate in Personnel

Career potential
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. 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.

Prerequisites
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.

Course structure
Twelve Compulsory units
TH133 Communication Skills 1
TH134 Communication Skills 2
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
TS148 Communication Skills 3
TS149 Communication Skills 4

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

Membership of associations
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.

Training Officers Certificate
This is presently being rewritten and is expected to run in 1990.

3222DCC Certificate in Retailing

Career potential
This course is designed for students who are working as salespersons in the retail industry, in particular, those with less than eighteen months' experience. The course aims to improve the salesperson's performance and future career prospects by providing training in product knowledge, customer relations, stock control, profit planning and advertising. In addition, the course should develop appropriate professional/personal skills and attitudes for a successful career in retailing.

Prerequisites
The course assumes Year 11 standard in English and preferably evidence of satisfactory progress in Mathematics. Students with less than these academic prerequisites but with the experience and maturity to successfully undertake the course will be admitted, but if necessary they may be referred to supplementary programs to improve their skills in these areas.

Duration of course
This course is offered on a part-time, evening basis only.

Course structure
Presently under review.

First-year units
TS390 Customer Relations
TS391 Control and Movement of Stock

Second-year units
TS392 Store Profitability 1
TS393 Store Profitability 2
TS394 Product Knowledge elective*

*One of the following Produce Knowledge electives must be studied in either the first or second semester in second year.

3000DFA Certificate of Business Studies — Production

3000DFC Certificate of Business Studies — Supply

3000DFF Certificate of Business Studies — Work Study

3500DCB Associate Diploma of Business (Marketing)

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.

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.
Compulsory units (22 units)

First year

TH133 Communication Skills 1
TH134 Communication Skills 2
TH135 Applied Business Statistics
TH247 Business Law 1
TH248 Business Law 2
TH107 Accounting for Managers
TH360 Selfm
TH361 Buyer Behaviour
TH362 Managing the Sale Operation 1
TH363 Managing the Sale Operation 2
TH364 Promotions 1
TH365 Marketing

Second year

TS123 Keyboard Familiarisation
TS124 Introduction to Business Computer Concepts
TS125 Business Computer Applications
TS236 Economics 1
TS237 Economics 2
TS238 Marketing Research
TS239 Innovation and Product Management
TS240 Logistics Management
TS241 Direct Response Marketing
TS242 Marketing Project

Plus two electives from the following units

TS372 International Marketing
TS373 Management and Marketing for the Small Business
TS374 Business B Business Marketing
TS375 Services Marketing
TS376 Retail Marketing

Related courses

The following courses are closely related to the Associate Diploma of Business (Marketing):

3000DCC Advanced Certificate in Marketing
3000DCB Advanced Certificate in Sales Management

These courses are sub-sets of the Associate Diploma and may be completed on their own or as an intermediate step towards the Associate Diploma.

Duration of course

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.

Membership of Associations

On completion of the Associate Diploma, students are eligible to apply for membership of the Australian Marketing Institute.

Victorian Certificate of Education (HSC)

Evening Classes

The following VCE subjects are taught by the Business Studies Division:

TS901 Accounting
TS902 Economics
TS903 Legal Studies

For a complete description of all VCE (HSC) subjects, see the end of the Social and Applied Sciences section.

Business subject details

TH133 Communication Skills 1

Communication Skills 1 concentrates on developing appropriate communication and inter-personal skills in speaking, writing, interviewing and giving and receiving instructions.

TH134 Communication Skills 2

Specialist studies in four areas are undertaken. Options include: technical writing and report writing; in-basket case studies (letters, memos, etc); job briefs and specifications; structure of language (style, syntax, spelling); organisational communications; advanced interview techniques; meetings; agenda and minutes; case study; publicity campaign and mounting an exhibition.

TS112 Business Mathematics 1 (1 unit)

Coping with situations involving the use of business mathematics, more specified mathematics applicable to other subjects, acquiring skills to cope with statistical analysis.

TS113 Business Mathematics 2 (1 unit)

Statistical processes used in business operations, related business and statistical vocabulary, solving business problems using statistical processes, using formulas and interpreting results.

TS006 Legal Studies Victorian Certificate of Education (TOP) subject

Full year course for students with limited or no prior knowledge of legal studies. This course 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 (TOP) subject

Full year course 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 (TOP) subject

Full year accounting course 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 controlling and monitoring; preparation of management and profit and loss accounts.

TS107 Accounting for Managers

This course is designed to enable students in other than financial courses to understand the purpose and operation of accountants, 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 break-even.

TS121 Introduction to Business Computer Concepts

This unit aims to develop students' computer awareness and literacy through developing skills and understanding in basic computer knowledge. Topics include: use of computers in the workplace: social issues arising from the use of new technologies; computer terminology; trends in hardware and software development. Keyboarding skills are also taught in this unit.

TS122 Business Computer Applications

This unit enhances students' computer awareness/literacy through developing "hands on" skills in a range of popular user-oriented computer software packages. Packages studied include the areas of word processing, database management, spreadsheets and desktop publishing.

TS123 Keyboard Familiarisation

Developing keyboard skills. Prerequisites: nil.

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

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

Organisational health and safety policies, strategies and techniques for implementing regulations and codes of practice, accident investigation, counselling or appropriate referral of workers, rehabilitation programs, in the OHS field.

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.

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.

The presentation of an integrated project on a topic to be negotiated, utilising relevant skills and knowledge covered during the course.

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.

The main aim of the unit is to enable students to carry out the tasks of planning, forecasting, setting objectives, formulating policies and procedures, as well as preparing programs and schedules and budgeting within a middle-management context. The topics include an overview of the functions of management and their integration. The planning process which includes setting organisational goals, long and short term planning, standing plans and single use plans. Forecasting principles, techniques and dimensions. Construction of objectives in terms of quality, time and cost. Clear statements of objectives and their use as a basis for review and control. Policies as predetermined management decisions applied for recurring questions and situations of significance constituting a guide to action. Methods of policy formulation. Needs for consultation in formulation and methods of implementation. Development of programs and schedules including network analysis.


Four out of the following six topics to be studied. Economic role of government, economic measurement, economic systems, international trade, the finance market and the level of economic activity, the labour market.
TS310 Advanced Accounting (1 unit)
Equity accounting, current cost accounting and accounting for leases by lessees. Analysis of capital investment proposals and return on investment.

TS311 Taxation Fundamentals (1 unit)
Concepts relating to assessable income, allowable deductions, tax rebates and preparation of taxation returns for individuals and businesses.

TS312 Taxation Procedures (1 unit)
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)
Taxation provisions relating to partnerships, trusts, primary producers, companies and superannuation funds. Preparation of all relevant taxation returns.

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

TS315 Computer Based Accounting (1 unit)
Using commercial computerised packages, update accounting records and produce final reports.

TS316 Manufacturing Budgets (1 unit)

TS326 Middle-management Practices 2 (Leadership and human resource utilisation)
The main aim of this unit is to enable the student to develop leadership skills and understand the various leadership styles and their application. Topics include the need for leadership, the effects of good and poor leadership and the functions of a leader. Motivations including the theories of Maslow and Herzberg. Principles of motivation, recognition, delegation, mutual interest, participation and communication. Job enrichment, behaviour of individuals and groups. Effective communications in business, why failures in communication occur. Relationship of communication to motivation. Aims and barriers to effective communication.

Styles of leadership, autocratic and democratic, paternalistic and laissez-faire. McGregor’s theory X and Y. Attributes of each style of leadership, reactions of subordinates and effects on productivity. Use of committees, conditions necessary for successful operation. Conference leadership, presenting topics, conducting discussions, summarising the discussion. Maintaining personnel inventories and forecasting needs. Co-ordination of recruitment, selection, training and development, appraisal, retirement, retraining. Training and development, induction general training programs, job rotation, internal and external programs, training costs, evaluating training. Staff appraisal, principles, staff development programs, performance counselling, health. Effects of appraisal, promotions, transfers, demotion.

TS360 Selling

TS361 Buyer Behaviour
Basic psychology and sociology and their use in business studies. The buyer’s decision making process as it applied to both consumer and industrial buying behaviour. Prerequisites: Marketing and/or Selling should be studied prior to or concurrently with this unit.

TS362/3 Managing the Sales Operation 1 and 2
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. Prerequisites: Selling.

TS364 Promotions 1
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. Prerequisites: Marketing and/or Selling.

TS365 Promotions 2
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. Prerequisites: Promotions 1, Buyer Behaviour.

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. Prerequisites: Nil.

TS367 Marketing Research
Where marketing research is used. Marketing research procedures. So - cial of information. Questionnaire construction or survey methods. Interviewing techniques. Sampling techniques. Field workers’ responsibilities and techniques. Selection, Gaming, supervising and monitoring field workers. Collection, coding, organisation, validation and presentation of data. Marketing research recommendations. Prerequisites: Business Mathematics (or concurrently), Marketing.

TS368 Innovation and Product Management

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

TS370 Direct Response Marketing
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. Prerequisites: Marketing, Buying Behaviour and Computer Business Applications should also be studied either prior to or concurrently with Direct Response Marketing.

TS371 Marketing Project
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. Prerequisites: Marketing, Marketing Research, Promotions 2, Logistics Management.

TS372 International Marketing
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 tactics, gathering overseas intelligence, product policy, distribution, promotions, pricing. Controls for international marketing. Prerequisites: Marketing, Marketing Research.

TS373 Management and Marketing for the Small Business

TS374 Business to Business Marketing
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 — MRI techniques, Target market selection; developing the marketing mix, marketing control. Prerequisites: Marketing, Marketing Research, Buyer Behaviour.
TS375 Services Marketing

What is a Service Industry? Its role in the Australian economy. The types of services—marketing—organizations, persons, place and ideas marketing. The marketing of services both onshore and offshore. Services marketing and the future. Prerequisite: Marketing, Marketing Research, Buyer Behaviour, Promotions 2.

TS433 Supervision 1

Aims to provide techniques to enable the effective direction and supervision of staff including induction and training.

TS501 Method Study (1 unit)

This unit is concerned with productivity and the application of method study techniques to improve it. The main topics are: definition and productivity, Methods of improving productivity. Union and the effect of productivity. The benefits of productivity increases from employees. Companies and the community. Setting priorities for tasks requiring method study, at benefit calculations. Assessment of human resource implications of changing work methods. The use of charts in method study. Analysis of an existing method and the development of a new method. Preparation of submissions to management showing costs, sketches, prototypes and pilot runs.

TS502 Implementation of Changes (1 unit)

This unit is concerned with the factors affecting the application of methods improvement. The main topics are: analysing and comparing existing and new methods, costs and times needed to recover investment of an alternative job method. Preparation of written and verbal reports on method improvement proposals. Reasons for resistance for change and developing the accepted change. Techniques for setting ideas to people in the organisation. Trade unions and industrial relations. The function and social responsibility of unions and current trends in trade union activity. The types and causes of union management conflict. Conciliation and arbitration procedures and the concept of worker participation. The role of the work study officer with regard to time study, employee participation. The contribution of the work study officer to the organisation.

TS503 Time Study (1 unit)

The relationship of work measurement to method study. The uses of and procedures for establishing standard times. Different types of time study techniques and the steps involved in making a time study. The forms and equipment used in time study. Obtaining and recording all the necessary information about a job. Accurate recording in elementary studies. Back timing method with a definite minute stop watch. Determining the average similarity as the number of cycles required for a particular time study. Rating the performance of operators at different rating ratios. Normalisation of time calculations. Calculation of appropriate allowances for establishing standard time. Units of time, auxiliary, main, special. Establishing standard times for one restricted by machine control and unrestrict operations. Calculation of allowances for restricted work. Carrying out a proof study or production study.

TS504 Predetermined Motion Time Standards (1 unit)

Advantages and disadvantages of predetermined motion time standards. Different levels and types of PMTS systems. The principles and application of methods time measurement. Factors influencing the performance of simultaneous motions. The advantages and limitations of master sand standards. The elements of MSD and their derivation from MSD. The derivation of load of low conscious and high conscious control. Identifying distances used in MSD. Using MSD to establish standard times for a job. The application of MODAPTS for estimating standard times and job evaluation. The identification of movement classes, terminal activities, locomotory activities, indeterminate moves and other activities. The distinction between low and high conscious controls. Designing and developing a standard data system. The principles of coding data and the construction of an alpha mnemonic coding system.

TS505 Estimating and Statistical Techniques (1 unit)

The objective of this unit is to enable the student to apply work measurement techniques to any relevant task. The main topics are as follows: activity sampling, including its use in sampling estimation, estimation of productivity and accuracy, calculating costs, standards setting and production study. Group timing technique which includes relationship to activity sampling, advantages and disadvantages, procedures for making a study, and statistical calculations for a standard time. Machine time including the use of chart. The following topics: man and multi-machine workloads, cyclic and random processes, service time calculation, sampling on the application of allowances, the activity sampling approach to machine allowance and costs associated with allocating machines to operators. Estimation techniques including the use of analytical estimation. Estimates based on engineering performance standards.

TS506 Financial Analysis and Labour Control (1 unit)

This unit covers the following topics: The major components of a financial information system, data collection methods and types of reports. The need for financial information in industrialised society. Analysis and interpretation of balance sheets, profit and loss statements, cash flow statements and manufacturing statements. Use of ratios to evaluate solvency and profitability. Comparison of ratios with industry averages or prior periods. Standard costing systems and break-even analysis. Financial decision-making in capital expenditure and make or buy problems. Preparing budgeted analyses. Incentive wages plans including the main types, requirements, effects on output and industrial relations, limitations and sensitivity analyses. A group incentive scheme including setting of standards, recording of output and the labour control system. Designing a group incentive scheme. The measured day work system including a comparison with incentive plans, setting performance standards and appropriate labour control. Design of a labour cost analysis system.

TS507 Plant Layout and Network Analysis (1 unit)

The general purpose in this unit is to enable the student to develop plant layout techniques, to apply the factors affecting project planning and to apply network analysis techniques to planning projects. The main topics are: development of plant layout concepts and its different approaches, technique in layout planning, application of the Systematic Layout Planning Technique. Design methods for evaluating plant layouts, nature of materials handling systems as integral to plant layout, the historical basis of the CPM/PERT technique and comparison of network techniques. Preparing work breakdown structures, forward and backward pass calculations. Drawing network diagram, convert a network into a time bar diagram, effects of float manipulation on resource allocation, costing of projects and probability of achieving estimates. The similarity of PERT and precedence diagrams to CPM arrow diagrams and complete network analysis procedure.

TS508 Management — Team Techniques (1 unit)

The objective of this unit is to enable the student to initiate and coordinate the application of management techniques by employee teams and identify and analyse cost centres requiring loss control. The topics include: different approaches to productivity improvement, the definition of a work study department in the organisation, establish productivity teams and coordinate their activities. The application of work study techniques employed by teams in problem-solving, four established productivity improvement programs which employ team techniques, loss analysis involved in establishing indirect and intangible costs, importance of safety as a reduced intangible cost, explanation of how the service functions — production planning/control, quality control and maintenance — are indirect cost centres, proper materials management as an aid to efficient manufacture, inspection and quality control and different approaches to organising the maintenance functions.

TS509 Work Analysis — Clerical and Services (1 unit)

This unit enables the student to apply the industrial engineering approach to non-manufacturing environments. The topics include: systems analysis and the industrial approaches (5 project phases), forms analysis, design and control, clerical work analysis and the application of industrial engineering in service organisations.
**TS510 Minicomputer Applications (1 unit)**

The objective of this unit is to enable the student to use a mini or microcomputer in applying work study techniques in industry. The main topics are: computer components, how to make a computer operational, essential commands and BASIC programming, load, run, explain and test a commercially available computer management program and to run any operations management software package.

**TS521 Safety 1**

The main objectives of this unit are: to evaluate the need for and the nature of accident prevention. To approach injury prevention scientifically and through multidisciplinary methodology. Students will learn to identify injury hazards and select appropriate remedies, communicate the analysis of the problem and measure the effectiveness of the remedies that have been implemented. Other topics include, the appraisal of protective clothing and equipment and the problems associated with its use and acceptance, environmental hazards such as noise and temperature and toxic substances, legislation affecting OHS and accident compensation, and the development of procedures for the age of different emergencies.

**TS522 Safety 2**

This unit will enable students to apply the techniques of accident reporting, accident investigation, accident prevention, statistics and systems and a safety management program. Other areas covered are the basic principles of ergonomics and its relevance in accident prevention, the development and implementation of an accident prevention program. The accident prevention program includes administrative framework, preventive techniques, motivation of management, supervisors, employees and unions, training and compliance, reporting incident investigations, medical assessments, rehabilitation and compensation claims management. This unit also includes risk management and total loss control.

**TS523 Safety 3**

This unit will enable students to solve problems that may arise from the layout and design of workplaces and travelling ways, develop and implement occupational health and safety training programs for all levels of management and employees, identify and solve safety problems related to mechanical environment hazards, solve problems arising from the handling, storage and processing of harmful substances, to solve problems associated with general environmental factors in workplaces and travelling ways, and to solve problems arising from materials handling.

**TS524 Safety 4**

Topics include: basic types of job design and the rationale behind successful job redesigns. The use of anthropometric data and the principles of good posture. The selection of display control devices and the principles of optimum design. The basic determinants necessary for visual comfort. The dimensions of occupational stress and the effects of shiftwork. The factors affecting inspection tasks. Task design for the handicapped. The components of the men-machine-environment system model and how they interact. The basis for health standards hygiene and the MMES Model. The following epidemiological designs, retrospective, prospective and cross-sectional. How personal behaviour traits may affect accident and health profiles. The approaches to occupational rehabilitation and the role of rehabilitation in minimising the consequences of accidents.

**TS551 Planning Procedures 1**

This unit includes topics on the following areas: the development of modern production management and the objectives of production management of various types of production processes, sales forecasting and its relationship to the master production schedule, sources of planning data, such as, engineering department and methods department, terminology used in production control, the use of sales forecasts for production scheduling, inventory planning, machine loading, etc. The comparison of actual and scheduled performance for control purposes, advantages and disadvantages of centralised and decentralised production control, production control techniques and their application. Control of problems such as design change during production and the introduction of new materials and components.

**TS552 Planning Procedures 2**

This unit includes the following topics: the function of the estimating department in industry and small firms, the preparation of estimates and the factors affecting estimates, production control using flow control, block control, master schedules, general loading charts and line of balance, using machine loading charts and the sources of information for their preparation, types of aids available for machine loading charts, production capacity shortfalls, consequences of adopting an unbalanced work program and the benefits of developing department and its relationship with the benefits of a quality control organisation to the manufacturing firm and its customers.

**TS553 Materials Management 1 (1 unit)**

The purpose of this unit is to enable the student to apply the basic principles and practices associated with the supply and control of various classes of materials within a business situation and develop and apply specialised procedures for the control of a firm’s materials requirements.

The topics include: development and scope of materials management and why inventory investment must be controlled, the place of the materials management function within a business organisation, procedures necessary to develop a simple materials management departmental budget, requirements of record keeping to accurately reflect the actual stock levels, carry out a full inventory count for all classes of stock, categorisation of inventory, EDI applications relevant to materials management and its advantages and disadvantages, methods of calculating inventory requirements and the installation of a computer-based materials management system.

**TS554 Materials Management 2 (1 unit)**

The general purpose of this unit is to enable the student to acquire the knowledge and skills necessary to value high standard of physical stock control and the economic understanding of the financial implications associated with efficient physical distribution of a firm’s materials inventory.

The topics include: necessity for adequate stock rotation and location control, major relevant methods of inventory valuation, available methods of determining the need for warehouse space for all classes of stock, suitable warehouse layouts, choice of materials handling equipment, suitable packaging specifications during the purchase design stage, selection of a suitable mode of transport for the company’s materials purchases and distribution of end products, estimate of the cost of customer service offsite, legislation and procedures that must be followed to ensure safe storage and transport of hazardous materials in compliance with regulations, appropriate management techniques used to ensure and control the distribution of a firm’s finished goods between their own distribution centres and to conduct a physical distribution audit.

**TS571 Purchasing 1**

This unit includes the following topics: the benefits that companies may derive from a professional approach to purchasing, ethics in the purchasing function, record keeping and audit requirements. Maintenance of a purchasing department policies and procedures manual, staff requirements and organisation of a purchasing department, advantages and disadvantages of centralised and decentralised purchasing, terminology and documents used in the purchasing function, fundamentals of contract law, operations of the Sales Tax Act, evaluation and selection of supplier of goods and services, methods of communicating purchase orders, expediting as a standard component of the purchasing system, various types of insurance relevant to the practice of purchasing, materials standardisation and simplification.

**TS572 Purchasing 2**

This unit covers the following topics: how to conduct a value analysis program, overseas purchasing including exchange rates, lead times, payment considerations and regulations, operations of the international banking system, customs and tariff procedures, the effect of Australia’s main trade agreement on manufacturers, make or buy decisions for products, lease or buy decisions for capital equipment, method of ranking equipment, purchasing alternatives, speculative purchasing and minimising the risks involved, purchasing within a Government department, negotiating skills for purchasing officers.

**TS601 Introduction to Management**

This unit will include the following topics: development of management theory, business purpose and mission, the consequence 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, 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 unit will include the following topics: analysing information to establish whether causes and effects exist, identification of relationships, methods of research, sources of data, data collection techniques, surveys, sampling techniques, sources of information, statistical analysis, interpretation and forecasting, storage and retrieval of data, security of information, reporting and presentation of information.
TS604 Finance for Managers
This unit 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.

TS605 Human Management
This unit includes the following topics: lines of authority and responsibility in an organisation, delegation of tasks; staff development; formal and informal organisation; skills required for leadership; conflict resolution; problem-solving resource allocation; entrepreneurship; detailed review of organisation structures; leadership styles and theories; selection of a building techniques and effectiveness of delegation; for planning, solving decision-making, evaluation and appraisal of employee performance; discipline within the organisation; induction; policies; action planning; time management, coping with stress, counselling techniques.

TS606 Personnel and Industrial Relations Management
This unit covers the following topics: nature of personnel function; recruitment, placement and separation; staff appraisal; wage and salary administration; training, development, accidents and safety, welfare, personnel activities; counselling, industrial relations.

TS607 Public Sector Management
This unit 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 unit covers the following topics: introduction — distribution system retail, current development; customers, principles of customer service, buying, stock management, retailing calculations, pricing, legislation, managing and sales force, merchandising, visual merchandising crime.

TS609 Office Management
This unit 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 unit 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 unit covers the following topics: production planning, organisation, planning for optimum capacity, planning methods, production control organisation, scheduling and loading, control methods, layout, work study, staff utilisation, safety.

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

TS613 Computer Based Management
This unit covers the following topics: information systems defined, interfaces between EDP and non-EDP systems, data administration, types of database operations, data manipulation languages.

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

TS701 Introduction to Computers
This unit covers the following topics: the roles and relationship of computer personnel, the history and development of computers, the impact of computer technology on society, the components of a computer system and the key types of computer systems, the maintenance of a suitable physical environment for computers, factors in designing a successful computer room layout, the management of computer room consumables, security over computer installations, ergonomics and safety in relation to the use of VDU's, care and storage or magnetic media, ASCII and EBCDIC codes, types of files, their features and organisation, backup and restore functions.

TS702 Keyboard Familiarisation
This unit pertains to the Certificate in Computer Business Applications. This unit will ensure that students understand the functions of all keys and can touch type at a minimum of twenty words per minute.

TS703 Using a Time Sharing System
This unit covers the following topics: the characteristics, advantages and disadvantages of a time sharing system, accessing a time sharing system, types of business software commonly used on time sharing systems; overview of the process of program development; selecting a programming language, coding simple programs in a commonly used language such as BASIC, COBOL or PASCAL.

TS704 Organisational Communications
A study of the formal and informal channels of communication in large and small organisations, the effective use of spoken and written media, and the interpersonal and group skills required for information-sharing, problem-solving and decision-making.

TS705 Technical Writing and Report Writing
This unit focuses on the skills required for: (a) the writing of clear and concise descriptions of equipment and processes, and instruction on procedures and operations relevant to the course of study; and (b) the planning, preparing and presentation of short reports for computer business purposes.

TS706 Business Information Requirements
This unit covers the following topics: the main functions of management, the management information system, the information needs of managers at different levels, the concept of management by exception, the main information problems encountered in businesses; the use of computers to solve information problems, the major functional areas of businesses and their subsystems (order entry and sales analysis, inventory control, accounts receivable, accounts payable, payroll and labour analysis, general ledger, forecasting), use of software for at least one of the above applications; types of EDP systems, selecting a microcomputer system, networking including structured architecture, main types, topologies, types of communication channels, database systems including usefulness, architecture, responsibilities of a database administration, types of database operations, data manipulation languages.

TS707 Micro-computer Concepts and Usage
This unit covers the following topics: components of a micro-computer including additional cards such as graphics adapters, micro-computer operating systems, conventions for naming files, backup of files, review of diskette handling, printers, overview of software terminology and concepts, word processing including extensive editing and formatting features, forms, libraries, spreadsheets, design and preparation of modules on spreadsheets, use of accounting software for exercises in application such as general ledger, payroll, inventory, taxation, database software including creating, editing, generating reports, multiple data files, interfacing with other software such as word processors, spreadsheets and accounting modules.

TS708 Developing Computer Systems
This unit covers the following topics: introduction to systems analysis and design, systems development cycle, organisation problem areas, tools and techniques of the analyst and designer, the stages involved in system design, e.g. investigation (feasibility study), functional requirements analysis, systems design programming, implementation and maintenance (this section involves a detailed study of systems design and is based on one of the widely accepted models of systems design), user involvement in systems design.
TS711 Introduction to Micro-computer Applications A


TS712 Introduction to Micro-computer Applications B

Definition of “database”: database applications (general records, inventories, mailing lists, relating files, etc); database products. Using databases. Fundamentals of accounting packages (database, stand-alone, menu-driven, industry-based, etc) and accounting package applications (general ledger, payroll, accounts payable and receivable, etc). Using accounting packages. Prerequisites: Introduction to Micro-computer Applications A.

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 in-output, provision of test data for debugging.

TS716 Programming Concepts B

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. Prerequisites: Programming Concepts A.

TS717 Programming Techniques A

Program tools and techniques: NS diagrams and IPO charts. Program documentation. Program debugging and test data design. Programming in structured 3GL (e.g. Pascal). Prerequisites: Programming Concepts B.

TS718 Programming Techniques B

Modular and top-down program design. Program design aids and algorithms. Maintenance programming. Programming in a structured 3GL. Prerequisites: Programming Techniques A.

TS719 Cobol Programming A

Review of program design techniques. Coding readily maintainable Cobol programs. Testing techniques. Cobol documentation. Prerequisites: Programming Concepts B.

TS720 Cobol Programming B

Revision of Cobol Programming A. Control break logic (two levels). Single-level table handling. Sequential updates. Nested IF decision tables. Prerequisites: Cobol Programming A.

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 communications. 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


TS729 Using a Micro-computer

System commands, batch files, editors, back-up and restoration of disks.

TS730 Using a Minicomputer


TS731 Operating Systems

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. Prerequisites: Introduction to Peripheral Devices, Using a Micro-computer, Using a Minicomputer.

TS732 Introduction to Systems Analysis & Design


TS733 Introduction to Data Communications & Networks

Definition of terms: as of the communication media; transmission media topologies; modern; purpose and use of protocols. Prerequisite: Introduction to Peripheral Devices.

TS734 Micro-computer Hardware & Software Selection


TS735 Advanced Systems Analysis & Design

Comparison of alternative SDLC’s: system implementation; system modeling tools; design specification and documentation. Feasibility studies. Prerequisite: Introduction to Systems Analysis & Design.

TS736 Applied Systems Analysis & Design


TS737 Project Management Techniques

Project management objectives; project management structures; project control; project documentation. The role of tools and techniques. Teamwork. Case studies. Prerequisite: Introduction to Systems Analysis & Design.
**TS738 System & Software Development Tools**
Definition of SSD tool terminology; survey of SSD tools; areas of application of SSD tool; relation to the traditional and alternative system development life cycles; evaluation of SSD tools. The role of microcomputers. 4GLs: End-user designed systems. Prototyping and modelling. CASE tools. Prerequisites: Introduction to Systems Analysis & Design.

**TS739 Business Organisations**

**TS740 Business Information Processing**
Business sub-systems: business information; decision support and management information systems; transaction processing. Prerequisite: Business Organisations.

**TS741 Data Processing System**
Documenting Techniques

**TS742 Document Processing Software Packages**

**TS743 Spreadsheet & Business Graphics**
Spreadsheet macro facilities. Advanced word processing. Graph plotting facilities. Hidden sheets. Software installation and configuration.

**TS744 Database Software Packages**

**TS745 Accounting Software Packages**

**TS746 Practical Placement**
The purpose of this module is to give Advanced Certificate — Computer Operations students practical on-the-job computer operations experience.

**TS747 Application Project A**

**TS748 Cobol Programming C**
Structure charts and pseudocode algorithms. Sub-programs and data transfer between programs. Cobol utilities, cobol redefines, introduction to cobol screen handling facilities. Introduction to complex table handling. Prerequisite: Cobol Programming B.

**TS749/50 Advanced Cobol Programming A & B**

**TS751 Database Design**
Introduction to database applications. Data dictionary development. Physical and logical design of database. Prerequisites: Introduction to Data Communications & Networks.

**TS752 Database Programming A**

**TS753 Data Communications**

**TS755/6 3GL Programming Option A & B**
Language syntax. Programming exercises. Definition of “stack” and “queue.” Description, implementation and analysis of algorithms for sequential access and binary search. Description, implementation and analysis of selection sort, in-place sort and quicksort. Definition of “linked list” and “binary tree.” Prerequisite: Programming Techniques B.

**TS757 4GL Programming Option**

**TS758 Local Area Networks**
Definition of LAN by area of coverage, data rates and micro-computer usage. Types of LAN topologies and media. Differences between baseband and broadband. Characteristics of LANs. Characteristics of LAN software. Using the network operating system and utilities to add and remove devices and users, recover from full disc or non-allocated device, and detect errors such as bad connections and overloads. Identify the characteristics of currently available LANs such as XCON ethernet. IBM token ring. Novell and Wangnet. Prerequisite: Introduction to Data Communications & Networks.

**TS759 Production Control**
Batch processing systems: job assembly and scheduling. Off-line strategies; output verification; error correcting methods; job procedure documentation. Prerequisite: Operating Systems.

**TS760 Console Operations A**
Overview of operating systems. Job scheduling and algorithms. Monitoring and controlling job execution: system monitoring and controlling procedures; operator/user communications; command procedures. Prerequisites: Using a Minicomputer, Operating Systems, Using a Minicomputer, Operating Systems.

**TS761 Console Operations B**
Virtual memory; memory management strategies. User accounts. Back-up procedures; system boot-up and shutdown procedures; command procedures. Prerequisite: Console Operations A.

**TS762 Operation of Peripheral Devices**

**TS763 Computer Room Layout & Procedures**
Computer operations; computer room equipment, computer room environment, ergonomic considerations, computer room supplies, computer room operations documentation. Physical security; emergency procedures; contingency plan; site visits and site visit reviews.
TS764 Introduction to Expert Systems
Definition of “expert systems”. Purposes and advantages of expert systems. The structure of expert systems. Comparison of knowledge engineering and conventional programming. Information expressions. Design and construction of a small rule-based system. Prerequisite: Computer Programming C.

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. Preparing a narrative of the user’s response to a RFP. Defining the criteria for evaluating supplier response to a RFP. Consult with a manager/supervisor when project problems arise. Enter into and adhere to agreements with users/clients, and communicate with user/clients in a manner beneficial to 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. Prerequisites: Introduction to Systems Analysis & Design, Database Programming B, Project Management Techniques. User Needs Analysis. Co-requisite: Microcomputer Systems Analysis & Design.

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 beneficial to 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. Prerequisites: Introduction to Systems Analysis & Design, Database Programming B, Project Management Techniques. User Needs Analysis. Co-requisite: Microcomputer Systems Analysis & Design.

TS767 Drafting & Display Graphics

TS768 Micro-computer 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. Prerequisite: 3GL Programming Option A. Co-requisite: 4GL Programming Option B.

TS769 Multiluser Micro-computer Systems
Understanding of microcomputer operating systems. Installation of multiuser operating systems. Multiluser microcomputer system management. Prerequisite: 3GL Programming Option B.

TS770 Micro-computer Architecture & Assembly Programming
Address bus from CPU select memory or I/O which is accessed in read/write operations. No. of address possible = 2^m, 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 pointers; memory pointers; general purpose registers; & jump addressing. Decryption of instruction set. Prerequisite: Computer Architecture.

TS771 User Training Techniques
Learning theories. Needs; analysis task analysis; perception; verbal/oral communication; team building; enhancement. Assessment of the whole needs of a training package. Development of an effective personal approach in identifying one’s own strengths and weaknesses as a trainer. Development of an appropriate training package for a given learner/group with specific needs. Prerequisite: Communication Skills A – D.

TS772 User Documentation

TS773 Micro-computer Systems Analysis & Design

TS800 Practical Placement
The aims of the Practical Placement Program are to:
- provide practical experience consistent with the theoretical course work;
- provide insights into tasks related to their course;
- give students better understanding of the work situation;
- relate effectively to adults and peers in a working environment.

Practical Placement is taken over a two-week period. The two-week period includes one week of term time and one week of students’ holiday time. Students are comprehensively insured by the College on the basis that the Practical Placement is an extension of the TAFE classroom and no students may receive any remuneration whatsoever from the Host Organisation.

TS820 Office Computer Applications (1 unit)
This subject aims to provide students with an appreciation of computer packages and programs in relation to business operations. Students will, therefore, be given the opportunity to develop their skills in the processing of information by using computer packages and to gain an understanding of the potential and importance of computer systems in the business environment.

In order to achieve these aims students will be introduced to data processing hardware and software, systems and sub-systems in the business world and the decision-making process needed to obtain information which suits the management structure of an organisation. It is necessary, therefore, in meeting industry needs that students gain “hands-on” experience in utilising common business systems, e.g. database package, spreadsheet, accounting package.

TS865 Admin Procedures 1
The purpose of these subjects is to give students an understanding of the working environment and the office as the centre of the information flow. Topics studied will be pertinent to the skills which office support personnel need to master to become effective employees, for example:
- developing business awareness;
- understanding information systems/management/record management;
- financial management;
- telephone management;
- human relations management;
- time management;
- mail distribution management;
- research techniques.

TS866 Admin Procedures 2
To provide students with administrative skills and knowledge required to pursue a career as a senior secretary/personal assistant at executive level (including human relations, analytical and organisational skills). Particular emphasis is placed on medical and legal work.

TS867 Administrative Procedures 3
To provide students with administrative skills and knowledge required to pursue a career as a senior secretary/personal assistant at executive level (including human relations, analytical and organisational skills). Particular emphasis is placed on medical and legal work.

TS868 Administrative Procedures 4
To provide students with administrative skills and knowledge required to pursue a career as a senior secretary/personal assistant at executive level (including human relations, analytical and organisational skills).

TS869 Australian Working Environment 1
To give students an insight into the economic and legal aspects of the business environment. Topics studied include: the Australian legal system, contract law, consumer protection, economic systems, demand and supply, the Australian banking system, non-bank financial institutions, methods of payment, the Australian workforce, rights and obligations of employees/employers and trade unions.

TS881 Typewriting Production 1
A further development of the skills acquired in Typewriting Production 1 but with more emphasis placed on increased production rates. Students will be expected to reach a speed of 45 wpm and type office related tasks of more complexity with efficiency.
TS883  Word Processing 1
This unit trains students in the theoretical concepts of word processing. Practical word processing skills are taught through the use of word processing software to create, edit, format and print documents.

TS884  Word Processing 2
This unit enhances the basic skills learnt in Word Processing 1. Students are taught advanced features of the word processing software package, e.g. using different fonts, desktop publishing, etc.

TS885  Typewriting Production 3
Continues development of skills from Typewriting Production 1 and 2 (55 wpm, 98% accuracy). Production of complex keyboarding tasks.

TS886  Typewriting Production 4
Continues development of skills from Typewriting Production 1 and 2 (55 wpm, 98% accuracy). Production of complex keyboarding tasks.

TS890  Shorthand Theory (1 unit)
A shorthand system will be studied with the aim that students will be able to transcribe shorthand notes fluently and accurately from both speed and office style dictation.

TS891  Shorthand Speed Development (1 unit)
This subject is aimed at further developing the skills learnt in Shorthand Theory. Assessment consists of two components:
- Speed — a final examination to be externally set and marked — 3 minutes at 80 wpm with 95% accuracy
- Stenography — externally set, internally marked 2 hour examination to include office style dictation

TS893  Notetaking 1
TS894  Notetaking 2
Provides students with the ability to take notes quickly and accurately in order to produce typescript (80 wpm, 95% accuracy)
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DipTT, TTrI
G. Zouev

Centre for Engineering Technology: Authorised AutoCAD Training Centre

Manager
L.J. McLaughlan

Academic staff
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H. Ramaekers
P. Stroude

Communications Engineer
J. Perry

Technical Officer
S. Fisher
Building Construction courses
The following courses are offered by the Building Construction Department:

Technician Certificate courses
The building technician certificate is accepted as evidence that certificate holders have received training which should enable them to accept positions of responsibility in the building industry. It is possible to complete the course by evening and/or part-time day attendance at the College. Apprentices may take a technician course concurrently with normal apprenticeship training, but attendance at evening classes is necessary.

The following courses are available:
- B34CAD Building Inspector
- 3300CZA Advanced Certificate in Building Inspection
- 3300CAA Advanced Certificate in Building Construction

The Technician Certificate — Building (Building Inspector) course meets the academic requirements of the Building Qualifications Board for the issue of the Municipal Building Inspectors Certificate.

Certificate of Technology courses
To train, for a variety of special areas of responsibility in the building industry; immediate support personnel to manage the single compulsory subject for entry is Year 11 English.

Entrance requirements
Entry to the certificate course may be by way of:
(i) Successful completion of Year 11 schooling.
(ii) A completed year of indenture in a building trade.
(iv) Mature-age entry.

The single compulsory subject for entry is Year 11 English. If it has not been previously gained, however, it may be studied concurrently.

Issue of award
Prior to any certificate being awarded, it is necessary for the candidate to complete the academic requirement and have at least two (2) years of recent and relevant industrial experience.

Course detail
The course consists of core and elective subjects. Core subjects represent a total of 425 hours of study and elective subjects represent a total of 170 hours of study.

Core subjects
- TB216F Building Construction 1 (Theory) 2
- TB217F Building Construction 1 (Tutorial sessions incorporating Drafting for Builders) 2
- TB711 Structural Applications 1 2
- TH115 Communication Studies 1A 2
- TH116 Communication Studies 1B 2
- TB720 Estimating and Cost Control 1 2
- TB705 Site Supervision and Management 2
- TB710 Safety in Construction 1 2
- TB703 Regulations and Government Authorities 2
- TB704 Contract Law & Contract Administration 3
- TB707 Business Management for Builders 2

Elective subjects
- TB322F Building Construction 2 (Theory) 2
- TB323F Building Construction 2 (Tutorial sessions incorporating Design1 Specification 2
- TB712 Structural Applications 2 2
- TB716 Building Materials and Services 1 3
- TB721 Estimating and Cost Control 2 2
- TB724 Industrial Relations A 2
- TB725 Industrial Relations B 2
- TB722 Network Scheduling for Critical Path 1 3
- TB701 Construction Surveying (Introduction) 3

Total = 2 x 5 = 85 hours each semester

Semesters 5 and 6

Elective subjects continued
The subjects listed above are offered over a two (2) semester period to conform in content with the subjects offered in the Certificate of Advanced Building Construction.

Seminars 7
- TB710 Building Materials and Services 1 3
- TB721 Estimating and Cost Control 2 2
- TB724 Industrial Relations A 2
- TB725 Industrial Relations B 2
- TB722 Network Scheduling for Critical Path 1 3
- TB701 Construction Surveying (Introduction) 3

Total = 2 x 5 = 85 hours each semester = 170 hours
B34CAD  Technician Certificate — Building (Building Inspector)
1976 syllabus — continuing students only

General description and aim of course
The course is designed:
(a) to be a job-oriented extension to the basic vocational courses;
(b) to suit the particular needs and interests of students and employers;
(c) to meet the minimum entrance requirements of the Certificate of Technology — Building.

Entrance requirements
Completion of a Year 10 standard of education, and engaged in an appropriate vocational program.

Career potential
Substantial opportunities exist in municipal building inspection and similar positions may be available with the building departments of various large organisations, e.g. banks, government departments and authorities.

Course detail
The course consists of twelve subjects. All subjects are offered on a full-time basis.

Completion of course
The Technician Certificate — Building (Building Inspector) course meets the academic requirements of the Building Qualifications Board for the issue of the Municipal Building Inspector Certificate.

Certificate of Technology courses
B21CAD  Certificate of Technology — Building (Building Surveyor)
1976 syllabus — continuing students only

Course structure
The course is intended to be offered full-time over two years. Some subjects may be offered on a part-time basis. The course consists of the following subjects:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Hours</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB216F</td>
<td>2</td>
<td>Building Construction 1A</td>
</tr>
<tr>
<td>TB217F</td>
<td>2</td>
<td>Building Construction 1B</td>
</tr>
<tr>
<td>TB312F</td>
<td>2</td>
<td>Building Construction 2A</td>
</tr>
<tr>
<td>TB323F</td>
<td>2</td>
<td>Building Construction 2B</td>
</tr>
<tr>
<td>TB136F</td>
<td>2</td>
<td>Applied Mathematics (Building Inspector)</td>
</tr>
<tr>
<td>TB234F</td>
<td>2</td>
<td>Communication and Technical Reports</td>
</tr>
<tr>
<td>TB940A</td>
<td>1</td>
<td>Tintex Framing Code</td>
</tr>
<tr>
<td>TB714A</td>
<td>1</td>
<td>Building Practices</td>
</tr>
<tr>
<td>TB715A</td>
<td>1</td>
<td>Building Practices Tutorials</td>
</tr>
<tr>
<td>TB412F</td>
<td>2</td>
<td>Building Construction 3A</td>
</tr>
<tr>
<td>TB413F</td>
<td>2</td>
<td>Building Construction 3B</td>
</tr>
<tr>
<td>TB250F</td>
<td>2</td>
<td>Material Science</td>
</tr>
<tr>
<td>TB154A</td>
<td>1</td>
<td>Foundations</td>
</tr>
<tr>
<td>TB469A</td>
<td>1</td>
<td>Introduction to Law (Building Inspector)</td>
</tr>
<tr>
<td>TB437F</td>
<td>1</td>
<td>Statutory Control Building</td>
</tr>
<tr>
<td>TB435F</td>
<td>1</td>
<td>Scaffolding Inspection A</td>
</tr>
<tr>
<td>TB439F</td>
<td>1</td>
<td>Scaffolding Inspection B</td>
</tr>
<tr>
<td>TB446F</td>
<td>1</td>
<td>Practical Inspection Building Tutorials</td>
</tr>
</tbody>
</table>

Certificate of Technology courses

3300CZA  Advanced Certificate in Building Inspection

Career potential
The aim of this course is to provide students with all the educational requirements for the issue of the Building Control Qualifications Board's certificate of practice as a municipal building inspector. In addition to the educational requirements students are required to have three years building industry experience. This is usually gained on the job as a trainee/cadet building inspector.

Currently there is a severe shortage of building inspectors and there are ample opportunities for employment.

Prerequisites
Entry into the course is via the successful completion of Year 11 or mature age.

Note: To gain registration with the Building Control Qualifications Board, students must have satisfactorily passed Year 12 English and those subjects listed in Statutory Rule 276 (1988) of the Victorian Local Government Act 1958.
B21CAH Certificate of Technology — Advanced Building Construction

Career potential
Many building companies prefer young people who show initiative and enthusiasm and certainly above average scholastic abilities; people who, in the short term, will demonstrate supervisory and foremanship abilities and in the longer term be capable of rising to a managerial position.

Entrance requirements
Successful completion of Year 11 or equivalent including a pass in English, or
Completion of one year of indenture in a building trade; or
Persons sufficiently mature with relevant building experience.

Course structure
This course consists of core and elective units which total 24 units. This consists of 21 core units with 3 elective units. The course is studied full-time for two years plus one or two years part-time. Prior to being eligible for an award, students must complete all academic requirements of the course and have at least two years approved recent and relevant industrial experience.

1st Year
Semester 1
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB216 Building Construction 1A</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB217 Building Construction 1B</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB714 Building Practice 1</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>TH133 Communication Skills A</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TB701 Construction Surveying 1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TB706 Building Materials and Services</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Tutorial</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>24</td>
</tr>
</tbody>
</table>

Semester 2
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB216 Building Construction 1A</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB317 Building Construction 1B</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB715 Building Practice 2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>TH134 Communication Skills A</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TB940 Timber Framing Code</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB702 Construction Surveying 2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Tutorial</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>24</td>
</tr>
</tbody>
</table>

2nd Year
Semester 1
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB710 Safety in Construction</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB322 Building Construction 2A</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB323 Building Construction 2B</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB711 Structural Application 1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB435/9 Scaffolding Inspection</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB716 Quantity Surveying 1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TB704 Contract Law and Administration</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TB705 Site Supervision and Management</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Tutorials</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

Semester 2
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB717 Build. Materials and Services</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB322 Build. Construction 2A</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB323 Build. Construction 2B</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB720 Estimating and Cost Control 1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB435/9 Scaffolding Inspection</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB707 Bus. Management for Build.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB722 Tutor. for Critical Path 1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TB703 Regulation and Gov't. Authorities</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB712 Structural Applications 2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Tutorials</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>23</td>
</tr>
</tbody>
</table>

Plus 3 Elective Units From:
TB412 Building Construction 3A 1 unit
TB413 Building Construction 3B 1 unit
TB437 Stat. Control 1 unit
TB24 Industrial Relations A 5 unit
TB25 Industrial Relations B 5 unit
TB26 Safety in Construction 5 unit
TB273 Scheduling for Critical Path 5 unit

The course consists of the following subjects:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Hours</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB216  Building Construction 1A</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB217  Building Construction 1B</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB322  Building Construction 2A</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB323  Building Construction 2B</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB36F  Applied Mathematics (Build. Inspector)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB234F Communication and Technical Reports</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB940  Timber Framing Code</td>
<td>2 1 Semester</td>
<td></td>
</tr>
<tr>
<td>TB714  Building Practices</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>TB715  Building Practices</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>TB514  Foundations</td>
<td>2 1 Semester</td>
<td></td>
</tr>
<tr>
<td>TB479  Introduction to Law (Build. Inspector)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB437F Statutory Control Building</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB435F Scaffolding Inspection A</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>TB439F Scaffolding Inspection B</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB446F Practical/Inspection Building</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Special courses

B42CAK Scaffolding Inspection
Scaffolding Inspection meets the requirements of the building surveyor’s course, the building inspector’s course, and is suitable for those who are to be employed as scaffolding inspectors. The duration of the subject is one year, based on two hours per week.

Course structure
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB435  Scaffolding Inspection A</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TB439  Scaffolding Inspection B</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

4200CBN Timber Framing Code
As a result of changes to the Uniform Building Regulations, the provisions of the Timber Framing Code (AS 1684-1979) are being increasingly enforced by Local Authorities.

The course requires a minimum of 24 hours class study. At the end of the course there will be an assessment based on a practical exercise that covers the major aspect of the Timber Framing Code.

Course structure
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB940  Timber Framing Code</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
B4SCWB Women Into Building
The Women Into Building course is an introductory program for women interested in a career in the building industry. The course is of one year's duration, and requires no previous skills or experience.

The course involves practical and theoretical work which will lead to possibilities of further studies and employment in the areas of supervision, estimating, inspection and practice.

Course structure

Subjects
TB216 Building Construction 1A
TB217 Building Construction 1B
TB222 Technical Reports (Building)
TB246 Building Administration and Supervision
TB603 Introductory Graphics
TB610 Computer Practice
TB714 Building Practice 1
TB715 Building Practice 2
TB720 Estimating and Cost Control 1

Tutorials
To augment other subjects and provide an opportunity to overcome study difficulties.

Site excursions
To provide a context for the formal studies and an opportunity to observe theory in practise.

Some units, such as tutorials and site excursions, will be heavily emphasised in the first semester to provide an appreciation of the working nature of the building industry.

Subject details

Subjects are listed in alpha-numeric order of subject codes.

TB216 Building Mathematics (T)

TB216 Building Construction 1A
Basic principles of structure. Timber technology. Domestic building construction including timber framing, brickwork, masonry, foundations, footing, roof plumbing, joinery, internal fittings, services, plastering, painting, simple concrete work.

TB217 Building Construction 1B
A folio of drawings covering eight selected topics, appropriate to the grade, to be submitted for examination at the end of the year. Some of the drawings will be solutions to given problems.

TB220 Building Science (T)

TB222 Technical Reports (Building)
Summaries, comprehension, records used in industry, types of reports (written and oral). Logical argument and the use of the spoken word. Use of library material. Uses of visual aids in reports.

TB322 Building Construction 2A

TB323 Building Construction 2B
A folio of drawings covering eight selected topics, appropriate to the grade, to be submitted at the end of the year for examination. Drawings will be solutions to given problems.
TB706  Self Development and Interpersonal Skills
The communicative aspects of interpersonal behaviour, learning, memory, perception and personality development.

TB707  Business Management for Builders
To develop an appreciation of management practices, as applied to the building industry. Planning, financing, setting-up, controlling and operating a business within a relatively high risk industry.

TB710  Safety in Construction 1
An in-depth knowledge of safety precautions to be adopted, particularly when working on and around a construction site. Basic knowledge of common causes of accidents, and statutory requirements directly influencing 'safety' within the industry.

TB711  Structural Applications 1
A study of structural components, particularly of buildings studied in Building Construction 1. To explain how computations determine structural design and the likely behaviour of materials/components subjected to load (S).

TB712  Structural Applications 2
To familiarise students with structural components, particularly of buildings studied in Building Construction 2. To explain how computations determine structural design and the likely behaviour of materials and components under load.

TB713  Structural Applications 3
An advanced study of the structural components related to buildings studied in Building Construction 3. To effectively liaise with structural engineers.

TB714  Building Practice 1
To provide an environment for development of an appreciation in manual skills and trade practice, and explain trade techniques by hands-on experience involving the use of hand and power tools.

TB715  Building Practice 2
To provide a further environment for development of an appreciation in manual skills and trade practice, and explain trade techniques by hands-on experience involving the use of hand and power tools.

TB716  Building Materials and Services 1
Basic knowledge of nature, properties, quality standards of building materials and background information of manufacturing methods for processed (building) materials.

TB717  Building Materials and Services 2
Basic knowledge of nature, properties, quality standards of building materials. Knowledge of trade practices to allow for effective liaison and supervision on site.

TB718  Quantity Surveying for Builders 1
Related to the standard method of measurement for building materials. Familiarisation of students with procedures in the field of quantity surveying.

TB719  Quantity Surveying for Builders 2
As related to the standard method of measurement for building materials. Familiarisation of students with procedures in the field of quantity surveying.

TB720  Estimating and Cost Control 1
To learn proficiency in 'speed' take-off for qualities. To apply a cost rate per unit, build up 'rates' and modify as appropriate.

TB721  Estimating and Cost Control 2
The development of further proficiency in estimating techniques, the extension of 'rates' for 'bills' application to the preparation of tenders.

TB722  Network Scheduling for Critical Path 1
To develop an understanding of an efficiency in co-ordinating activities and ancillary items relating to a building project.

TB723  Network Scheduling for Critical Path 2
The co-ordination of all activities and associated supply/plant items related to a building project.

TB724  Industrial Relations A
An understanding of the relationship between various members of the industrial community and the restraints which are applied within an industrial relations agreement.

TB725  Industrial Relations B
The identification of causes of industrial conflict and an understanding of the nature and roles of parties in the industrial relations system.

TB726  Safety in Construction 2
In-depth knowledge and practice of safety precautions to be adopted when working on and around a construction site.

TB940  Timber Framing Code
The aim of this subject is to explain the requirements of this National Code and give some practice in establishing the appropriate sizes of structural members in timber-framed buildings.

TH115  Communication Studies 1A (1 unit)
Communication theory and its application to the collection, organisation and presentation of scientific information. Forms of task documentation: laboratory and project reports, memos and letters. Oral reports and presentations.

TH116  Communication Studies 1B (1 unit)
Research and presentation of analytical reports, job safety and specifications. Group communication skills: meetings, analysis and interviews. Audio-visual techniques and presentations.

TS215  Behavioural Studies 1A (1 unit)
TS216  Behavioural Studies 1B (1 unit)
Becoming aware of one's potentialities, interpersonal relationships, conflicts, difficult problem-solving, sociology and psychology, limitations in handling certain situations and problems.

Electrical and Electronics Technology courses
The following courses are offered by the Electrical and Electronics Technology Department:

Apprenticeship course

3212ECG  Electrical Mechanics

3222ECB  Certificate in Basic Electronics
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.

3300ECB  Advanced Certificate in Electrical Technology
The purpose of the technician course is to provide training in:
- the application of special skills and associated knowledge of complex machines or processes and techniques, requiring a knowledge of advanced theory and practice; and
- the performance of highly skilled tasks on complex equipment in workshops, in a laboratory or in the field.

This course is currently under review and will be subject to change.
**4200ECU Industrial Electronics Certificate**

A certificate is issued to all students who successfully pass the Certificate in Basic Electronics plus a further year of approved post C.B.E. study.

The course is designed to provide electrical tradespersons with improved technical knowledge and understanding of the latest techniques employed in a wide variety of modern electrical, electronic or digital control equipment and systems. This course is currently under review and may be subject to change.

**4200ECF**

Electrical Industrial Control Certificate (formerly Electric Motor Control)

Provides electrical tradespersons, technicians and people employed in the electrical switchgear industry with the relevant knowledge to install and maintain sophisticated electric motor control equipment in industrial installations.

Subjects are normally available as evening classes or day classes.

This course is currently under review and may be subject to change.

**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 a minimum of 1888 credit hours of study plus two years' relevant industrial experience.

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 members of the Australian Institute of Engineering Associates.

Full-time study

This course requires two years' full-time attendance over a period of three years.

Part-time study

The courses extend over a minimum of four years' part-time day release or evening attendance.

Cooperative study

A feature of Swinburne engineering courses is their three year cooperative education format. In a cooperative course the student learns in both an academic and a work situation, where these two phases of learning are related in an overall plan.

The work experience is arranged by Swinburne and undertaken in one semester of six months' duration, during the second year of the course. While working, the student is supervised both by the employer and a member of the Swinburne academic staff who acts as the student's industrial tutor. Satisfactory completion of each work experience period is a prerequisite for admission to the next academic stage of the course.

**Entrance requirements**

Students must have Year 12 or equivalent standard with passes in the following subjects:

- English Mathematics A
- Science

Mature-age students without the above qualifications are invited to discuss this with the head of the department.

**Exemptions**

Should be referred to the head of the department with suitable written evidence to support the claim.

Enquiries

Mr. A.G. Hamoton, 819 8493 or Mr. M. Cadilhac.

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**Apprenticeship course**

**3212ECG Apprenticeship: Electrical Mechanics**

**Course structure**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td></td>
</tr>
<tr>
<td>TEU01</td>
<td>Unit 1 Electrical Wiring Theory</td>
</tr>
<tr>
<td>TEU02</td>
<td>Unit 2 Electrical Wiring Theory</td>
</tr>
<tr>
<td>TEU03</td>
<td>Unit 3 Electrical Wiring Theory</td>
</tr>
<tr>
<td>TEU04</td>
<td>Unit 4 Electrical Wiring Practice</td>
</tr>
<tr>
<td>2nd year</td>
<td></td>
</tr>
<tr>
<td>TEU05</td>
<td>Unit 5 Electrical Wiring Theory</td>
</tr>
<tr>
<td>TEU06</td>
<td>Unit 6 Electrical Wiring Theory</td>
</tr>
<tr>
<td>TEU07</td>
<td>Unit 7 Electrical Wiring Practice</td>
</tr>
<tr>
<td>3rd year</td>
<td></td>
</tr>
<tr>
<td>TEU08</td>
<td>Unit 8 Electrical Wiring Theory</td>
</tr>
<tr>
<td>TEU09</td>
<td>Unit 9 Electrical Wiring Theory</td>
</tr>
<tr>
<td>TEU10</td>
<td>Unit 10 Electrical Wiring Practice</td>
</tr>
</tbody>
</table>

**External examinations**

(Edward Department)

<table>
<thead>
<tr>
<th>Subject examined</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE305</td>
<td>Electrical Wiring Theory 3.1</td>
</tr>
<tr>
<td>TE306</td>
<td>Electrical Wiring Theory 3.2</td>
</tr>
<tr>
<td>TE307</td>
<td>Electrical Wiring Practice 3</td>
</tr>
<tr>
<td>TE405</td>
<td>Electrical Wiring Theory 4.1</td>
</tr>
<tr>
<td>TE406</td>
<td>Electrical Wiring Theory 4.2</td>
</tr>
<tr>
<td>TE407</td>
<td>Electrical Wiring Practice 4</td>
</tr>
</tbody>
</table>

**Note:**

The SEC set minimum standards for passes in the units before being eligible to sit the Licensing exams.

Examinations are conducted as indicated below:

- June and November
- June
- June and November
- November

Enquiries

Mr. F. Gallant, 819 8493 or Mr. B. Johnston
Certificate courses

3222ECCE Certificate in Basic Electronics

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 TE520 to TE523, TE532 and TE535.
(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 15 learning units. A Certificate in Basic Electronics (CBE) will be awarded, upon application, to any student who successfully completes all the CBE learning units to the specified performance level and passes in the external examinations.

There is a basic vocational program and an advanced program. The basic program may be undertaken as:
(a) A terminal program in its own, and passes in the external examinations.
(b) Forms a part of the core studies of the Associate Diploma of Engineering (Electronics).
(c) The core of the Advanced Certificate in Electrical Technology.
(d) The core of the Industrial Electronics Certificate.

The program is designed to provide students with the core skills required by employers in the electronics industry.

Subjects
- Basic DC Circuits
- Inductance and Inductors
- Capacitance and Capacitors
- Basic AC Circuits
- Semiconductor Fundamentals
- Amplifier Principles
- Amplifier Applications
- Timing and Control Devices
- DC Power Supplies
- Digital Fundamentals
- Digital Applications
- Microprocessor Control Systems
- Industrial Practices
- Basic Test Equipment
- Transducers
- OBE Exam — Basic Electrical Principles
- OBE Exam — Basic Electronics Theory
- OBE Exam — Basic Digital Theory
- OBE External Exam

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.

Course structure
The course is available to electrical tradespersons who have completed electrical trade studies or who are concurrently pursuing Stage 3 of such studies.

Course structure
An Advanced Certificate in Electrical Technology will be issued to any student who successfully completes an approved program of not less than the following:

- Electrical Mechanic Training Certificate in Basic Electronics (exempt Units 1, 2, 3, 4, 13 and 16)
- Maths 1E
- Communication Skills
- Technician subjects

Total 960

The technician subjects are divided into two categories; foundation or introductory level and application or final level. Of the 720 hours required, a minimum 144 hours must be completed at the final level.

Subjects
- Electrical Mechanics Training (for subjects see listing under Apprenticeship course).
- Compulsory subjects

- Hours
- Maths 1E 72
- Communication Skills 72
- Technician subjects introductory
- Electrical Industrial Control 144
- Physic and Mathematics Applications 96
- Microprocessor Applications 96
- Generating Plant Control 72
- Industrial Heating 72
- Technician subjects final
- Programmable Controllers 1 72
- Programmable Controllers 2 72
- Industrial Heating 72

Note: Syllabus not yet available

This course is currently under review and may be subject to change.

4200ECF Electrical Industrial Control

Entry level
Satisfactory completion of two years of an electrical trade course or an equivalent standard in any other approved course.

Course structure
This is a Swinburne College of TAFE based certificate and will be issued to all students who successfully complete an approved program of not less than 432 hours of study with a minimum of 288 hours of study at the final level.

Subjects
- Introductory level

- Hours
- Electrical Industrial Control 1T 72
- Programmable Controllers 1 72

Final level
- Hours
- Electrical Industrial Control 1T 72
- Generating Plant Control 72
- Programmable Controllers 2 72
- Crane and Conveyor Control 72
**4200ECU Industrial Electronics Certificate**

**Entry level — for continuing students only**

Satisfactory completion of two years of an electrical trade course or an equivalent standard in any other approved course of study.

**Course structure**

This is a Swinburne College of TAFE based certificate and will be issued to all students who successfully complete an approved program of not less than the following:

<table>
<thead>
<tr>
<th>Non-electrical tradesperson</th>
<th>Hours</th>
<th>Specialist subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate in Basic Electronics</td>
<td>335</td>
<td>144</td>
</tr>
</tbody>
</table>

**Electrical person**

<table>
<thead>
<tr>
<th>Certificate in Electronics (exempt Units 1, 2, 3, 4, 13 and 16)</th>
<th>242</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist subjects</td>
<td>144</td>
</tr>
</tbody>
</table>

Availability of this course is dependant on having sufficient enrolments.

An electrical tradesperson can qualify for a Technician Certificate — Electrical by competing the outstanding subjects listed under the Electrical Technician course. The Industrial Electronics course may be studied as part of an Electrical Technician course.

**Specialist subjects**

- **TE338** Microprocessor Fundamentals
- **TE436** Microprocessor Applications
- **TE550** AC/DC Motor Speed Control
- **TE663** Programmable Controllers 1
- **TE664** Programmable Controllers 2

**Core subjects**

<table>
<thead>
<tr>
<th>Group B</th>
<th>Data Communications 1</th>
<th>108</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Circuit Theory 3H</td>
<td>126</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Mathematics 3E</td>
<td>90</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Microprocessor Applications</td>
<td>144</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Testing techniques and Instruments</td>
<td>126</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Electronic Personal Computer applications</td>
<td>126</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Basic Supervision</td>
<td>72</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5 Group B electives</td>
<td>592</td>
<td>2</td>
</tr>
</tbody>
</table>

Other subjects may become available during 1990-1991.

**Typical Programs**

Full-time students must complete a minimum program consisting of the following studies:

- All core subjects 1242 hours
- 1 Group A electives 54 hours
- 5 Group B electives 592 hours

This gives a four semester program with an average student contact of approximately 26 hours per week.

Part-time students must complete a minimum program consisting of the following studies:

- All core subjects 1242 hours
- 5 Group B electives

Following accepted part-time study practices, this gives a ten semester part-time study program of approximately 1500 hours with an average of eight hours per week.

**E21ECW Certificate of Technology — Electronics**

**E21ECB Cooperative Certificate of Technology — Electronics**

These courses are available only to students wishing to complete their studies towards a Certificate of Technology — Electronics.

**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.

**TEU01 Unit 1**

Ferrous and non ferrous metals, base units, derived units, multiples and sub-multiples, safety, and regulations, responsibilities, plans and drawings, maths, marking out tools, telephone answering.

**TEU02 Unit 2**

Structure of matter, materials, mechanical units, electrical units, sources of EMF, resistance, safety, SAA Wiring Rules, acts and regulations, cables, basic estimating and planning, circuit and plan fundamentals, electrical accessories, hand tools, power tools.

Measurement of resistance, voltage and current relationships, series and parallel circuits, lighting control, earthing and earthing systems, metering, threads and thread cutting, fixing methods.

**TEU03 Unit 3**

Electrical power and energy, magnetism, electro magnetism, solid state devices, circuit and plan reading and interpretation, sheetmetal fabrication, building materials and structures, cable jointing and termination, installation testing, testing and fault finding.

Electromagnetic induction, sinuoidal waveforms, generation of polyphase EMF, AC generators, power supply and distribution, wiring systems, wiring and brazing.
TEU04 Prac 1  
Assessment of practical components in Units 1-3.

TEU05 Unit 5  
R and C across, and capacitance, R and cable jointing and termination, with R resistance in AC circuits, inductance in AC circuits, capacitance in AC circuits, heating effects, circuit protection principles and devices, testing and fault finding of equipment and appliances, testing of installations, wirings systems.

TEU06 Unit 6  
Power in single phase circuits, R, L and C in series AC circuits, star delta connections, single phase transformers, three phase transformers, auto transformers, wiring systems.

TEU07 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. Two 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 fit by the Head of Applied Sci.  
Assessment: classwork (thirty per cent) and one final examination (seventy per cent).

An extension of Mathematics 1E (TM125). The topics include complex numbers, limits, differentiation and applications, integration and applications, differential equations, Boolean algebra.

References  

TE305/306 Electrical Wiring Theory 3.1, 3.2  
Equivalent SEC 'B' Grade theory. This subject covers the theoretical content of electrical mechanics (E305E) course. Externally examined.

TE307 Electrical Wiring Grade III Practice  
Equivalent SEC 'B' Grade practice. This subject covers the practical content of electrical mechanics (E305E) course. Externally examined.

TE338 Microprocessor Fundamentals  
The aim of the course is to provide a wide knowledge of microprocessors available in the market today. The areas covered are: organisation of computers, memory types, memory organisation, MPU, operation of MPU, addressing modes, instruction set, binary arithmetic, status register, programming techniques, minimal systems, interrupts, stacks, subroutines. PIA, AIA, timing, DMA, programming aids.  

TE405/406 Electrical Wiring Theory 4.1, 4.2  
Equivalent SEC 'A' Grade theory. This subject covers the theoretical content of electrical mechanics modules TE001 to TE024. Externally examined.

TE407 Electrical Wiring Grade IV Practice  
Equivalent SEC 'A' Grade practice. This subject covers the practical content of electrical mechanics modules TE001 to TE024. Externally examined.

TE419 Electrical Measurements  
This subject is intended to provide the students with fundamental knowledge regarding the principles of electrical measurement and the instruments used and their limitations and accuracy. Topics include standards, errors, analogue meters, digital meters, waveform errors, resistance measurement, AC bridge measurements, temperature measurement, inductance and capacitance measurement, cathode ray oscilloscope, magnetic measurements, instrument transformers, power circuit measurements, oscilloscopes, instrument selection and specifications.

TE437 Data Communications  
This subject is used on a local area network. Topics include: data communications, synchronous and asynchronous modems, multiplexing and computer interfaces.

TE438 Microprocessor Applications  
This subject develops a good understanding in the application of microprocessors and interfacing. The course consists of:  
(a) The design and implementation of an interfacing problem; and  
(b) a project related to the interest of the student, or some area of the student's work.

TE439 Testing Techniques and Instruments  
These techniques and instruments are used in testing techniques and instruments, such as bridges, application of bridges, signal generators, cathode ray oscilloscopes, time domain reflectometers, digital equipment audio testing, group delay and system testing.
The following courses are offered by the Department of Mechanical and Manufacturing Technology:

**Apprenticeship courses**

Part-time day apprenticeship courses in:

- 3212EFG  Fitting and Machining
- 3212EJD  Boilermaking and Structural Steel Fabrication

Each course is structured according to the requirements of the Industrial Training Commission of Victoria.

**Technician courses**

- **M34EEF**  Mechanical
  
  Mechanical courses are divided into 3 streams: Fluid Power, Mechanical Drafting and Plant Maintenance.

- **M34EFA**  Production
  
  This course has a set of core subjects and a selection of specialist elective subjects. These courses provide training in the mechanical and production fields. Several courses are available within each field, and they provide valuable training for apprentices and tradespersons who wish to further their studies. Apprentices, who are taking a technician course concurrently with their trade training, will be required to attend evening classes in addition to daytime trade training. Tradespersons who undertake a technician course will be required, as a general rule, to attend classes on two evenings per week. Some subjects are available in the day-time for students who can arrange release from work. The usual duration of a technician course is four years.

**Certificate of Technology courses**

- **M21EEA**  Mechanical — Continuing students only
  
  Courses are based on a core of basic mechanical subjects and elective streams in Applied Mechanics, Installation and Maintenance, Fluid Power and Building Mechanical Services. These streams provide for the needs of aides to professional mechanical engineers.

- **M21ENA**  Mechanical Design Drafting — Continuing students only
  
  Students who are employed or seeking employment in drawing offices and possess the necessary qualifications may enter this course.

**Further Certificate of Technology course**

- **M22EFA**  Quality Control
  
  A part-time course for those employed in and/or seeking a qualification in quality control.
Welding courses

M42EPA TAFE Basic Welding Certificate Course
This course will qualify people for the welding industry where a basic welding skill only is required. The course also provides basic instruction for progression to the TAFE Intermediate Welding Certificate Course.

M42EJB Electric Welding — Post-trade
This course covers the syllabus prescribed by the TAFE Board to give instruction in all branches of electric arc welding. With a pass mark of sixty-five per cent in both theory and practice, a certificate from the Ministry of Employment and Training (Technical Services Branch) for the welding of pressure vessels may be obtained by the applicant, subject to satisfactory evidence of suitable industrial experience.

Courses incorporate Welding of ferrous and non-ferrous metals, flame cutting and gouging, all-positional welding of plate pipe, rolled and hollow steel section, use of all types of electrodes, weld testing. For arc welding, courses are available for instruction in pressure pipe and stainless steel pressure plate to DL1 standards. The welding section of this department is an approved school of instruction in welding of all phases for the purpose of welding certificates to AS1795.

Career potential
Apprenticeship, Fitting and Turning
Post-apprenticeship courses
Welding courses
Post-apprenticeship courses

4200EFE Post-Apprenticeship Course in Toolmaking
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.

Apprenticeship courses

3212EFG Apprenticeship, 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.

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 the following levels:
Level 1 and 2: Core units
Level 3: Electives
(b) To gain a Certificate of Proficiency, the apprentice must achieve the minimum stated standard at each level. Progression to the elective level requires successful completion of the common core levels.
(c) The common core consists of twenty-two units and seven integrated support units.
(d) The elective level consists of six subject areas of which apprentices are required to successfully complete one.

Unit details
Level 1 — Core units
---
TFC01F 111 Introduction
TFC02F 122 Engineering Material Cut Off Machines
TFC03F 155 Lathe
TFC04F 114 Drill
TFC05F 115 Mill
TFC06F 116 Portable Power Tools
TFC07F 117 Basic Metals
TFC08F 118 Bandsaw

Level 2 — Core units
---
TFC09F 212 Lathe
TFC10F 244 Drill
TFC11F 215 Mill
TFC12F 217 Basic Metals
TFC13F 219 Cylindrical Grinder
TFC14F 210 Heat Joining Processes
TFC15F 211 Assembly Fitting
TFC16F 212 Tool and Cutter Grinder
TFC17F 3M3 Introduction to Numerical Control
TFC18F 214 Surface Grinder
TFC19F 215 Consolidation

Level 3 — Electives
---

Code Stream A Advanced Machining
TFA01F A1 Machining Technology
TFA02F A2 Precision Measurement
TFA03F A3 Tool and Cutter Grinding
TFA04F A4 Advanced Milling
TFA05F A5 Advanced Cylindrical Grinding
TFA06F A6 Advanced Surface Grinding
TFA07F A7 Advanced Lathe Operations
TFA08F A8 Heavy Machining Operations
TFA09F A9 Introduction to Turret and Capstan Lathes

Code Stream N Numerical Control
TFN01F N1 Process Preparation
TFN02F N2L CNC Lathe Programme
TFN03F N3L Produce Machine Data
TFN04F N4L CNC Lathe Component Manufacture
TFN05F N5M Machining Centre Programme
TFN06F N3M Produce Machine Data
TFN07F N4M CNC Machining Centre Component Manufacture
TFN08F N5 Introduction to Conversational and Computer Assisted Programming

Further information: 819 8079
This course is designed to train apprentices in the many practical skills required to carry out their trade.

The course structure is based on a modular basis, each module dealing with a particular skill together with the necessary theory and development drawing. Each area specifies the number of units to be taken. Each unit consists of two to three hours per week of study for a semester (three hours applies where practical work is involved).

This course is studied on a modular basis, each module dealing with a particular skill together with the necessary theory and Developmental Drawing.

### Course detail

<table>
<thead>
<tr>
<th>Code</th>
<th>Stream</th>
<th>Toolmaking</th>
<th>Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFT01F</td>
<td>T1</td>
<td>Engineering Drawing</td>
<td>8</td>
</tr>
<tr>
<td>TFT02F</td>
<td>T2</td>
<td>Metals and Heavy Treatment</td>
<td></td>
</tr>
<tr>
<td>TFT03F</td>
<td>T3</td>
<td>Mechanical Indicators</td>
<td></td>
</tr>
<tr>
<td>TFT04F</td>
<td>T4</td>
<td>Tool and Gauge Making Maths</td>
<td></td>
</tr>
<tr>
<td>TFT05F</td>
<td>T5</td>
<td>Vertical Milling Machines</td>
<td></td>
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<tr>
<td>TFT06F</td>
<td>T6</td>
<td>Pantograph Milling</td>
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<tr>
<td>TFT07F</td>
<td>T7</td>
<td>Linear Measurement Gauges</td>
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<tr>
<td>TFT08F</td>
<td>T8</td>
<td>Tests of Straightness &amp; Squareness</td>
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<tr>
<td>TFT09F</td>
<td>T9</td>
<td>Optical Projectors</td>
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<tr>
<td>TFT10F</td>
<td>T10</td>
<td>Surface Grinding Machines</td>
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<tr>
<td>TFT11F</td>
<td>T11</td>
<td>Linear Measuring Instruments</td>
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<td>TFT12F</td>
<td>T12</td>
<td>External Cylindrical Grinding Machines</td>
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<td>TFT13F</td>
<td>T13</td>
<td>Internal Cylindrical Grinding Machines</td>
<td></td>
</tr>
<tr>
<td>TFT14F</td>
<td>T14</td>
<td>Introduction to Electro Discharge Machining</td>
<td></td>
</tr>
<tr>
<td>TFT15F</td>
<td>T15</td>
<td>NC and CNC Machining</td>
<td></td>
</tr>
</tbody>
</table>

### 3212EJD Boilermaking and Structural Steel 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 3 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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Stream</th>
<th>Toolmaking</th>
<th>Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF601</td>
<td>Module 1</td>
<td>---</td>
<td>Theory and Practice</td>
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<tr>
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<td>TF607</td>
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</tr>
<tr>
<td>TF608</td>
<td>Module 8</td>
<td>---</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>TF609</td>
<td>Module 9</td>
<td>---</td>
<td>Theory and Practice</td>
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<tr>
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<td>Module 11</td>
<td>---</td>
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</tr>
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<td>TF613</td>
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<td>TF614</td>
<td>Module 14</td>
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<td>TF615</td>
<td>Module 15</td>
<td>---</td>
<td>Related Instruction</td>
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<td>TF616</td>
<td>Module 16</td>
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<td>Related Instruction</td>
</tr>
<tr>
<td>TF617</td>
<td>Module 17</td>
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<td>Related Instruction</td>
</tr>
<tr>
<td>TF618</td>
<td>Module 18</td>
<td>---</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>TF619</td>
<td>Module 19</td>
<td>---</td>
<td>Theory and Practice</td>
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<tr>
<td>TF620</td>
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<td>Theory and Practice</td>
</tr>
<tr>
<td>TF621</td>
<td>Module 21C</td>
<td>---</td>
<td>General Fabrication</td>
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<tr>
<td>TF622</td>
<td>Module 22C</td>
<td>---</td>
<td>General Fabrication</td>
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<td>TF623</td>
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<td>TF652</td>
<td>Module 23A</td>
<td>---</td>
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<td>TF653</td>
<td>Module 24A</td>
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<tr>
<td>TF654</td>
<td>Module 21B</td>
<td>---</td>
<td>Pressure Vessel</td>
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<td>TF655</td>
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</tr>
<tr>
<td>TF657</td>
<td>Module 24B</td>
<td>---</td>
<td>Pressure Vessel</td>
</tr>
</tbody>
</table>

### Certificate of Technology Courses

**M21EEA Certificate of Technology — Mechanical**

Career potential
Graduates with a Certificate of Technology — Mechanical are employed as technical assistants, technical officers and works engineers. They are generally concerned with the maintenance of manufacturing equipment in order to maintain a smooth production flow, or with the development and manufacture of new ideas and products. Their field of application covers most industries including metal trades, clothing, food, mining and electrical.

Entrance requirements
For continuing students only.

Course structure
The course consists of thirty units taken from the areas below. Each area specifies the number of units to be taken. Each unit consists of two to three hours per week of study for a semester (three hours applies where practical work is involved).

Membership of associations
Students completing the course are academically qualified for admission as graduate members of the Australian Institute of Engineering Associates.

<table>
<thead>
<tr>
<th>Code</th>
<th>Stream</th>
<th>Toolmaking</th>
<th>Hours/week</th>
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<tr>
<td>TF571</td>
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<td>Engineering Computations</td>
<td>1</td>
</tr>
<tr>
<td>TF511</td>
<td>---</td>
<td>Engineering Principles</td>
<td>3</td>
</tr>
<tr>
<td>TF515</td>
<td>---</td>
<td>Engineering Materials and Processes</td>
<td>1AD, 1BD</td>
</tr>
<tr>
<td>TF516</td>
<td>---</td>
<td>Communication Studies</td>
<td>2</td>
</tr>
<tr>
<td>TF543</td>
<td>---</td>
<td>Industrial Supervision</td>
<td>2</td>
</tr>
<tr>
<td>TF410</td>
<td>---</td>
<td>Electrical Machine Applications</td>
<td>1AD</td>
</tr>
<tr>
<td>TF232</td>
<td>---</td>
<td>Properties of Materials</td>
<td>1AD</td>
</tr>
<tr>
<td>TF130</td>
<td>---</td>
<td>Logic Approach to System Design</td>
<td>1AM, 1BM</td>
</tr>
<tr>
<td>TF375</td>
<td>---</td>
<td>Fluid Machine Applications</td>
<td>1AD</td>
</tr>
<tr>
<td>TF412</td>
<td>---</td>
<td>Thermodynamics and Heat Transfer</td>
<td>1AD</td>
</tr>
<tr>
<td>TF129</td>
<td>---</td>
<td>Costing and Estimating</td>
<td>1AM</td>
</tr>
<tr>
<td>TF561</td>
<td>---</td>
<td>Introduction to Design and Drafting</td>
<td>1BDK</td>
</tr>
<tr>
<td>TF241</td>
<td>---</td>
<td>Mechanical Design and Drafting</td>
<td>1BDK</td>
</tr>
</tbody>
</table>

### Common core subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Stream</th>
<th>Toolmaking</th>
<th>Hours/week</th>
</tr>
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<tbody>
<tr>
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<td>Engineering Computations</td>
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<tr>
<td>TF511</td>
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<tr>
<td>TF515</td>
<td>---</td>
<td>Engineering Materials and Processes</td>
<td>1AD, 1BD</td>
</tr>
<tr>
<td>TF516</td>
<td>---</td>
<td>Communication Studies</td>
<td>2</td>
</tr>
<tr>
<td>TF543</td>
<td>---</td>
<td>Industrial Supervision</td>
<td>2</td>
</tr>
<tr>
<td>TF410</td>
<td>---</td>
<td>Electrical Machine Applications</td>
<td>1AD</td>
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<tr>
<td>TF232</td>
<td>---</td>
<td>Properties of Materials</td>
<td>1AD</td>
</tr>
<tr>
<td>TF130</td>
<td>---</td>
<td>Logic Approach to System Design</td>
<td>1AM, 1BM</td>
</tr>
<tr>
<td>TF375</td>
<td>---</td>
<td>Fluid Machine Applications</td>
<td>1AD</td>
</tr>
<tr>
<td>TF412</td>
<td>---</td>
<td>Thermodynamics and Heat Transfer</td>
<td>1AD</td>
</tr>
<tr>
<td>TF129</td>
<td>---</td>
<td>Costing and Estimating</td>
<td>1AM</td>
</tr>
<tr>
<td>TF561</td>
<td>---</td>
<td>Introduction to Design and Drafting</td>
<td>1BDK</td>
</tr>
<tr>
<td>TF241</td>
<td>---</td>
<td>Mechanical Design and Drafting</td>
<td>1BDK</td>
</tr>
</tbody>
</table>

### Specialist area subjects

(1) Building and Mechanical Services
- Building and Mechanical Services | 2 |
- Building and Mechanical Services | 2 |
- Building and Mechanical Services | 2 |

Total |

(2) Fluid Power
- Fluid Power | 1A, 1B |
- Fluid Power | 2A, 2B |

Total |

(3) Applied Mechanics
- Applied Mechanics | 1AD, 1BD |
- Applied Mechanics | 2AD, 2BD |
- Applied Mechanics | 3AM, 3BM |

Total |
Projects
Students must complete the project relevant to their elected stream satisfactorily before a certificate can be awarded.

TF572  Applied Mechanics Project  1
TF573  Installation and Maintenance Project  1

M21ENA Certificate of Technology — Mechanical Design Drafting

Career potential
Graduates with a Mechanical Design Drafting Certificate are employed as draftspersons, technical assistants, technical officers and project engineers. They work on the design of equipment for the many and varied fields of mechanical and production engineering.

These fields are diverse and include the aircraft and motor car industries, food processing, clothing, footwear, air-conditioning, earth-moving and road construction equipment.

Entrance requirements
For continuing students only.

Membership of associations
Students completing the course are academically qualified for admission as graduate members of the Australian Institute of Engineering Associates.

Course structure

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Unit value</th>
<th>Core subjects</th>
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<tbody>
<tr>
<td>TF455</td>
<td>1</td>
<td>Introduction to Design 1AD</td>
</tr>
<tr>
<td>TF561</td>
<td>2</td>
<td>Introduction to Design and Drafting 1ABD</td>
</tr>
<tr>
<td>TF310</td>
<td>1</td>
<td>Engineering Materials and Processes 1AD</td>
</tr>
<tr>
<td>TF311</td>
<td>1</td>
<td>Engineering Materials and Processes 1BD</td>
</tr>
<tr>
<td>TF571</td>
<td>1</td>
<td>Engineering Computations 1B</td>
</tr>
<tr>
<td>TF315</td>
<td>1½</td>
<td>Engineering Principles 1AD</td>
</tr>
<tr>
<td>TF316</td>
<td>1½</td>
<td>Engineering Principles 1BD</td>
</tr>
</tbody>
</table>

Stage 2

| TF453   | 1          | Design for Economic Manufacture 1AD |
| TF422   | 2          | Mechanical Design and Drafting 1ABD |
| TF225   | 1          | Mechanical Design 1BD |
| TF236   | 1          | Applied Mechanics 1AD |
| TF238   | 1          | Applied Mechanics 1BD |
| TF239   | 1          | Properties of Materials 1AD |
| TF410   | 1          | Electrical Machine Applications 1AD |

Stage 3

| TF445   | 1          | Design for Economic Manufacture 2AD |
| TF469   | 1          | Mechanical Design 2AD |
| TF469   | 1          | Mechanical Design 2BD |
| TF375   | 1          | Fluid Machinery and Applications 1AD |
| TF320   | 1          | Applied Mechanics 2AD |
| TF322   | 1          | Applied Mechanics 2BD |
| TF412   | 1          | Thermodynamics and Heat Transfer 1AD |

Stage 4

| TF481   | 2          | Mechanical Design 3AD |
| TF482   | (a) 3      | Products and Mechanical Plant |
| TF483   | (b) 3      | Structures |
| TF484   | (c) 3      | Process Plant and Pipe Work |

Total 30

Swinburne College of TAFE

M21EFR Certificate of Technology — Manufacturing Engineering

Career potential
The Certificate of Technology — Manufacturing Engineering has been designed to provide Australian Industry with the trained personnel it urgently needs — skilled technologists who have a considerable understanding of the latest manufacturing technologies, equipment and their applications to industry. This course is oriented basically towards the metal trades and related industries, where graduates will find employment.

Entrance requirements
For continuing students only.

Course structure

<table>
<thead>
<tr>
<th>Core subjects</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF570  Engineering Computations 1A</td>
<td>1</td>
</tr>
<tr>
<td>TF571  Engineering Computations 1B</td>
<td>1</td>
</tr>
<tr>
<td>TF116  Communications Studies 1A</td>
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<tr>
<td>TF116  Communications Studies 1B</td>
<td>1</td>
</tr>
<tr>
<td>TF198  Technician Drafting</td>
<td>2</td>
</tr>
<tr>
<td>TF310  Engineering Materials and Processes 1AD</td>
<td>1</td>
</tr>
<tr>
<td>TF311  Engineering Materials and Processes 1BD</td>
<td>1</td>
</tr>
<tr>
<td>TF359  Job and Tool Drafting 1</td>
<td>2</td>
</tr>
<tr>
<td>TF318  Metrology 1T</td>
<td>2</td>
</tr>
<tr>
<td>TF453  Industrial Supervision</td>
<td>1</td>
</tr>
<tr>
<td>TF483  Modern Metal Cutting</td>
<td>1</td>
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<tr>
<td>TF391  Materials Handling 1B</td>
<td>1</td>
</tr>
<tr>
<td>TF351  Computer Aided Design/Computer Aided Manufacture — Basic</td>
<td>1</td>
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Electives

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF384  Specialised Machine Tools</td>
</tr>
<tr>
<td>TF312  Engineering Materials 2A</td>
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<tr>
<td>TF312  Engineering Materials 2B</td>
</tr>
<tr>
<td>TF332  Engineering Processes 2A</td>
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<td>TF332  Engineering Processes 2B</td>
</tr>
<tr>
<td>TF401  Welding and Fabricating 2</td>
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<tr>
<td>TF451  Computer Aided Design/Computer Aided Manufacture — Advanced</td>
</tr>
<tr>
<td>TF452  Robotics</td>
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<tr>
<td>TF491  Materials Handling 2AB</td>
</tr>
<tr>
<td>TF462  Reliability and Prototype Testing</td>
</tr>
<tr>
<td>TF196  Organisation and Management for Quality A</td>
</tr>
<tr>
<td>TF196  Organisation and Management for Quality B</td>
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<tr>
<td>TF464  Product Liability and Product Recall</td>
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<tr>
<td>TF463  Quality Costs and Budgeting</td>
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<tr>
<td>TF421  Electrical Manufacturing Techniques</td>
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<tr>
<td>TF485  Hydraulics and Pneumatics</td>
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<tr>
<td>TF453  Finishing Processes</td>
</tr>
<tr>
<td>TF395  Job Instruction and Presentation</td>
</tr>
<tr>
<td>TF421  Metrology 2A and 2B</td>
</tr>
</tbody>
</table>

Certificate to be awarded on completion of 30 units.

M22EFA Certificate of Quality Control

Career potential
In a highly technological and scientific world almost everything we come in contact with in everyday life is manufactured to a specific level of acceptance, whether it is on a 'one-off', batch or an assembly line basis.

The work of the quality control technologist is to ascertain to what extent the goods produced conform to suitable levels of accuracy and other criteria; thus maintaining the levels of interchangeability, quality, safety and economic feasibility so vital to our manufacturing industries.

The far-reaching effect of tasks performed by quality control technologists include:

a) protecting the consumer against the purchase of faulty manufactured goods,
b) maintenance and promotion of the company’s image and reputation.
The field of application of quality control covers most industries including clothing, metal trades, electrical and food industries. Career opportunities are equally varied.

Entrance requirements
The standard entrance requirements for admission to the course are:

a) Satisfactory completion of a Certificate of Technology or a Certificate of Applied Science with 2 years of relevant industrial experience.

b) Experience and maturity, sufficient to undertake the course, and to be employed in some function of quality control.

Prospective students who do not fit exactly into the category (a) as shown should hot be deterred from applying, as the course is designed to enable students from various fields involved in quality control to complete the Further Certificate.

Duration of course
Two years.

Course structure
The Further Certificate course is structured as follows:

- Core subjects
- Elective subjects
- Broadening subjects

Core subjects

<table>
<thead>
<tr>
<th>Units</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

Elective subjects

<table>
<thead>
<tr>
<th>Units</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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Broadening subjects

<table>
<thead>
<tr>
<th>Units</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

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 in Engineering (Mechanical Design Drafting). The Advanced Certificate may be studied on a full-time or part-time basis.

Core subjects

<table>
<thead>
<tr>
<th>Units</th>
<th>Subjects</th>
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</thead>
<tbody>
<tr>
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Compulsory Subjects

<table>
<thead>
<tr>
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<th>Subjects</th>
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<tbody>
<tr>
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Bridging subjects

<table>
<thead>
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<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For those students not having the necessary prerequisite academic qualifications, a bridging program is to be initially undertaken.

3500ECC Associate Diploma in 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:

Compulsory Subjects

<table>
<thead>
<tr>
<th>Units</th>
<th>Subjects</th>
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</thead>
<tbody>
<tr>
<td></td>
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Broadening Subjects

<table>
<thead>
<tr>
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<th>Subjects</th>
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<tbody>
<tr>
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</table>

Total 18

For those students not having the necessary prerequisite academic qualifications, a bridging program is to be initially undertaken.
**3500EEA Associate Diploma of Engineering (Mechanical)**

Course structure
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>
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<tbody>
<tr>
<td>TD031</td>
<td>Mechanical Design and Drafting 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD032</td>
<td>Mechanical Design and Drafting 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD034</td>
<td>Mechanical Design 2A</td>
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<tr>
<td>TD035</td>
<td>Mechanical Design 2B</td>
<td>1</td>
</tr>
<tr>
<td>TD023</td>
<td>Applied Mechanics 3A</td>
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<tr>
<td>TD029</td>
<td>Applied Mechanics 3B</td>
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</tr>
<tr>
<td>TD030</td>
<td>Final Project (Applied Mechanics)</td>
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</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.

**Core Subjects**
They are the same as the Advanced Certificate (Mechanical Engineering).

**Compulsory Subjects**

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
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<tbody>
<tr>
<td>TD039</td>
<td>CAD/CAM Basic</td>
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<tr>
<td>TD041</td>
<td>Robotics</td>
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<td>TD040</td>
<td>CAD/CAM Advanced</td>
<td>1</td>
</tr>
<tr>
<td>TO042</td>
<td>Production Planning and Control 1A</td>
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</tr>
<tr>
<td>TO043</td>
<td>Production Planning and Control 1B</td>
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<tr>
<td>TO044</td>
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</tr>
<tr>
<td>TO045</td>
<td>Production Planning and Control 2B</td>
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Sub Total 8

**Elective Subjects**
Elective subjects must be selected to a value of four units from the following:

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<th>Units</th>
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</thead>
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<tr>
<td>TD048</td>
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<tr>
<td>TD056</td>
<td>Numerical Control 2</td>
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</tr>
<tr>
<td>TD048</td>
<td>Materials Handling 1A</td>
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<tr>
<td>TD047</td>
<td>Materials Handling 1B</td>
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</tr>
<tr>
<td>TO052</td>
<td>Jig and Tool Drafting 1A</td>
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<tr>
<td>TO053</td>
<td>Jig and Tool Drafting 1B</td>
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<tr>
<td>TO050</td>
<td>Fluid Power 1</td>
<td>1</td>
</tr>
<tr>
<td>TO051</td>
<td>Fluid Power 2</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 4

**Broadening Subjects**
Six broadening units must be selected.

Total 36

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**4200EFE Post-apprentice Course in Toolmaking**

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.

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-TFT02F (level 3 (toolmaking stream))
Fitting and Turning course.

2nd stage
TF511F Press-toolmaking Theory 1
TF512F Press-toolmaking Pract. 1

3rd stage
TF513F Press-toolmaking Theory 2
TF514F Press-toolmaking Pract. 2
Welding courses

3222EPA Certificate in Basic Welding

Objectives
(a) To qualify personnel for the welding industry where a basic welding skill only is required.
(b) To provide 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.

Course structure
- Module TW001: Manual Metal Arc Welding
- Module TW002: Gas Metal Arc Welding
- Module TW003: Gouging
- Module TW004: Flame Gas Welding
- Module TW005: Practice Associated Theory
- Module TW006: Additional Theory
- Module TW007: Basic Welding Exam

4200EPA Intermediate 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 as training objectives based on the Systems Approach to Training.

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
- Module TW008: Manual Metal Arc Welding
- Module TW009: Gas Metal Arc - Flux Core Arc Welding
- Module TW010: Allied Cutting Processes
- Module TW011: Practice Associated Theory
- Module TW012: 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.

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.

Further Information: 819 8504

Fitting and Turning (Apprentices)
Level 1 Core Units
TFC01F Unit 1/1 Introduction to local safety requirements. Measuring equipment. Reading engineering drawings. Marking out. Hand tools.

TFC02F Unit 1/2 Power hacksaws. Circular metal cutting saws. Maintenance of the equipment.


TFC05F Unit 1/5 Milling machines. Face milling. Generating a square. End mills and dove-tail cutting. Direct indexing.

TFC06F Unit 116 Portable power tools.

TFC07F Unit 1/7 Basic metals used in engineering. Properties and uses. Manufacturing processes.

TFC08F Unit 1/8 Vertical bandsaw operations. Routine maintenance of equipment. Safety when operating bandsaw.

Level 2 Core Units

TFC10F Unit 214 Tapping. Drilling and reaming using jigs.


TFC12F Unit 217 Alloying elements in steel. Metal testing and testing machine. Application of metals.

TFC13F Unit 219 Parallel grinding, stepped shaft. Inspection.


TFC16F Unit 212 Tool and cutter grinding. Grinding a square threading tool (external).

TFC17F Unit 213 Introduction to numerical control. Absolute incremental programming. G codes.


TFC10F Unit 2115 Consolidation test. External theory and practical examination.

Level 3 Electives
Stream A — Advance Machining

TFA02F Unit A2 Precision measurement. Define system of measurement and standards of accuracy. Define the relationship between tolerance, surface finish and machining process. Define sources of error and workshop measurement. State difference between direct, comparative and gauge measurement.


Level 3 Electives
Stream J — Composite FMA
TFJ01F Unit 1 Fundamentals of Fluid Power Systems
Control diagrams, comparison of mediums, applications, definitions, safety precautions, power packs, air supply components, symbols.

TFJ02F Unit 2 Pneumatic Systems
Compressor types and application, air receivers, air service units, air dryers, air supply, working elements, valves, circuit diagrams, pressure gauges, construction of pneumatic circuits, basic electrical control.

TFJ03F Unit 3 Hydraulic Systems
Basic principles, reservoirs, filters, pumps, hydraulic fluids, cylinders, valves, speed control, motors, accumulators, construction of hydraulic circuits — theory and practical, graphic symbols.

TFJ04F Unit 4 General and Maintenance Fitting
Machine guards, fasteners, glues, crack detection, fault finding, reconditioning equipment, feather keyway, stud removal.

TFJ05F Unit 5 Power Transmission
Belt drives, chain drives, gear drives, shaft couplings, clutches, brakes, mechanical appreciation, lubrication.
TFJ06F Unit 6 Maintenance Machining
Limits and fits, pump shaft, vee pulley, cylindrical grinding, surface grinding.

TFJ07F Unit 7 Precision Measurement
Measurement systems, tolerances — surface finish, sources of error, direct and comparative measurement.

Level 3 Electives
Stream N — Numerical Control

TFN01F Unit N1

TFN02F Unit N2L
CNC Lathe programme. Write a programme for the lathe. Various jobs imagined.

TFN03F Unit N3L
Produce machine data. Produce paper tapes for the lathe. Check the tapes before using on the lathe.

TFN04F Unit N4L
CNC lathe component manufacture. Manufacture components from the prepared tapes.

TFN05F Unit N2M
Machining centre programme. Milling machine introduction to the CNC Milling M/C. Programming differences to the CNC lathe.

TFN06F Unit N3M
Producing the necessary information to write a programme. Trigonometry calculations. Producing the tape for the CNC mill.

TFN07F Unit N4M
Manufacturing a component on the CNC mill, using the programmes prepared.

TFN08F Unit N5
Introduction to the use of computer assisted programming — "Auto Cad".

Level 3 Electives
Stream T — Toolmaking

TFT01F Unit T1

TFT02F Unit T2

TFT03F Unit T3
Mechanical indicators and electronic length measuring systems.

TFT04F Unit T4
Tool and gauge making mathematics. Trigonometry calculations using sine, casine and tangent ratios.

TFT05F Unit T5

TFT06F Unit T6

TFT07F Unit T7

TFT08F Unit T8
Test for straightness and squareness. Master squares and engineers squares. Types and uses for straight edges. How to test for squareness and straightness.

TFT09F Unit T9
Optical projectors. Principles of operation.

TFT10F Unit T10

TFT11F Unit T11

TFT12F Unit T12

TFT13F Unit T13

TFT14F Unit T14

TFT15F Unit T15

TF511F Press Toolmaking Theory 1
TF512F Press Toolmaking Practice 1
TF511F/ Theory/Practice 12F

TF513F Press Toolmaking Theory 2
TF514F Press Toolmaking Practice 2
TF514F Press Toolmaking Practice 2
TF514F Press Toolmaking Practice 2
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 and acceptance sampling, design of experiments, failure modes, verification of statistical sampling results, cumulative cause and effects, test 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 comparisons, 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, administrative 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, product recall, codes, 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, contract/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.

TD001/021003 Engineering Practices 1
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
Workshop safety. Welding practices and inspection and testing of welds, methods of welding.

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 formulae; functions and graphs.

TD011 Engineering Computations 1B
To develop an understanding of the use of logarithmic notation and graphs in engineering.

TD012 Computer Studies
Introduction to computers. Peripherical equipment. Operating systems, principles 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 mechanics and their applications, detail drawings, assembly drawings, auxiliary views, basic solid geometry.

TD018 Communication Skills 1A
The examination of methods of collecting, organising, evaluating and presenting factual information. Oral presentation, report writing, letters, memos and media analysis.

TD019 Communication Skills 1B

TD020 Engineering Principles 1A
Forces, vectors, kinematics of linear, curvilinear and circular motion, Newton's Laws, kinetics of motion.

TD020 Engineering Principles 1B
Moments, torque, friction, equilibrium, work energy and power, momentum, machines, sound.

TD023 Statistics
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.
The application of principles of mechanics to multi-element systems; analysis of positive and non-positive drive systems.

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.

The study of machine frames, mechanisms, balancing reciprocating masses, rotational speed variation and control, pressure vessels, strain gauges.

Development of the drafting skills and knowledge of equipment required for the process plant and piping industry.

The application of the fundamentals of engineering principles and applied mechanics in the design of steel structures in accordance with the relevant Australian standards.

The application of the fundamentals of engineering principles and applied mechanics to the analysis of design problems and machine elements.

The application of the fundamentals of engineering principles and applied mechanics in the design of multi-element systems, in particular those allied to power transmission.

The study of machine frames, mechanisms, balancing reciprocating masses, rotational speed variation and control, pressure vessels, strain gauges.

The principles of pneumatics. Components, symbols, control methods and application. The design of circuits and an introduction to electrical control methods.

The principles of hydraulics. Components, symbols, control materials and applications. The design of circuits using calculations for component sizing and selection.

The elements of milling and turning fixtures. The design of a milling fixture and turning fixture and drawing to Australian Standards.

Introduction to numerical control. The planning procedure, preparation and writing of manual part programs for a CNC lathe and machining centre.

Theory and applications related to generation and use of steam, heat transfer, selection of air compressors and internal combustion engines, combustion of fuels.

Study of basic thermodynamic properties, the relationship of perfect gases, thermodynamic cycles and steam plant.

Boilermaking

TF601 Module 1
Introduction to the trade, lifting and lowering by hand, stacking of materials correctly, identification and use of electrical switches, selection and method of slinging, crane hand signals.

TF602 Module 2
Calculation of circumferences and diameters of circles, marking out constructions, identification and use of fire extinguishers, oxyacetylene welding and cutting. Safety precautions for confined spaces, hazardous locations and containers.

TF603 Module 3

TF604 Module 4
Flame-cutting, beveling and piercing by hand, flame-cutting various sections and welding preparations. Straight line flame-cutting machine, profile flame-cutting machine, flame-cutting processes, machines and applications.
TF605 Module 5
Protective clothing and accessories for electric welding. Selection of electrodes by classification, electric welding techniques and exercises. E) basic terms associated with all type of joints. Weld defects.

TF606 Module 6
General terms associated with gas welding and brazing. Types of joints, weld defects. Low temperature brazing. Flat butt and corner gas welds. Flat brazing and bronzing.

TF607 Module 7

TF608 Module 8

TF609 Module 9
Drilling, selection and use of portable grinders, dressing grinding wheels, distortion control, straightening by contra-heating.

TF610 Module 10
Flame-gouging, flame-cutting and piercing heavy plate. flame-cutting profile shapes, safety precautions when using compressed gases.

TF611 Module 11
Fabrication of pressed channel, calculations, forming of cylinders and sections, hopper fabrication.

TF612 Module 12
Layout and fabrication of pipe hardnail, fabrication of truss panel point, layout and fabrication of pipe branch.

TF613 Module 13
Marking out cutting and fabrication of column, fabrication and assembly of taper flange beams.

TF614 Module 14
Characteristics of electric welding current, electrode selection and characteristics. Electric welding techniques, fillet, multipass, horizontal pad, butt, plate to sections.

TF615 Module 15
Gases for MIG and TIG welding. Arc welding techniques on MIG, TIG and submerged arc. MIG fillet and butt welds. TIG welding outside corner, submerged arc butt weld. Arc-air gouging.

TF616 Module 16
Development of flat and curved surfaces, exercises in the development of oblique cylinder, pipe gusset, conical sections, off-set hoppers, rectangular to round transition pierce, lobster-back bend pipe branch templates.

TF617 Module 17

TF618 Module 18
Heat treatment, heating and temperature measurement. Trade materials, properties and uses. Steels for pressure vessels and structural purposes.

TF619 Module 19

TF620 Module 20
Use of numerical control machines in the metal fabrication industry. High strength structural bolting. Fabrication of bolted splice joint.

Alternative Modules — General Fabrication
21C-24C
TF621 Module 21C
Marking off and laying out.

TF622 Module 22C
Fabricating.

TF623 Module 23C
Assembly.

TF624 Module 24C
Welding, bolting, testing and inspection of completed job. Fabrication models in the General Fabrication Stream are:
(a) Two flight right hand conveyor screw
(b) 30° set-on pressure pipe branch off-set
(c) Stairway and handrail
(d) Aggregate screen loading chute
(e) Portal frame

Alternative Modules — Structural 21A-24A
TF650 Module 21A
Marking off and laying out.

TF651 Module 22A
Fabricating.

TF652 Module 23A
Assembly.

TF653 Module 24A
Welding, bolting, testing and inspection of completed job. Fabrication models in the Structural Stream are:
(a) Portal frame
(b) Conveyor bridge
(c) Stairway and handrail

Alternative Modules — Pressure Vessel 21B-24B
TF654 Module 21B
Marking off and laying out.

TF655 Module 22B
Fabricating.

TF656 Module 23B
Assembly.

TF657 Module 24B
Welding, bolting, testing and inspection of completed job. Fabrication models in the Pressure Vessel Stream are:
(a) 30° set-on pressure pipe branch
(b) Head exchanger

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.

Basic Welding Modules
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 to end butt. Pipe to plate braze. Flat bronze weld on cast Iron.

TW005  Module 5 (Practice Associated Theory)  

TW006  Module 6 (Additional Theory)  

Intermediate Welding Modules

TW007  Module 7 (Manual Metal Arc Welding)  
Pad, fillet and butt welding with various types of electrode.

TW008  Module 8 (Gas Metal Arc Welding/Flux Cored Arc Welding)  
Vertical fillet (FCAW) pipe butt-horizontal fillet (GMAW) stainless steel flat butt (GMAW).

TW009  Module 9 (Gas Tungsten Arc Welding)  
Various butt welds in steel. Flat butt weld in Aluminium.

TW10  Module 10 (Cutting Processes)  
Plasma cutting. Flame pipe bevelling by machine. Mechanical bevelling.

TW11  Module 11 (Prac Associated Theory)  

TW12  Module 12 (Additional Theory)  
Production of Iron and Steel. Alloying elements. Pre-heating, weldability and characteristics of Stainless Steel, Aluminium, Copper and Copper alloys.

TW26  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. After successful completion of this test, application may be made for the TAFE Intermediate Welding Statement of Attainment.

Proficiency Welding Course

TW13  Module 13 (Manual Metal Arch Welding)  
Fillet and butt welds with Hydrogen controlled electrodes. Vertical fillet — Chrome, Nickel, Steel.

TW14  Module 14 (Submerged Arc Welding)  
Flat fillet. Flat butt.

TW15  Module 15 (Gas Metal Arc Welding/Flux Cored Arc Welding)  
Vertical fillet aluminium (GMAW). Horizontal butt (FCAW). Rolled section to plate (GMAW).

TW16  Module 16 (Gas Tungsten Arc Welding)  
Horizontal fillet aluminium. Pipe butt Axis vertical.

TW17  Module 17 (Practice Associated Theory)  

TW18  Module 18 (Additional Theory)  
Welding economics and costing. Cast iron — types, characteristics, weldability. Heat treatment — applications, temperature measuring devices, Mechanical properties.

TW25  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. After successful completion of this test, application may be made for the TAFE Basic Welding Certificate.

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. After the successful completion of this test, application may be made for the TAFE Proficiency Welding Statement of Attainment.

Centre for Engineering Technology:

Authorised AutoCAD Training Centre

Manager  
L.J. McLaughlan

Academic Staff  
G. Oliver (Course Co-ordinator)
H. Ramaekers
F. Stroude

Communications Engineer  
J. Perry

Technical Officer  
S. Fisher

The Centre for Engineering Technology was established in 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

Current offerings in short courses are:

- CAD Skills
  - Introductory course. No experience necessary.
  - Advanced CAD
    - Digitising, attributes, isometrics and 3D drafting.
  - CAD Programming
    - Shapes, hatch patterns, tablet menus, autoLISP.
  - Manufacturing with AutoCAD
    - A CAD and CAM course using AutoCAD and CAMPAC for transferring drawings to NC machine tools.
  - Electronic Design
    - PCB automated design, photoplotting.
  - Numerical Control
    - Use of NC machines.
  - Robotics
    - The use and safety of robots.

The Centre is also in the process of developing short courses in the area of CAE and CIM.

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. For further information contact the Secretary on 819 8079.
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D. Holmes, BA, DipEd
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O. Pavlov, BA(Hons), TTTC
D. Poyser, BA, DipEd
L. Price, DipPhysEd, DipMovement and Dance, DipCAREERS
A. Prins, BA, BEd(Hons)
A. Redpath, BA, DipEd, GradDip, TEFL
R. Rivett, BA(Hons), BEd, GradDipSecStud
C. Sharp, BA, DipEd
M. Strefford, BA, TPTC, RSA, TEFLCert
N. Vallins, BA(Hons), SecTeachersDip
K. Wiltshire, BA, BEd
The Social and Applied Sciences Division consists of three departments as follows:

**Access Education**

The Department provides 1:1 and/or small group tuition to students enrolled in all Swinburne courses who may have problems coping with the English and/or mathematics components of their courses. Lack of skills in English and/or mathematics may affect students’ progress in the range of subjects which make up their courses. Adult members of the local community can also avail themselves of mathematics and English tuition. Such tuition is liable on an individual or small group basis, via a range of community access programs.

The following courses are offered:

- C45LDB Volunteer Tutor Training
- C45LVP Vocational Preparation Program
- C45LPB Basic Studies Program

**Programs for Students with Disabilities**

- Mildly Intellectually Disabled Students
- C52LDB Basic Studies Program (Special)
- C52LZE Vocationally-oriented Evening Classes
- C52LZT Home Career Train
- Hearing Impaired Students
- C51LDB Basic Studies Program

**Applied Science Department**

The Department has responsibility for the Associate Diplomas of Applied Science (Laboratory Technology) and (Fire Technology) and the Advanced Certificate of Applied Science (Laboratory Technology). In addition, it offers the Victorian Certificate of Education (TOP) science and engineering programs, a bridging technology program including Women’s Bridging Science and a range of short courses in computing and fire technology. Short courses in scientific instrumentation are managed through the National Scientific Instrumentation Centre (NSITC). Further information is available from the respective department.

**Applied Science Programs:**

- 3500ABB Associate Diploma of Applied Science (Laboratory Technology)
- 3500AHB Associate Diploma of Applied Science (Fire Technology)
- 3300ABB Advanced Certificate of Laboratory Technology
- 2200AZY Bridging Technology
- 2200A2G VCE(TOP) Science/Engineering full-time
- 2200A2Z VCE(TOP) Science/Engineering part-time
- 2200ZLB VCE(HSC) Part-time

**Social Science and Humanities Department**

The Department has responsibility for the Humanities and Business streams of Victorian Certificate of Education, VCE(TOP) and for VCE(HSC) courses. In addition, it offers the Arts Preparatory Program — a bridging humanities program which can lead to tertiary entry — a Child Care course and a number of short courses.

The Department offers the following courses:

- 2200LZA VCE(TOP) Humanities/Business — full-time
- 2200LZB VCE(TOP) Humanities/Business — part-time
- 2200YPR VCE(NCH) Full-time and part-time
- 2200LZC Arts Preparatory Program
- 2200LZD Migrant English Access

**Social & Community Services Courses**

- 3222FA Child Care Assistant Course
- 3219CR Home Careers Training Course
- Community Information Workers’ Course

**English Language Assistance**

The Access Education Department offers English language assistance to all Swinburne students of non-English speaking background. Tuition is available for individuals or small groups, via lunchtime conversation classes and by attendance at the English Language Self-Access Area. This facility enables students to work independently on specific skills, especially listening, reading and writing.

**Short Courses**

The Division will offer a range of short courses in recreational and vocational areas. The courses from the Social Science & Humanities Department may include Report Writing, Interviewing Skills, Retirement Studies and Basic Photography.

**ELICOS Programs**

Swinburne is accredited by the Australian Government as a Centre to provide English Language Intensive Courses for Overseas Students. The courses develop and extend written and spoken English skills in preparation for future academic studies in business, engineering and science. The ELICOS courses are of 6, 10, 20 and 30 weeks’ duration. Emphasis in the programs is on preparing students for undergraduate, postgraduate and Foundation Year studies within an English language context.

**Traineeships**

The Australian Traineeship System is a form of vocational training for young people which gives benefits to industry by increasing skills in young workers. Students in the scheme combine on-the-job training with selected employers, with a 13 week off-the-job training spread throughout one year at TAFE. Swinburne is one of a number of participating TAFE providers.

The Commonwealth Government makes available training funds to both employers and TAFE, while the State Government is responsible for approving and monitoring these arrangements and issuing Traineeship Certificates.

Students are between 15 and 19 years and most have left school before Year 12. Some are classified as disadvantaged because of a range of handicaps.

Swinburne offers Trainees the equivalent of a Year 11 course with Year 12 and post secondary options available where required. In 1989, Swinburne TAFE (Department of Business Studies) had 112 Office/Finance Trainees and Applied Science Department had 18 Fire Technology Trainees. Swinburne TAFE Department of Humanities and Social Science offer these subjects to Trainees; Working Environment, Communications at Work and Social Development. These subjects require a total of 4 hours of class time per week for each group. It is a feature of the training that much of the classroom teaching is immediately applicable to work situations, and teachers and employers maintain a liaison throughout the training period.

**Swinburne College of TAFE**

The Social and Applied Sciences Division consists of three departments as follows:

**Access Education**

The Department provides 1:1 and/or small group tuition to students enrolled in all Swinburne courses who may have problems coping with the English and/or mathematics components of their courses. Lack of skills in English and/or mathematics may affect students’ progress in the range of subjects which make up their courses. Adult members of the local community can also avail themselves of mathematics and English tuition. Such tuition is liable on an individual or small group basis, via a range of community access programs.

The following courses are offered:

- C45LDB Volunteer Tutor Training
- C45LVP Vocational Preparation Program
- C45LPB Basic Studies Program

**Programs for Students with Disabilities**

- Mildly Intellectually Disabled Students
- C52LDB Basic Studies Program (Special)
- C52LZE Vocationally-oriented Evening Classes
- C52LZT Home Career Train
- Hearing Impaired Students
- C51LDB Basic Studies Program

**Applied Science Department**

The Department has responsibility for the Associate Diplomas of Applied Science (Laboratory Technology) and (Fire Technology) and the Advanced Certificate of Applied Science (Laboratory Technology). In addition, it offers the Victorian Certificate of Education (TOP) science and engineering programs, a bridging technology program including Women's Bridging Science and a range of short courses in computing and fire technology. Short courses in scientific instrumentation are managed through the National Scientific Instrumentation Centre (NSITC). Further information is available from the respective department.

**Applied Science Programs:**

- 3500ABB Associate Diploma of Applied Science (Laboratory Technology)
- 3500AHB Associate Diploma of Applied Science (Fire Technology)
- 3300ABB Advanced Certificate of Laboratory Technology
- 2200AZY Bridging Technology
- 2200A2G VCE(TOP) Science/Engineering full-time
- 2200A2Z VCE(TOP) Science/Engineering part-time
- 2200ZLB VCE(HSC) Part-time

**Social Science and Humanities Department**

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**Short Courses**

The Division will offer a range of short courses in recreational and vocational areas. The courses from the Social Science & Humanities Department may include Report Writing, Interviewing Skills, Retirement Studies and Basic Photography.

The Applied Science Department will offer short courses in Fire Technology, Laboratory Safety and Computing. Courses in Scientific Instrumentation will be offered through the National Scientific Instrumentation Centre (NSITC). Details on NSITC short courses may be obtained by contacting the Manager, Dr. Jon Hall, on 819 8379.

Further information is available from the respective departments. Courses will be advertised in the public press and by leaflet distribution to community and industrial organisations.

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**Swinburne College of TAFE**
VCE(TOP) & VCE(HSC) COURSES

For entry into full-time VCE(TOP) & VCE(HSC) courses, preference is given to applicants who are over 18 years of age and have been away from study for at least 12 months.

Victorian Certificate of Education (Tertiary Orientation Program)

The VCE (Tertiary Orientation Program) 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, art, applied science, business and engineering of Swinburne Institute of Technology.

The program is studied in a tertiary environment. First class educational facilities are available: these include library, audio-visual, computer, student amenities and counselling. Experienced teaching staff maintain a close liaison with staff in the tertiary division.

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 part-time day and evening students.

The business VCE(TOP) course comprises English, Accounting, Economics, General Mathematics and Legal Studies. The humanities VCE(TOP) course covers a range of subjects offered, in different combinations.

The science VCE(TOP) course offers courses in:

- Computer Science
- Science

Before choosing subjects, students, especially part-time, are advised to check if subjects are for tertiary courses, in which they may be interested.

Various assessment procedures are used. Assessment is regarded as a continuous function and is not based solely on performance in formal examination.

Subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH001</td>
<td>Themes in Australian History</td>
</tr>
<tr>
<td>TH003</td>
<td>Art in Society</td>
</tr>
<tr>
<td>TH010</td>
<td>English</td>
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<tr>
<td>TH011</td>
<td>English Literature</td>
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<tr>
<td>TH015</td>
<td>History of Western Civilisation</td>
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<tr>
<td>TH020</td>
<td>Introduction to Politics</td>
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<tr>
<td>TH032</td>
<td>Media Studies</td>
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<tr>
<td>TH035</td>
<td>Study of Ideas</td>
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<tr>
<td>TH055</td>
<td>Society, Technology and Change</td>
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<tr>
<td>TH060</td>
<td>English as a Second Language</td>
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<tr>
<td>TH065</td>
<td>Women in Society</td>
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<tr>
<td>TH075</td>
<td>Psychology</td>
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<tr>
<td>TM004</td>
<td>Biology</td>
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<tr>
<td>TM005</td>
<td>Chemistry</td>
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<tr>
<td>TM026</td>
<td>Mathematics (Science)</td>
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<tr>
<td>TM027</td>
<td>Concepts of Mathematics</td>
</tr>
<tr>
<td>TM028</td>
<td>Computer Studies</td>
</tr>
<tr>
<td>TM030</td>
<td>Mathematics (General)</td>
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<tr>
<td>TM040</td>
<td>Physics</td>
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<tr>
<td>TS006</td>
<td>Legal Studies</td>
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<tr>
<td>TS007</td>
<td>Economics</td>
</tr>
<tr>
<td>TS009</td>
<td>Accounting</td>
</tr>
</tbody>
</table>

2200LZB Victorian Certificate of Education (Higher School Certificate)

In 1990 Group 1 VCE(HSC) subjects will be offered from those listed below.

Classes will be held in the evenings and on three mornings, Monday to Thursday, and will generally be of three or four hours duration per week, starting at 6:00p.m. This arrangement is suitable for adult students.

Subjects

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>TH910</td>
<td>Australian History</td>
</tr>
<tr>
<td>TH911</td>
<td>English</td>
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<tr>
<td>TH912</td>
<td>English Literature</td>
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<tr>
<td>TH913</td>
<td>Human Development and Society</td>
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<tr>
<td>TM924</td>
<td>Biology</td>
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<tr>
<td>TS001</td>
<td>Accounting</td>
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<tr>
<td>TS002</td>
<td>Economics</td>
</tr>
<tr>
<td>TS003</td>
<td>Legal Studies</td>
</tr>
</tbody>
</table>

Enquiries

Information Office, 819 8444

Humanities/Business, 819 8370
Science/Engineering, 819 8378

Victorian Certificate of Education (Tertiary Orientation Program) subject details

Students are advised not to purchase textbooks or references until classes commence.

TH001 Themes in Australian History

Covers the period 1750-1945. The topics are planned to explore developments in Australian history and whether they have persisted, changed or become myths. Students have the opportunity to do further research into topics of particular interest to them. Primary material is basic and wider reading encouraged.

TH003 Art In Society

This subject is equally divided between a historical and theoretical study of art (particularly modern art) and practical art (five hours per week).

Theory

The syllabus is designed to introduce students to the study of art in its social context, to encourage an understanding of art on a broader scale, and to encourage the interest and abilities of each individual (two hours per week).

Practical

Painting and drawing are developed through exercises, individual projects, and class discussion. Elected media are approached through individual projects decided on by consultation between teacher and student (three hours per week).

TH010 English

The course requires the student to read widely, research topics and form judgements. Developing the skills of comprehension, thinking and writing, forms the basis of the course. A wide range of written work is covered including essay, original writing and critical evaluation. Oral communication is emphasised, involving practice in short reports, discussions and debates. In second semester a choice may be made from media, drama, literature and writing as determined by negotiation between student and teachers.

TH011 English Literature

This course aims to extend, deepen and enrich the student's experience and awareness of themselves and the world in which they live, through reading, discussing and writing about literature. English Literature is a four-hour a week course which involves the study of two novels, two plays (one of which is a Shakespearean play), short stories and poetry. As well, students choose one text for study. Eighty per cent of work is assessed during the year. Twenty per cent comes from a final examination.

Textbook

McKensrie, J.A. and J.K. (eds.) The World's Contracted Thus. Melbourne: Heinemann Educational Australia Pty. Ltd. Other texts will be chosen according to class interest/needs.
TH015 History of Western Civilisation

History of Western Civilisation is a course of study through which students develop tertiary skills of interpretation, analysis, synthesis and evaluation. The subject serves as a broad introduction to history as a mode of enquiry at a tertiary level, by adopting a problem-solving approach. The subject enables students to understand better the modern western world through an historical study of the major developments of Western Civilisation.

TH020 Introduction to Politics

The course is designed to allow students to make a study of certain aspects of Australian politics and international relations. The emphasis is on political forces, procedures and machinery. The nature, elements and interaction of politics are questioned. Comparisons are made with the United States system.

TH032 Media Studies

Media studies involves a study of film, radio, television and journalism. The course particularly involves a critical, historical and appreciative analysis of film in the second semester. The course also includes components of practical video, radio and still photography work in the second semester.

TH045 Study of Ideas

This course has two main aspects.

1. A range of ideas will be introduced to the students to develop their philosophical and critical thinking skills. The course aims to equip students with ideas and skills that will enable them to cope with the requirements of future studies.

2. The study of ideas will also enable students to gain an appreciation of the philosophical and critical thinking skills which are essential in the acquisition of knowledge and the development of human beings. There will be emphasis on the clarification of values in this aspect of the course.

TH055 Society, Technology and Change

An introduction to sociology with particular emphasis on the issue of the impact of technology on society. The subject consists of a theory unit, which deals with sociological issues and the impact of new technology, and a practical component which deals with research methods, data collection and analysis. Some computer work is also possible for students with an appropriate background.

TH060 English as a Second Language (ESL)

A course which 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 students to read critically a wide range of materials, to write in a variety of styles, to speak confidently and to listen effectively. The course also aims to introduce students to Australian and other relevant literature, and to develop an understanding of Australian cultural heritage.

TH065 Women in Society

This subject offers an interdisciplinary approach to the study of women in society. Topics in the core include the emancipation of women, historical perspective, biological and behavioural sex differences, gender roles and socialisation, images of men and women in the arts, and other relevant literature. To develop an understanding of Australia’s cultural heritage.

TH075 Psychology

Psychology is the scientific study of human behaviour and the mind. Students will gain awareness of some of the factors that influence human behaviour and development. They will be introduced to such fundamental concepts as learning, emotion and perception with the emphasis being on a better understanding of themselves and others. Another major component of the course is the scope and method of psychology and will show students how human behaviour is examined and investigated. The acquisition of theory is reinforced with practical exercises and activities.

TM004 Biology

The intention in this course is to investigate in a practical way, what takes place in the individual organism and with the ways in which the characteristics of the organism are determined and passed from one generation to the next. A previous study of biology is recommended but not compulsory.

Course structure

Unit 1
1. Scientific method and (b) Cellular activities
2. Scientific observations
3. Characteristics of life
4. Experimental methods

Unit 2
1. Diversity and classification
2. Plant structure and function
3. Comparison of plant and animal types and needs
4. Photosynthesis and autotrophic design
5. Transport systems — phloem and xylem
6. Structure and function

Unit 3
1. Genetics and (b) Natural selection and evolution
2. Cell division (mitosis and meiosis)
3. Origin of different alleles
4. Predicting the results of a cross: — one gene pair
5. — multiple alleles
6. — sex-linked inheritance
7. Changing gene frequencies
8. Evidence for natural selection
9. Darwin’s discoveries
10. New species from old: isolation and evolution; other mechanisms
11. Homo sapiens; human characteristics; human origins

Duration: Five hours per week (all in the Biology)

Assessment:
1. Laboratory tests: 4 x 10% 40%
2. Two (2) special assignments: 2 x 10% 20%
3. Practical reports: 40%

TM005 Chemistry

This subject concluded five hours per week, three hours of theory and a two-hour practical session in the laboratory. Prerequisite, Year 11 applied science standard chemistry

Course structure

Unit 1
1. Stoichiometry
2. Chemical bonding

Unit 2
1. Equilibria

Unit 4
1. Organic chemistry

Duration: Three hours of theory and two hours of laboratory work per week.

Assessment: Each topic is concluded with a two-hour theory exam, which carries 80% of the marks for that unit. Assessment of practical work constitutes the remaining 20% of the unit assessment. A pass must be gained in the practical work to pass the unit.

Students are expected to wear sensible clothing in the laboratory including covered-in shoes. A laboratory coat and safety spectacles must also be worn at all times during the practical session.
TM026 Mathematics (Science)
Prerequisite, Year 11 applied science standard mathematics.
This subject is recommended for all science/engineering VCE(TOP) students who intend to enrol in engineering and applied science courses in tertiary institutions.

Course structure
Unit 1
Investigating space
Co-ordinate geometry — straight lines and conic sections
Polar co-ordinates
Complex numbers
Vectors
Examination
Unit 2
Change
Differentiation
Curve sketching
Circular functions
Exponential and logarithmic functions
Examination
Unit 3
Integration
Integration — techniques
Applications of integration — volume
— RMS, average
— vectors
Examination

Duration: Five hours per week
Assessment: Two-hour examination at the completion of each unit
Attendance at all examinations is compulsory.
A scientific calculator is essential

TM027 Concepts of Mathematics
Prerequisite, Year 11 applied science standard mathematics

Course structure
Unit 1 (7 weeks)
The sample space in probability and introduction to computing
Set theory
Permutations and combinations
Boolean algebra
Computing structures
Operating system
Introduction to programming
Unit 2 (8 weeks)
Probability, statistics and computer programming
Probability
Statistics
Programming in BASIC
Unit 3 (8 weeks)
Linear algebra and computer applications
Matrix theory
Linear systems
Linear programming
Markov chains
Game theory
Social implications of computer technology
Programming applications to limits and series
Unit 4
Sequences and computer software applications
Curve fitting
Arithmetic and geometric progressions
Mathematics of finance
Applications of spreadsheets
Duration Five hours per week for each unit.
Assessment: A two-hour exam at the end of each unit and two computer assignments per unit.

TM028 Computer Studies
The aim of this course is:
(a) to give students an insight into the method of working of computer hardware and software components,
(b) to improve the students’ understanding of logical processes and their ability to solve problems,
(c) to develop the ability to recognise problems which can be solved by readily available software and the skills needed to use such software,
(d) to teach the elements of programming language,
(e) to develop the skills to devise algorithms to solve specific problems and the translation of those algorithms into a programming language,
(f) to familiarise the student with the concepts of data manipulation and file handling,
(g) to teach the elements of database management,
(h) to give students an insight into the range of applications and the social implications of the use of computers,
(i) to give students an appreciation of the history of computing and future trends in computing.
No previous computing studies are required.

TM030 Mathematics (General)
Prerequisite, a pass in Year 11 mathematics
The course covers fundamental mathematical ideas for students who might be considering post Year 12 courses in Business Studies, Social Sciences such as Sociology and Psychology, Nursing, Physical Education and Primary Teaching. It also enables students to develop sufficient skills to master fundamental mathematical concepts and methods, and to apply these skills to practical problems.

Course structure
Topics Assessment
Semester one
A review of fundamental algebra 15%
Basics of calculus 15%
Practical applications 1 10%
Option 1 10%
Semester two
Probability and statistics 1 and 2 30%
Personal and business applications 10%
Option 2 10%
Total: 100%
Option topics (either student selected or teacher selected) from:
Assessment
Matrices and linear systems 10%
Computer programming in BASIC 10%
Social implications of computer technology 10%
Data processing 10%
Trigonometry, measurement and complex numbers 10%
Number systems and Boolean algebra 10%
Applications of calculus 1 10%
Practical Applications 2 10%
Students must possess a calculator which has the following keys: log x, ln x, 10^x, e^x, y^n. Any scientific non-programmable calculator should be adequate.
TM040  Physics  
Prerequisite, Year 11 Physics  
Physics is recommended for students wishing to undertake courses in engineering and applied science at tertiary institutions.  
The course has been designed to enable students to:  
(i) master the basic principles and practices of physics;  
(ii) develop problem solving skills;  
(iii) appreciate and use the scientific method  
Course structure:  
Unit 1 (7 weeks)  
Geometrical optics  
Motion  
Vectors  
Units  
Errors  
Dimension  
Unit 2 (8 weeks)  
The "triumph" of dynamics  
Friction  
Mechanical equilibrium  
Particle dynamics  
Gravitation  
S.H.M.  
Unit 3 (8 weeks)  
Electricity  
Electric current  
Electromagnetism  
Electronics  
Unit 4 (7 weeks)  
Introduction to wave optics; models of atom  
Duration: Five hours per week (practical session every week).  
Assessment: Examinations at the end of each unit.  
A pass in practical work is necessary for a pass in the subject as a whole.  
A scientific calculator is essential.

TS006  Legal Studies  
Full-year course for students with limited or no prior knowledge of legal studies. This course is designed to assist students in understanding the operations 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 process, crime and criminal sanctions, the Law of Torts, consumer protection and the form of business organisations.

TS008  Economics  
The aim of this course is to introduce students to the economic aspects of human behaviour with emphasis upon the application of theories and principles to economic problems and social issues within the framework of the Australian economy. The underlying theme for this introductory course in economics is the impact of economic activity upon human welfare.  
The course may be attempted by students who have not studied economics previously.

TS009  Accounting  
Full-year accounting course 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 procedures for control; accounting for multiple ownership; analysis and interpretation of final reports and fund statements.

Victorian Certificate of Education  
(Higher School Certificate) subject details  

TH910  Australian History  
Aims of course  
1. To provide students with the chance to study the history of the society of which they are a part.  
2. The general aims of history are also central to a study of this subject.  
Reporting method  
Letter grades A-F based on standardised scores.  
Core Content  
There are no prerequisites for this course.  
Students must select a minimum of THREE topics.  
It is strongly recommended that there should be some logical relationship between the topics selected. For example, study could focus on related chronological periods or on underlying themes.  
Core topics  
1. Aboriginal society before European settlement  
2. European settlement and the effects on Aboriginal society  
3. Colonial society in the early years in NSW and VDL  
4. Immigrants and society  
5. Political power in Australian society to the 1850s  
6. The land hunger  
7. Melbourne, the growth of a metropolis  
8. Working men and women and social reform 1860-1910  
9. The wealth beneath the soil — mining  
10. National identity and consciousness 1880-1900  
11. Federation and the early Commonwealth  
12. Australians in wartime — Great War and Second World War  
13. The 1920s  
14. The Great Depression  
15. The growth of the new federal power 1941-1972  
Prescribed texts  
No prescribed texts. See course description for lists of "essential" and additional ' references for each core topic and optional unit.  
Assessment  

<table>
<thead>
<tr>
<th>Component</th>
<th>Subject total</th>
<th>Core total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-hour written examination</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>School-based assessment</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Total for core</td>
<td>70%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Length of core  
Approximately four hours per week for 20 weeks.  
Optional units  
A. Women in Australian history  
B. Post-war immigration — multiculturalism in Australia  
C. The Aborigines in the twentieth century  
D. Aspects of schooling in nineteenth century Victoria  
E. The dismissal of the Labor government  
F. Local history  
G. The debates on the discovery and foundation of Australia  
H. Health  
I. Violence in Australian history  
Assessment  

<table>
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</thead>
<tbody>
<tr>
<td>School-based assessment</td>
<td>30%</td>
<td>30%</td>
</tr>
</tbody>
</table>
**TH911  English**

**Aims of course**
1. To extend, deepen and enrich students' experience through reading, discussion and writing.
2. To help students develop their abilities to deal with points of view relevant to their own experiences and those of others, how to reach such points of view, how to clarify and defend them, and how to evaluate and modify them.
3. To encourage students to pay close attention to the details of language used by themselves and others through active engagement in the four language modes, so that a balance is achieved between speaking and writing on the one hand, and listening and reading on the other.
4. To encourage and further develop students' abilities to read a variety of texts with accuracy, discrimination and enjoyment.
5. To develop further students' abilities to use writing efficiently as a tool for thinking and communication, employing and experimenting with different forms, styles and conventions of writing in order to express adequately their ideas and experiences.

**Reporting method**
Letter grades A-F based on standardised scores.

**Core**

**Content**
All parts are compulsory.

**Prescribed texts**
See annually revised list in VISE circular. Also published as a separate leaflet.

**Assessment**
- 3-hour written examination
- School-based assessment

Length of core
Approximately four hours per week for 20 weeks.

**Optional units**
- A. The play in performance
- B. Henry Lawson and the 1890s
- C. Women in contemporary fiction and society
- D. "Symbols and searching" — a unit on religious literature
- E. Early narrative literature
- F. The individual in the nineteenth century novel
- G. An introduction to Charles Dickens
- H. Twentieth century Australian novels
- I. The poetry of alienation

**Assessment**
- School-based assessment

Length of optional unit
Approximately four hours per week for 10 weeks.

**TH912  English Literature**

**Aims of course**
To provide students with the opportunity:
1. to extend, deepen and enrich their experiences through reading, writing about and discussing literature
2. to reach, clarify and defend considered and relevant points of view about the texts they read
3. to pay close attention to the details of their own and others' language in offering points of view about these texts.

**Reporting method**
Letter grades A-F based on standardised scores.

**Core**

**Content**
The core study consists of three sections:
- Poetry: A study of fourteen or more poems chosen from a wide chronological range, from ballads to contemporary poetry.
- Shakespeare: A study of one play chosen from a group of three.
- Other literature: A study of at least one text from a range of literature including drama other than Shakespeare. The selection may range from time to time include longer poems and short stories.

**Prescribed texts**
See annually revised list in VISE circular. Also published as a separate leaflet.

**Assessment**
- 3-hour written examination
- School-based assessment

Length of core
Approximately four hours per week for 20 weeks.

**Optional units**
Any one of the following optional units may be studied.
- A. Consumer resource management
- B. Housing
- C. Family health
- D. Cognitive development in children
- E. Conserving food resources
- F. Food management
- G. Advanced nutrition
- H. Social aspects of food

**Assessment**
Independent investigation

Length of optional unit
Approximately 10 weeks.
TM924 Biology

Aims of course
This course aims to provide students with some knowledge and understanding of the principles of biology as a science, and the capacity to apply these principles in appropriate biological settings.

Reporting method
Letter grades A-F based on standardised scores.

Core

Content

Theory
1. The scientific process
2. The organism
3. Function and structure in plants
4. Function and structure in animals
5. Integration and regulation
6. Cellular processes
7. Heredity
8. Continuity and change
9. The human species

Practical
Every student to complete suitable laboratory exercises relevant to each section of the theory part of the course. A minimum of one-third of the total class time should be devoted to such practical work.

Prescribed texts
No prescribed texts. See course description for recommended texts.

Assessment

Subject total
60%

School-based assessment
30%

Total for core
90%

Length of core
Approximately four hours per week for 20 weeks.

Optional units
Topics
1. Funds statements
2. Accounting for partnership
3. Accounting for partnerships (including partnership fund statements)

Prerequisite: Topic 1 — Funds statements
4. Company accounting — recording and reporting
5. Company accounting — recording and reporting (including company funds statements)

Prerequisite: Topic 1 — Funds statements
6. Company accounting — profitability and financial stability
7. Farm accounting
8. Accounting for clubs
9. Non-systematised records
10. Introduction to practical business EDP
11. Assessment by external parties of sole proprietor businesses
12. Modern business data processing systems

If an optional unit of the Group 1 Accounting course is composed entirely of a combination of these topics the following criteria apply to that combination.
1. A student must study a minimum of TWO topics.
2. The total time allocation must be a minimum of 40 hours.
3. Topic 1 is a prerequisite for Topics 3 and 5. Topics 2 and 3 are alternatives; Topics 4 and 5 are alternatives.

TS992 Economics

Aims of course
To develop in students sufficient understanding of economic concepts, skills and knowledge to enable them to participate more fully in the decision-making processes of a modern industrial state.

Reporting method
Letter grades A-F based on standardised scores.

Core

Content

A. The Australian Ecosystem including:
- the level of economic activity
B. Economic objectives and performance criteria:
- price stability
- full employment
- external stability
- economic growth
- distribution of income
C. Economic performance:
- internal and external stability
- economic growth
- income distribution
- compatibility and conflict

Prescribed texts
See course description for detailed list.

Assessment

Subject total
50%

School-based assessment
20%

Total for core
70%

Length of core
Approximately four hours per week for 20 weeks.

Optional unit
Topics
1. Research investigation
2. Plants
3. Animal structure and function
4. Behaviour
5. Chemical coordination
6. Cell activity
7. Genetics
8. Evolution
9. Science and society
10. Issues in biology

If an optional unit of the Group 1 Economics course is composed entirely of these options, any TWO must be studied:
A. Developing economies
B. Alternative economic systems
C. The nature, extent and alleviation of poverty in Australia
D. Population and capital movements to Australia since 1945
E. The international monetary system since 1945
F. Financial relations between federal, state and local governments in Australia
G. The economics of energy
H. Technological change and the Australian economy

Assessment
For total optional unit

- School-based assessment 2 x 15%
- Length of optional unit
- For all options
- Approximately four hours per week for 5 weeks.

TS903 Legal Studies

Aims of course
To provide an understanding of the relationship between law and society. the social function of law, and the position of the individual within the legal system.

Reporting method
Letter grades A-F based on standardised scores.

Core

Content
The core is divided into five sections:
A. Sources of law in Australia
B. The adjudicating and enforcement process
C. The functions of law in Australian society
D. Imperfections in the legal system
E. Changing our law

Each section must be studied: approximately half the time must be given to Sections A and B, in roughly equal proportions, and approximately half the time to Sections C, D and E, in roughly equal proportions.

Prescribed texts
No prescribed texts.

Assessment

- 3-hour written examination
- Subject total
  - School-based assessment 2 x 15%
  - Length of core/course rule
  - Approximately four hours per week for 20 weeks.

Optional units

Topics
1. The motor car and the law
2. Problems of the criminal justice system
3. The consumer and the law
4. The family and the law

If an optional unit in the Group 1 Legal Studies course is composed entirely of a combination of these topics, the following criteria apply to that combination.

1. A student must study two topics.
2. Any combination of pairs of topics may be chosen.

The optional units are composed of the following allowed combinations of topics.

<table>
<thead>
<tr>
<th>Optional unit</th>
<th>Topic combination</th>
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<tr>
<td>A</td>
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<td>E</td>
<td>2</td>
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<td>F</td>
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</tr>
</tbody>
</table>

Assessment
For total optional unit

- School-based assessment 2 x 15%
- Length of optional unit
- For all options
- Approximately four hours per week for 5 weeks.

In previous years, the Department has run short courses in the applied media, vocational, social and community services areas. Many of these courses will run again in 1990.

2200AZY Bridging Technology

These single semester units are designed for mature-age students who wish to pursue studies in mathematics, science and technology areas at a Year 12, TAFE or tertiary levels, but who lack prerequisite subjects.

The Bridging Technology full-year course consists of units selected from:

Semester 1: Mathematics
- Physical Science
- Microcomputers
- Laboratory Project
- English Language Skills (or ESL)
- Work in Society

Semester 2: Mathematics
- Chemistry
- Physics
- Communication Skills

The Semester 1 course provides access to some TAFE courses, otherwise students continue to Semester 2. Mid-year entry to this course is available to students with the necessary mathematical background.

Single semester units in mathematics, chemistry and physics are also offered in the evening in both semesters.

The Women's Mathematics/Science Bridging Program is a part-time, single-semester course consisting of 3 x 3-hour classes each week held during school hours, Tuesday to Thursday.

The program offers women with little or no mathematics/science background, an opportunity to begin studies in mathematics and science in a supportive atmosphere which builds self-confidence. It is an appropriate starting point for women who wish to enter tertiary courses in Nursing and other paramedical disciplines, or the Biological and Environmental Sciences. Evening classes are also available.

Social and Community Services Courses

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 fourteen 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
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 in 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 practice 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 practise with a variety 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.

Domiciliary Care
3100MCB  Home Carers Training Course
This course provides basic training for council home help workers. The program is run in conjunction with Hawthorn, Kew, Prahran, Fitzroy and Caulfield City Councils.

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.

2100LZD  Migrant English Access
The department runs programs to prepare students of a non-English speaking background for tertiary study. Day VCE/ESL English classes are offered and there may be a summer school in January 1990.
In-course 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 Education Co-ordinator is happy to assist potential students with ESL language and course enquiries.

Australian Eagle Insurance supports Swinburne Institute's "Fire Technology Course" in the interests of improved risk assessment techniques and the further development of professionalism in the Insurance Industry.

AUSTRALIAN EAGLE
STRENGTH AND VISION

HEAD OFFICE: Australian Eagle Insurance Company Ltd
473 Bourke Street, Melbourne.
PH: 604 2222
3500_AHB 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
TH133 Communication Skills 1
TT100 Fire Mechanics 1
TT101 Fire Mechanics 2
TT110 Building Structures 1
TT120 Fire Chemistry
TT140 Information Technology
TT160 Personnel Emergency Treatment
TT210 Building Structures 2
TT220 Detection Systems
TT230 Safety Management 1
TT250 Principles of Fire Behaviour
TT290 Fire Fighting Equipment & Its Application
TT260 Middle-management Practices 1
TL180 Practical Placement

Specialist units
Design
TT301 Detection Systems Design
TT302 Suppression Systems Design 1
TT401 Suppression Systems Design 2
TT403 Suppression Systems Design 3

Communication systems
TH310 Introduction to Communications Technology
TH410 Radio Systems
TH411 Fire Alarm Systems
TH412 Communication Centres

Risk management
TH320 Fire Investigation
TH321 Fire Safety Management 2
TH322 Hazard Management
TH323 Material Science 1

Buildings
TH330 Building Structures 3
TH331 Material Science 2
TH332 Building Services 1
TH333 Building Services 2

Management
TH134 Communication Skills (Management)
TH350 Middle-management Practices 2
TH361 Fire Law 1
TH451 Fire Law 2

Rural
TH360 Rural Fire Behaviour
TH361 Agricultural & Forestry Practices in Fire Management
TH460 Rural Fire Prevention
TH461 Rural Fire Suppression

Environmental Safety
TH370 Environmental Safety 1
TH371 Special Hazards
TH372 Occupational Hygiene Measurement
TH470 Environmental Safety 2

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.

Subject details
TH133 Communication Skills 1
Principles and practice of effective communication in work and study situations. Areas covered include: collecting and processing information, participating in interviews/discussions/meetings, developing and analysing argument etc.

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 clear element materials and systems, structural loads, load bearing, construction techniques.

TT120 Fire Chemistry
Laboratory skills, oxidation, reduction and electrochemistry, organic chemistry, rates of reaction and thermochemistry.

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 sizing, 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.
Principles of combustion, as of heat transfer, fire point, sing 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, pumps, ventilation and salvage, hose, breathing apparatus, specialist appliances, portable fire extinguishers, foam, hydrants and practical fire fighting.

TT260 Middle Management Practices 1
Planning, forecasting, establishing objectives, policies and procedures, programs and schedules, budgeting, decision making and problem solving, control, departmental/corporate organisation.

Specialist units:

Design
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.

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.
Halogen systems, carbon dioxide systems, high expansion foam systems, chemical powder systems, hand extinguishers, saponification systems.

Communication Systems
TT310 Introduction to Communications Technology
Prerequisites: Fire Mechanics 2, Information Technology.
Telecommunications, emergency warning and evacuation systems, communication process, computer 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 plan 1.1r it 00, Introduction to Communication & Engineering Centre design, staffing, equipment and procedures.

Risk Management
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 procedures building a threat management, major installations/specific, 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.

Buildings
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.

TT432 Building Services 2
Prerequisite: Building Services 1.
Building transport services, heating, ventilation, air conditioning.

Management
TH134 Communication Skills (Management)
Prerequisites: Communication Skills 1, Information Technology, Middle Management Practices 1.
Groups select 4 industry options from a range of management options.
Options include: organisational communication, effective public speaking, meeting agenda and minutes, scientific literature and reports etc.

TT350 Middle Management Practices 2
Prerequisites: Communication Skills 1, Information Technology, Middle Management Practices 1.
Motivation, communications, styles of leadership, use of committees, conference leadership, personnel planning, training and development, staff appraisal.
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, adversary system, legal profession, court system, the jury, civil and criminal law, civil procedure, criminal procedure, doctrine of precedent.

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, NFB Act, CPA Act, statutory limitations to negligence, evidence.

Rural

TT360 Rural Fire Behaviour
History of rural fires in Australia, principles of fire behaviour, elements of rural fires, fire development, the ruralurban and foresturban 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, farm and forestry management and operations.

TT460 Rural Fire Prevention
Prerequisites: Rural Fire Behaviour, Agricultural and Forestry Practices in Fire Management.
Principles and practice of fire prevention, fire prevention legislation, fire prevention planning and management, communication, community fire prevention, fire hazard mapping, environmental considerations.

TT461 Rural Fire Suppression
Prerequisites: Rural Fire Behaviour, Agricultural and Forestry Practices in Fire Management.
Fire ground organization, fire control, suppression equipment, techniques of fire suppression, personnel safety and survival, post fire administration.

Environmental Safety

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 stresses.

TT470 Environmental Safety 2
Prerequisites: Environmental Safety 1.
Stress types, lighting, industrial noise, heat stress, radiation effects, bioactive and infectious hazards.

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 one evening, 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
TL 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:

- TL309 Electron Microscopy 1
- TL307 Electron Microscopy 2
- TL306 Chromatographic Analysis 1
- TL301 Chromatographic Analysis 2
- TL485 Electrochemical Analysis 1
- TL486 Electrochemical Analysis 2
- TL490 Spectrophotometric Analysis 1
- TL491 Spectrophotometric Analysis 2

PLUS at least one by two-unit sequence from:

- 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.

Stage 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:

- 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
- 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.

Subject details

Stage 1

TH133 Communication Skills 1

Prerequisites: none.
Assessment — assignment, written tests and satisfactory participation.

TH134 Communication Skills 2

Prerequisites: none.
Assessment — assignment, written tests and satisfactory participation.

TL001 Biology Laboratory Techniques

Prerequisite: Year 12 biology.
Assessment — based on theory and practical work.

TL002 Chemistry Laboratory Techniques

Prerequisite: Year 12 chemistry.
Assessment — based on theory and practical work.

TL003 Physics Laboratory Techniques

Prerequisite: Year 12 physics.
Assessment — assignments, written tests, practical work.

TL144 Quality Control Statistics

Prerequisites: laboratory computations, concurrent work experience.
Assessment — assignments, written tests, practical work.

TL131 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.

TL327 Laboratory Computing

Prerequisite: none.
Assessment — written tests, practical work.

TL347 Occupational Hygiene

Prerequisites: biology practices 1 or chemistry practices 1 or physics practices 1.
Assessment — written assignments and tests.

TL470 Work Project

Prerequisites: communication skills 1 and concurrent work experience.
Assessment — submission of satisfactory written report.

Work project.

Stage 2

TL201 Chemistry Practices 3

Prerequisites: chemistry practices 2, laboratory computations. Assessment — based on theory and practical work.

TL202 Chemistry Practices 4

Prerequisite: chemistry practices 3.
Assessment — based on theory and practical work.

TL309 Electron Microscopy 1

Prerequisite: scientific photography.
Assessment — written tests, folio, practical assessment.

Introduction to electron microscopes, historical equipment for electron microscopy, histological techniques for electron microscopy, preparation of biological material for scanning electron microscopy.
TL30 Electron Microscopy 2
Prerequisite: electron microscopy 1.
Assessment — folio work, written tests, practical work.
Cell infrastructure, operation and photographic techniques using the electron microscope, specialisation flattening techniques, construction, servicing and calibration of TEM, SEM and ancillary vacuum equipment, special preparation techniques.

TL390 Chromatographic Analysis 1
Prerequisite: chemistry practices 4.
Assessment — based on theory and practical work. Ion-exchange, solvent extraction, paper and thin-layer chromatography, electrophoresis.

TL391 Chromatographic Analysis 2
Prerequisite: chemistry practices 4.
Assessment — written tests assignments and practical work. Gas chromatography, high performance liquid chromatography.

TL465 Electrochemical Analysis 1
Prerequisites: chemistry practices 4, laboratory computations. 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.

TL490 Spectrophotometric Analysis 1
Prerequisite: chemistry practices 4.
Assessment — written tests and assignments and practical work. Ultraviolet-visible spectrophotometry, instrumentation (theory and experimental).

TL491 Spectrophotometric Analysis 2
Prerequisite: chemistry practices 4.
Assessment — written tests and assignments and practical work. Ultraviolet-visible spectrophotometry, instrumentation (theory and experimental).

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.

TL203 Physics Practices 3
Prerequisite: physics practices 2, laboratory computation.
Assessment — written tests, practical assessment. Light, statics, physical testing, heat, nuclear physics.

TL411 Computer Programming
Prerequisite: laboratory computations.
Assessment — written and practical assessment. Structured programming, problem solving, writing programs, program testing and documentation, programming techniques, programming in another language, project.

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.

TL320 Invertebrate Zoology
Prerequisite: biology practices 2.
Assessment — written tests, assignments, practical work. Protozoa, porifera, cnidaria, ctenophora, molluscs, anthropods, echinoderms, helminthes, onychophora, chordataes.

TL448 Vertebrate Zoology
Prerequisite: biology practices 2.
Assessment — written tests and practical assessment. Fish, amphibians, reptiles, birds, mammals.

TL301 Biochemistry 1
Prerequisites: biology practices 1, chemistry practices 2, laboratory computations.
Assessment — based on theory and practical work. Introduction to biochemistry, biochemical methods, polysaccharides, lipids, proteins, protein analysis, nucleic acids.

TL302 Biochemistry 2
Prerequisite: biochemistry 1.
Assessment — based on theory and practical work. Protein synthesis, biochemistry of genetics, molecular biology, inborn errors of metabolism.

TL401 DNA Technology
Prerequisite: biochemistry 2.

TL402 Immunological Techniques
Prerequisite: biochemistry 2.
Assessment — theory and practical assessment. Immunology, Radio Isotopes.

TL460 Microbiology 1
Prerequisites: biology practices 1, laboratory computations.
Assessment — assignments, tests, practical tests. History of microbiology, microscopy, prokaryotic and eukaryotic cells, basic microbial metabolism, physical and chemical growth requirements, culture media, microbial growth, measurement of microbial populations, control of microbial growth.

TL461 Microbiology 2
Prerequisite: microbiology 1.
Assessment — assignments, tests, practical tests. The origin of micro-organisms, classification of micro-organisms, cyanobacteria, typical gram negative cell-walled bacteria, typical gram positive cell-walled bacteria, wall-less bacteria, bacteria with unusual cell walls, the fungi, the algae, the protozoa, the multicellular parasites, viruses.

TL462 Microbiology 3
Prerequisite: microbiology 2.
Assessment — assignments, tests, practical tests. Determinants of health and disease, diagnosis of infectious disease, epidemiology of infectious disease, the immune response, disorders associated with the immune system, antimicrobial drugs, chemotherapy, diseases of the respiratory tract, diseases of the digestive tract, diseases of the urogenital system, diseases of the nervous system, diseases of the cardiovascular and lymphatic system.

TL463 Microbiology 4
Prerequisite: microbiology 3.
Assessment — assignments, tests, practical tests. Advanced metabolism, metabolic regulation, advanced virology, mutation and gene-functional the molecular level, the expression of mutation in viruses and cells, genetic recombination, the industrial exploitation of microbes, the agricultural exploitation of microbes, microbes in the food industry.
The Advanced Certificate in Laboratory Technology provides career potential to work in a scientific laboratory at a junior level. 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

**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**
- TL226 Specimen Preservation 1
- TL227 Specimen Preservation 2
- TL228 Modelling of Biological Specimens
- TL229 Moulding & Casting of Biological Specimens
- TL246 Botany
- TL299 Tissue Culture
- TL321 Organic Chemistry
- TL333 Polymer Science 1
- TL334 Polymer Science 2
- TL413 Ecology 1
- TL414 Ecology 2
- TL418 Entomology
- TL445 Pharmacological Methods
- TL453 Glassworking
- TL456 Radioactive Methods
- TL480 Scientific Photography
- TL483 Applied Imaging Techniques

**Subject details**

**Stage 1**

**TH133 Communication Skills 1**
Prerequisites: none.
Assessment — assignments, written tests and satisfactory participation. Giving and receiving instructions, collecting and processing information, writing for specific purposes, analysing argument and constructing a point of view, leading and participating in a discussion and in a meeting, use of a telephone and answering service, preparing and interpreting graphic aids, speaking to a group.

**TL101 Chemistry Practices 1**
Prerequisites: none.
Assessment — based on theory and practical work. Laboratory safety, atomic structure, bonding and properties, stoichiometry, laboratory skills.

**TL102 Chemistry Practices 2**
Prerequisites: chemistry practices 1
Assessment — based on theory and practical work. Volumetric analysis introduction, acids and bases, electrochemistry, organic chemistry.

**TL111 Physics Practices 1**
Prerequisites: none.
Assessment — assignments, written tests, practical work. Kinematics and mechanics, optics and radiation, work, power and energy.

**TL112 Physics Practices 2**
Prerequisites: physics practices 1
Assessment — written tests, practical work. Kinematics and mechanics, optics and radiation, work, power and energy.

**TL130 Biology Practices 1**
Prerequisites: none.
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**
Prerequisites: none.
Assessment — based on theory and practical work. Collection, maintenance and preservation, classification, reproduction, development and inheritance, evolution and speciation, ecology.

**TL143 Laboratory Computations**
Prerequisites: none.
Assessment — mastery tests on an ongoing basis, final examination. Arithmetic, measurement, ratio, proportion and variation, equations and formulae, equation solving, graphs, introduction to statistics.

**TL327 Laboratory Computing**
Prerequisites: none.
Assessment — written tests, practical work. Using a personal computer, computer equipment and jargon, software.

**Stage 2**

**TH134 Communication Skills 2**
Prerequisites: none.
Assessment — assignments, written tests and satisfactory participation. Scientific report writing, scientific literature computer searches, working environment (Laboratory Technology) 1 and 2

**TL144 Quality Control Statistics**
Prerequisites: laboratory computations, concurrent work experience.
Assessment — written tests and assignments. Concept of variation, basic tools for describing variation, sampling, theoretical distributions, test of samples for statistical control, relationship between variables, process control, non-conformity.
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, fire drill and evacuation, portable fire extinguishers, laboratory control-storage, inventory and stock control, equipment servicing, purchasing, budgeting, decision management.

Occupational Hygiene
Prerequisites: biology practices 1 or chemistry practices 1 or physics practices 1.
Assessment — written assignments and tests.
Industrial toxicology, classification of chemical substances, local and systemic effects, threshold limit values, industrial cancer and carcinogens, epidemiology, safety data sheet, radiation effects, occupational stresses.

TL470 Work Project
Prerequisites: communication skills 1 and concurrent work experience.
Assessment — submission of satisfactory written report.
Work project.

Electives
TL225 Methods of Specimen Preservation 1
Prerequisites: biology practices 2.
Assessment — written tests, practical assessment.
The purpose of museum collections, collection and preservation procedures — general, dried mounts, skins, skeletons, working drawings, drying, spirit specimens, regulations.

TL226 Methods of Specimen Preservation 2
Prerequisites: method of specimen preservation 1.
Assessment — written test, practical assessment.
Obtaining, safety techniques and suppliers, animal anatomy drawing, bird mount, mammal mount, fish mount, finishing.

TL227 Modelling of Biological Specimens
Prerequisites: chemistry practices 2, laboratory computations.
Assessment — practical work.
Modelling, 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
Prerequisites: Biology Practices 1 and 2.
Assessment — Excursion participation, written reports, written tests and practical assessment.
Historical implications, taxonomy, lower plants, fungi, plant life cycles, higher plants, plant physiological ecology, physiognomy and habitat, weed ecology, argonomic plant taxonomy.

TL329 Tissue Culture
Prerequisites: biology practices 1 and 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
Prerequisites: chemistry practices 4.
Assessment — written tests, practical work.
Chemical bonding, IUPAC nomenclature, hydrocarbons-aliphatic, hydrocarbons-aromatic, alcohols, phenols and ethers, alkyl and aryl halides, carboxylic acids and their derivatives, aldehydes and ketones, amides and amine derivatives, methyl and n-propyl propanol, substitution.

TL333 Polymer Science 1
Prerequisites: chemistry practices 3.
Assessment — written tests, assignments, practical work.
Polymerisation, polymerisation of monomers, molecular weight, polymerisation, glass transition temperature, fracture and deformation modes in polymers, environmental stress cracking, polymerization processes, thermosetting polymers-phenolic resins, polystyrene, butyl resins, epoxy resins, polyvinylidene, styrenic polymers, other commercial polymers.

TL334 Polymer Science 2
Prerequisite: polymer science 1.
Assessment — written tests, practical work.
Designing with polymers, processing techniques, identification of plastics, polyethylene elastomers, polyamides, adhesives.

TL413 Ecology 1
Prerequisites: biology practices 1, laboratory computations.
Assessment — written tests, assignments, practical participation and practical work.
Introduction to ecology, introduction to ecosystems, the significant Australian ecosystem, energy flow, nutrient cycles, excursion/seminar.

TL414 Ecology 2
Prerequisites: biology practices 1, laboratory computations.
Assessment — written tests and practical assessment.
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, assignments and practical work.
Structure and function, classification and metamorphosis, collection methods, identification of major orders.

TL442 Pharmacological Methods
Prerequisites: biology practices 2, chemistry practices 2.
Assessment — practical work, written and practical assessment.
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.

TL453 Glassworking
Prerequisites: chemical practices 1 or biology practices 1 or physics practices 1.
Assessment — practical work.
Splintmaking, glasscutting, annealing, tube sealing, tube sealing, bulb blowing, rod working, straight joining, tube bending, buteire repair, internal seals, glass to metal seals, pipe joint, capillary glass working.

TL456 Radioactive Methods
Prerequisites: chemistry practices 3, physics practices 2.
Assessment — practical work.
Camera theory and operation, film, processing, black and white film, printing negatives, sensitometry, line and continuous tone copying, presentation methods, light sources, electronic flash, lenses, laboratory lighting techniques.

TL468 Scientific Photography
Prerequisites: chemistry practices 2, laboratory computations.
Assessment — written and practical assignment.
Camera theory and operation, film, processing, black and white film, printing negatives, sensitometry, line and continuous tone copying, presentation methods, light sources, electronic flash, lenses, laboratory lighting 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.

ACCESS EDUCATION PROGRAMS
C45LDB Volunteer Tutor Training
Two courses of training are offered. One prepares volunteers to work on a one-to-one basis with 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.
TR101 Basic Literacy
6 sessions, 2 hours/session
TR106 Life Skills
7 sessions, 2 hours/session
C45LVP Vocational Preparation Program

courses will be offered for people who need to sit an examination to enter their chosen career in fields such as nursing, the fire brigade and the police force.

C51LDB Basic Studies Program

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 Individual Learning Workshop (Numeracy)

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.

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.

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.

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 either a University, Institute or College of Advanced Education. 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 1989 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:

TH301 Australian Literature through Film
TH303 Image of A trail and Television
TH305 Theories of Human Nature
TH306 Research Skills

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 fifteen weeks duration), and part-time enrolment can be taken over two semesters.

TJ004 English for Academic Purposes

For men and women who are preparing to enter, or are already enrolled in, post Year 11 courses of study at Swinburne or other post-secondary institutions.

Assessment of reading, writing and speaking skills at interview. Course includes a range of study skills tuition.

TJ005 Further Listening & Speaking Practice (Migrant English)

This course aims at developing the listening and speaking skills of the men and women enrolled, and also their self confidence and assertiveness in their place of work or study. Not for beginners but for adults who need these skills for career or study purposes.

TJ006 Further Reading & Writing

For men and women who need to use and improve these skills in their work situation. Not for beginners but for adults who need these skills for career or study purposes.

Applicants must be able to speak English.

Assessment at interview.

Summer School --- English for Further Study

A four-week, full-time language and study skills program may be offered over January 1990. Applications made in October.

H51LDN Returning to Study

TJ002 Efficient Reading

Programs for Students With Disabilities

Mildly Intellectually Disabled Students

C52LDB Basic Studies Program (Special)

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.

C52LZE Vocationally-oriented Evening Classes

The course provides practical subjects for mildly intellectually disabled adults in the evening.

Subjects offered are:
TR120 Carpentry
TR21 Literacy/Numeracy

C52LZT Transition Program

Students attend for three or four 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:
TR110 Building
TR111 Clothing Trade Skills
TR112 Electrical
TR113 Fitting and Machining
TR114 Home Economics
TR115 Literacy/Numeracy
TR117 Keyboard Skills
TR119 Horticulture

Hearing Impaired Students

C51LDB Basic Studies Program

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.
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