Please note

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1992 Calendar

**January**
1. New Year's Day
2. Swinburne re-opens
13. VCE (HSC) results
27. Australia Day

**February**
3. SIT semester 1 begins
3. SCT apprentice classes begin
10. SCT all other classes begin
SIT enrolment period begins for Round 1
SIT teaching begins: Engineering (alternate entry only)
17. SIT teaching begins: Graphic Design and Engineering (final year only)
20. SIT enrolment period begins for Round 2
24. SIT teaching begins: Applied Science, Arts, Business and Engineering (years I-IV)

**March**
9. Labour Day
31. SIT last day for withdrawal from a first semester subject, unit or course without penalty of failure*
SIT and SCT last day for applications for refund of General Service Fee

**April**
8. SCT last day for subject variations to enrolment for semester 1
10. SIT Applied Science, Business classes end for Easter break
SCT classes end for Easter break
15. SIT Arts, Engineering, Design classes end for Easter break
23. SIT Arts, Engineering, Design classes resume after the Easter break
25. Anzac Day
27. SCT classes resume after the Easter break
29. SIT Graduation ceremony

**May**
20. SIT Graduation ceremony
31. SIT last day for application for awards for students completing courses in semester 1, 1991

**June**
8. Queen's Birthday
12. SIT Business semester 1 examination period begins
15. SIT semester 1 examination period begins: Applied Science, Arts and Engineering
18. SCT certificate and award presentation ceremony
26. SIT and SCT semester 1 examination period ends
SCT: semester 1 classes cease

**July**
3. SCT Apprentice classes end for semester 1
6. SIT inter-semester break begins
13. SIT Design classes resume for semester 2
20. SIT and SCT classes resume for semester 2 (except SIT Design)

**August**
31. SCT last day for subject variations to enrolments for semester 2
SIT last day for withdrawal of a second semester subject, unit or course without penalty of failure'
SIT and SCT last day for applications for refund of General Service Fee
SIT Census date for HECS (semester 2)

**September**
18. SIT classes end for mid-semester break
24. Show Day
25. SIT last day for application for awards for students completing courses in December 1992
28. SCT classes end for mid-semester break
SIT Arts and Design classes resume after mid-semester break

**October**
6. SCT and SIT Applied Science, Business and Engineering classes resume after mid-semester break
14. SIT Graduation ceremony

**November**
3. Melbourne Cup Day
6. SIT Business semester 2 examination period begins
9. SIT semester 2 examination period begins: Applied Science, Arts and Engineering
20. SCT semester 2 examination ends
23. SIT semester 2 examination period begins
30. SIT last day for application for awards for students completing courses in December 1992

**December**
4. SCT semester 2 examination period ends
17. SCT semester 2 ends
24. Swinburne closes for Christmas break

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*SIT: Swinburne Institute of Technology
SCT: Swinburne College of TAFE
HECS: Higher Education Contribution Scheme

* Students should be aware that some faculties have an earlier deadline for addition of new subjects. Students should consult their faculty office.
Swinburne Handbook '92
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.

There is a total ban on smoking in all Swinburne buildings and vehicles from January 1, 1997.

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## General Information

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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 Advanced Education. Established in that year by an Act of the Parliament of Victoria to 'foster the development and improvement of tertiary education in technical, agriculture, commercial and other fields of learning (including the liberal arts and the humanities) in institutions other than in the universities of Victoria'.

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

An extensive 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 tertiary institution and a member of the Unified National System offering courses for professional qualifications (diploma and degree of Bachelor) and graduate qualifications (diploma and degrees of Master and PhD). Enrolments in 1991 were 4,387 full-time and 3,546 part-time students.

- Swinburne College of Technical and Further Education — a technical and further education college, offering courses at middle and para-professional level, covering Associate Diploma, Advanced Certificate, apprenticeship, VCE and access programs. A number of specialist courses are provided also, for industry and the community. Enrolments in 1991 were 1,067 full-time and 3,682 part-time students.

Hawthorn Campus

The campus at Hawthorn covers an area of approximately four hectares, approximately 7 km from the City of Melbourne. It is close to Glenferrie railway station, is well served by other means of public transport and is in close proximity to parklands.

Eastern Campus at Mooroolbark

In 1992 Swinburne will commence undergraduate programs and some postgraduate studies at its Eastern Campus at Mooroolbark, offering the same excellence of academic programs as already established at the Hawthorn Campus.

The opening of the new Eastern Campus will provide a small friendly environment, easily accessible and directly serving the tertiary educational needs of the outer eastern metropolitan region with all the amenities of a modern tertiary institution in a natural bushland setting.

* Subject to final planning approval.

Coat of Arms

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

At a period during the 12th-13th century, when the northern counties of England were ruled by the Scots, a knight of the name of William Swinburn(e) and soon the county reverted to the crown of England.

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 coat of 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 (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 12 August 1991

Appointees of the Governor-in-Council
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M.A. Puglisi, LLB(Melb), Barrister and Solicitor (Vic) Supreme Court
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Nominee of the Minister for Education
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T.P. Bruce, LLB(Melb)
T.P. Coman, DipAppChem(STC), FRACI (President)
W.M. Harrison, CBE, AM, FAM
A. Polis, BA, DipEd(Melb)
J. Short
H.S. Wragge, AM, MEngSc, BEE, FTS, FIEAust, FIREE

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

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

Member elected by Board of Studies
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Member elected by academic staff, SIT
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Member elected by academic staff, SCT
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Members elected by general staff
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I.A. Douglas, BA(Hons), MSc(Stath)

Member elected by students, SIT
E.M. Abram, BA(SIT)

Council Secretariat
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Executive Officer
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Directorate

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Director, Swinburne College of TAFE
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J.K. Jones, BEngSc, DipEd, PhD(Melb), FRACI

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Associate Professor D.G. Grant, MSc(Melb), PhD(Reading), MACM, MIEEE
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Dean of Faculty
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School of Civil Engineering and Building
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School of Electrical Engineering
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School of Innovation and Enterprise
Director
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School of Mechanical and Manufacturing Engineering
Associate Dean
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School of Design
Head of School
D.G. Murray, BA(Graphics Design)(SIT), TTTC

Film and Television School*
Head of School
J. Sabine, BA(ANU)
Manager
B.C. McDonald, BCom, DipEd(Melb), FASSA, CPA

* The Film and Television School will become part of the Victorian College of the Arts as from 1 January, 1992.

Swinburne College of TAFE
Director, Swinburne Ltd.
Professor J.G. Wallace

Acting Director, Swinburne College of TAFE
G.A. Harrison, DipMechEng(CIT), BSc(Melb), TTTC

Assistant Director, Swinburne College of TAFE
Vacant

Head, Business Studies Division
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Head, Marketing and Administration
Department
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Manager, National scientific Instrumentation Training Centre
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Manager, Workplace Skills Unit
S. Naylor, TPTC, TStPC

Senior Curriculum Development Officer
R.M. Carmichael, BA(Mon), BEd(LaT)

Manager, Computer Services Unit
M. Waterhouse, BEEc, DipEd(Tas)

Swinburne services
Computer-based Developments and Information Systems
Manager, Computer Centre
M.Q. Plunkett, BEc(Adel)

Education Unit
Head
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Library and Information Technology Services

Swinburne Librarian

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Head, Information Technology Services

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Associate Director

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Buildings, Grounds and Services Manager

S. Blackburn (Acting)

Vacant

Management Services Officer

D. Sharp

Central Technical Workshops Manager

G. Nettleship, CEng, MILM/I

Catering Department Manager

Vacant

Council Secretariat Executive Officer

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Equal Opportunity Officer

M. Jones, CertEd(Wales), BEd(VicC), MEdThesis (Mon)

Finance Department Manager

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Systems Accountant

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

Divisional Accountant, SIT

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Freedom of Information Officer

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Planning and Information Systems Manager

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Institutional Promotion and Development Manager

Vacant

Publicity and Information Unit Head

N. Manning

Swinburne Press Manager

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M. Conway, BA(Griffith), MAITEA

Assistant Registrar (Engineering)

A.L. Dewes, BBus(SIT), ARM

Assistant Registrar (Services)

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

Assistant Registrar (Student Administration)

PE. Kocak, BEc(LaT)

Security Department Chief Security Officer

N. Burge

Swinburne Student Services Manager

Z. Burgess, BA(Mon), MEd(Couns)(LaT), GradDipEdPsych(Mon), MAPrelim(Melb), MAPsS, VAFT, AIM

Eastern Campus at Mooroolbark

Contact Associate Professor B.C. McDonald, Manager Academic Programs, on 728 2477 or general enquiries 819 8444.

Sited on the site of the former MDA Grammar School in Edinburgh Rd., Mooroolbark, the new Swinburne Eastern Campus will provide courses in the Business, Applied Science, Arts and Engineering Faculties. The proposed courses are the Bachelor of Business in Accounting, Marketing and Economics/Marketing and the Bachelor of Applied Science in Mathematics and Computer Science with students undertaking the same programs as students at the Hawthorn Campus. Arts majors proposed in the Bachelor of Arts are Psychology and Media, offering subject links with relevant Business areas. The Engineering Faculty proposes to offer the common first year of its degree. Engineering will also have a presence with some later year and graduate studies in Electrical Engineering. This will establish a complete and fully accredited tertiary environment by having in place programs ranging from first year undergraduate to Masters and PhD studies.

The first student intake at the campus is planned for 1992 and is expected to total approximately 300 students across the four faculties. Student numbers will grow to a maximum of around 620 by 1994 and will remain at this level for the foreseeable future.

- Subject to final planning approval.

Swinburne Services

Library and Information Technology Services

Library

Swinburne Librarian (Acting)

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Audiovisual

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M. Hawkins, CertAppSocSci(LibTech)

A. Steere, AssDipAppSocSci(LibTech)

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C. Barnes, BA(UNE)

H. Hazard, BA(Syd), DipLib(Mon)

Technical Services Librarian (Acting)

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Acquisitions/Collection Management

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L. Charles, AssDipAppSocSci(LibTech)

A.D. Evans, CertAppSocSci(LibTech)
Cataloguing
J. Butera, BA(Urban Stud)(FIT), Grad Dip(Lib'ship)(BACE)
J. Saul, BA(Lib'ship)(BACE)
J. Meikle, CertAppSc(LibTech)
* K. Appituley, BEd(InstTT&EdScJ, Jakarta),
Grad Dip(PAdmn)(Grad Sch PAdmn, Jakarta),
Grad Dip(Lib'ship)(RMIT)
M. Delaney, CertReg(RMIT)

Readers' Services (Acting)
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Circulation
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Reader Education
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Reference and reader education
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*C. Cody, BA(Lib'ship)(BACE), MEnvS(Melb)
*A. Muir, TC(W'ong), Dip(W'ong), BEd(Lib'ship)(Mon), AALIA

F. O'Donnell, BA(Lib'ship)(BACE)
* T. Olson, BA(Man), Grad Dip Lib'ship(RMIT)
G. Turnbull, BEd(Lit), Grad Dip Lib'ship(RMIT),
Grad DipTeach(BrisACE), AssDipFineArts(QCA),
CertiCommIll(QCA)
*K. Walsh, BA(Man), Grad Dip Lib'ship(RMIT)
S. Whelan, BA(Lat), Grad Dip Lib'ship(MCACE)
M. Wilkinson, AssDipAppSci(LibTech)

Systems and Research
I.A. Douglas, BA(Nole), MSc(Strath)
R. Higman, CertRadiolVEdTech(RMIT)
* Contract staff (full or part-time)

Information Technology Services
K. Anderson, MA(Brad), BSc(Melb), DipEE, MIEAust,
MACE, TTC
R. Philip, ABC TechCert
G. Dudley, CertTech(AV)(RMIT)
M. Clarke
G. Hay
K. Salehi, BA(CIT), DipFSP(RMIT)
M. Pledger, BA(Lib'ship)(SAIT)
G. Thompson
T. Young, BAppSci(Phot)(RMIT)
N. Alwis, City & Guilds FullTechCert(Lond)

Bernard Hames Library

The major purpose of the library is to supplement and support
formal course instruction in the two teaching divisions of
Swinburne and to provide some 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 1991 the collection comprised approximately 190,000 items.
2,900 periodical titles are received, including a wide range
of indexes and abstracts.

There is also a large collection of audiovisual materials
including videodiscs and computer software training
packages, video and audio tapes and art slides.

Library staff work in close association with teaching staff in
developing these resources, and in helping students by
introducing them to a large and diverse collection of literature
and a wide range of media on all subjects. Formal and informal
instruction is given to students on the use of the catalogue,
reference works and bibliographical aids. Reciprocal
borrowing facilities with other tertiary educational institutions
have been arranged to increase the resources available to
students and staff.

Information Technology Services

Information Technology Services is located in room BA309
of the Business and Arts Building, and is available for use
by all full-time and part-time staff of both divisions.

The services offered include the locating, booking and screen-
ing of educational films; audio and video recording including
micro-teaching; 35mm slide and overhead projector trans-
parency making; general photographic assignments; high
speed audio duplicating, sound studio production and "live-
core 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.

Slide projectors, overhead projectors, audio and video tape
recorders: equipment for projectngcomputer output and other
audiovisual equipment are available for short term loan.

Library rules for students

Persons entitled to use the library

The library is available for the use of all full-time and part-
time students and staff of Swinburne Institute of Technology
and Swinburne College of TAFE who accept the following
rules.

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
for 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 Council of Swinburne.

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

Full-time and part-time students of Swinburne Institute
of Technology and Swinburne College of TAFE.

Registered borrowers from other educational institutions with
which Swinburne has a reciprocal borrowing arrangement.
Registered members of the Swinburne Library Information
Service.

Such other persons or organisations as the Swinburne Librar-
ian may from time to time approve as borrowers.

Hours of opening

Normal hours of opening for the library during semester are:
Monday to Thursday: — 8.45am to 10.00pm
Friday: 8.45am to 8.30pm
Note: Loans, reserve desks and photocopying facilities close
15 minutes before the library.

Saturdays: 12.00 noon to 5.00pm
From early March to the last Saturday in the end-of-year
examination period, except Easter Saturday and four
Saturdays in July.

Sundays: 11.00am to 5.00pm
See notice board and bulletin board on the library's on-line
catalogue for starting dates each semester.

Public holidays

Anzac Day: 2.00pm to 8.30pm
Queen's Birthday: 8.45am to 8.30pm
Show Day: 2.00pm to 8.30pm
Cup Day: 8.45am to 8.30pm
Closed on all other public holidays.

Vacations and non-teaching periods

During these periods the library is open for a limited number
of hours. Check notice boards outside the Library entrance
for details or ring the Library Inquiry Desk on 819 8330.
Details of all variations from the normal hours will be posted
on notice boards in the library at appropriate times and
published in student and staff newsletters and will be
displayed on the bulletin board on the library's on-line catalogue.

Student loans
Loans to students are available only on presentation of a current Swinburne identity card and acceptance of the following conditions:

General
All material borrowed must be recorded at appropriate issue points before the patron enters the security gate to leave the library. Items must be returned by the date and time indicated. With the exception of audiovisual, periodical and overdue items, items borrowed should normally be returned through the chutes located outside the main entrance. Audiovisual and periodical material should be returned to the appropriate return chute inside the library. Overdue items should be returned to the overdues counter.

Borrowing periods

Books
The normal loan period for most books is a fortnight. This period may be extended for a further fortnight provided another user has not already placed the item on hold and it is not overdue. Books on the open shelves which are in moderately heavy demand are available for 3-day loan. They may be borrowed at any time of the day but may not be renewed. These loans must be returned half an hour before the library closing time on the due date.

Audiovisual items
Videocassettes marked 'HOME LOAN' are available for two-day loan. Most audiovisual material may be borrowed for classroom use. Audiocassettes and art slides are available for weekly loan. Language tapes are available for monthly loan but are non-renewable.

Periodicals
Unbound periodicals, including annuals and irregular publications but excluding display issues are available for 24-hour loan. This material may be borrowed after 9.00am and must be returned before the library closes the following day. Second copies of periodicals are available for one week loan.

Counter reserve
Most material in this collection may be borrowed for a period of two hours for use in the library. A small number of items are available for overnight loan. This material may be borrowed after 4.00pm (3.00pm on weekends) and should be returned by 9.00am the next day, or is available for up to 24-hour loan after 4.00pm for part-time students.

Periodical reserve collection
Most material in this collection may be borrowed for use in the library only. Some unbound popular magazines are also housed in periodicals reserve, and may be borrowed as specified in 4.2.3 above.

Items not available for loan outside the library:
These include material in the reference collection (distinguished by the location symbol 'R' in the call number), rare books ('Y'), and archive collections ('AR'), microfilms or microfiche, and those materials marked 'Not for loan' or 'Display'.

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

Holds may be placed on books which are out on loan at the inquiry section of the loans counter.

Fines. Loans are issued subject to the imposition of penalties for late return as below. Fines will not increase once the item has been returned.

Forthnightly, weekly and monthly 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.

All short-term loans (7 days or less), excluding audiocassettes — per item $1.25 per day or part thereof overdue to a maximum of $5.00, suspension of borrowing privileges and withholding of examination results.

Overnight loans — per item:
First day: $0.50 per hour late, to a maximum of $5.00 per item, suspension of borrowing privileges and withholding of examination results.

Loans from reserve collections
(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.

Reciprocal borrowing applications
Authorisations for reciprocal borrowing will not be issued to students who have accrued $30.00 or more in fines during the previous twelve months.

Inter-library loans
Students otherwise eligible for inter-library loans but who have exceeded the fine limit (see 4.5.5) will also have inter-library requests refused.

Cost or damaged library material
If an item is lost or damaged the loss or damage must be recorded immediately to the overdues section. The borrower shall be responsible for the replacement cost plus a processing charge or the cost of repair.

Identity cards
Cards are not transferable. A current Swinburne identity card must be produced when borrowing, otherwise service will be refused.

Lost ID cards may be replaced at Student Administration for a fee of $5.00.

Photocopying

Users must abide by the relevant provisions of the Copyright Act.

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

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

Playing games is not permitted in the library.

Smoking is not permitted in the library.

It is a condition of entry to the library that bags and cases may be inspected 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 and quiet reading. Quiet study conversation areas are located on levels 2 and 3 and in conversation rooms. Complete silence must be observed on levels 1 and 4 and the stair lobbies on levels 3 and 4.

Any person who, in the opinion of a library staff member and the Librarian-in-Charge, repeatedly fails to observe any of the above rules, or who engages in anti-social behaviour or damages library property in any way, must produce their ID card and give their name on request.

Defenders will be responsible for all damage caused, and will be subject to disciplinary action which may include exclusion from the library, suspension of borrowing privileges, and withholding of examination results.

If a student is dissatisfied with any punitive action taken by the library they may have the issue reviewed in accordance with Swinburne's official Grievance Procedures (see Swinburne handbooks).

Power to alter rules
One or more of the rules 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.

Any change to or suspension of any rule shall be reported at the earliest opportunity to the Director and to the library and ITS Committee.

Student Services
Manager
Z. Burgess, BA(Mon), MAEd(Couns)(LaT), GDipEdPsych(Monash), MAprelim(Melb), MAPsS, VAF, ALM
Administrative Officer
M. Manel, BSc(Stirl), BEd(Couns)(LaT)
Advising Centre for Women
For further information see page 10

Student Counselling staff
Head
J. Shopland, BSc(Melb), GDipEdCouns(RMIT), GradDipHumaneServicesResearch(Phillip), EdD(UMass), MAPsS, VAF
Student Counsellors
B. Jenkins, BEd(MCAE), GDipApPsych(Couns)(SIT)
R. Kelly, BA(Melb), DipEd(Mon), MA(Linguistics)(Lanc), MA(Couns)(Auck)
B. McDonald, BA(Melb), DipEdPsych(Mon), MAPsS
C. McLeod, BBehSc(Hons)(LaT), DipEd(Laf), MAPsS
Receptionist
J. Ralph

Housing, Part-time Employment and Financial Advice
B. Graham, BAppSc(Pharm)(TCAE)
Careers Services Staff
Head
R. Ware, BA(LaT), GDipEd(MSc), PostGDipCareers (VicColl)
Careers Counsellor
R.C. Waite, BA, GDipEd(MSc), GDipEdCouns(Sai)
Schools Liaison Officer
L.E. Baron, BA(RMIT), DipEd(LaT)
Careers Information Officer
K. Woodon, BA(Ballarat), GradDipApSc in Prof. Psych(Ballarat)
Employment Program Officer
S. Davis
Student Health Service staff
Head
J. Fischer, RN, RM(Vic)(UK), RN(USA)
Medical Director
S. Clarke, MB, BS(Lond)
Sister
A. Hart, RN(Vic)
Administrative Assistant
J. Wright

Swinburne Student Services
The following services are available to all students:
Careers — course information, graduate employment, schools liaison program, counselling
Counselling — psychological, educational, financial
Health
Housing
Part-time employment
Manager's Office
Location: BA206
Tel.: 819 8423
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 premarital 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 and Training.

The Counselling Service is open from 9.00am to 5.00pm on Monday, Tuesday, Thursday and Friday and from 9.00am to 8.00pm on Wednesday. The service operates on both a fixed appointment and 'drop-in' basis.

Careers Services
Location: Room EW108 Conference Centre (opposite Glenferrie Train Station)
Telephone: 819 8521

The Careers Service is available to Swinburne students, prospective students, graduates and staff. The service is free and offers comprehensive career, course and employment information and counselling.

The Careers Library is maintained with up-to-date information about courses from TAFE to postgraduate levels, careers news, and one graduate employment. Students can receive assistance in processing and understanding the information available.

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

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

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

Careers Services is open throughout the year from 9.00 a.m. to 5.00pm Monday to Friday.

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 to all students the opportunity to seek help
and answers to their problems in a confidential and non-judgemental atmosphere; and to promote a positive and confident attitude towards their health maintenance. We offer emergency treatment, general first-aid, medical consultation by appointment, nursing and medical counselling on such issues as contraception, sexually transmitted diseases, sports injuries, nutrition, immunizations, health insurance advice. Classes in cardio pulmonary resuscitation and first-aid are also offered as well as eye tests and hearing tests (audiograms) and referral information (e.g. physiotherapy, dental care and local doctors). The service is open during teaching time, Monday to Friday: 8.45am — 5.00pm.

Doctor by appointment — 4 hours daily.

Nurses available for consultation 9.00am-5.00pm.

Student housing, part-time employment and financial advice

Location: BA206, level 2, Business and Arts Building.

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, and casual employment. This service includes advice on techniques of obtaining part-time work, and information on specific vacancies. Students are notified of available work via the part-time employment notice-board.

The office is open from 9.00am to 5.00pm Monday to Friday.

Students with a disability

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

The Student Counselling Service is located in room 206 on level 2, Business and Arts Building.

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 study. To be eligible, students must meet certain requirements regarding previous study, income, other awards held, etc. As from 1 January 1991 the following weekly benefits were available. These will be adjusted in 1992.

How much is the maximum AUSTUDY living allowance?

<table>
<thead>
<tr>
<th>Rate</th>
<th>16-17 years</th>
<th>18 and over</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>62.05</td>
<td>74.55</td>
<td>88.40</td>
</tr>
<tr>
<td>Away</td>
<td>102.40</td>
<td>113.25</td>
<td>134.30</td>
</tr>
<tr>
<td>Independent: single</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>married without child(ren)</td>
<td>102.40</td>
<td>113.25</td>
<td>121.60</td>
</tr>
<tr>
<td>married with child(ren)</td>
<td>121.60</td>
<td>121.60</td>
<td>(159.75 for sole parents)</td>
</tr>
</tbody>
</table>

**Student loans**

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

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

Emergency, short term loans are available to full and part-time students from the student union aid fund. Enquiries should be made to Student Finance.

Telephone: 819 8882.

**Dependent Spouse Allowance**

If you qualify for living allowance at the independent rate and you have a spouse and child who are dependent on you, you may receive an additional allowance of up to $121.60 a week ($634.10 a year).

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

**Health Care Card**

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

**Child Care Assistance for Sole Parents**

Assistance is available to sole parents without access to a Commonwealth subsidised child care place. A student in this situation will be required to meet the first $15 per week for one child and the first $17 per week for two or more children. The remaining cost of a place up to a fee of $100 per week will be met by the Government.

Information about child care places that attract this assistance is available from AUSTUDY Offices.

**Aboriginal Secondary Assistance Scheme**

For students of Aboriginal or Torres Strait Islander descent undertaking an approved full-time or part-time tertiary course, or undertaking full-time secondary schooling, or who are 14 years of age on 1 January 1991 and go to primary school.

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

**Family Allowance Supplement**

Students who are eligible for a living allowance and who have a dependent child may receive Family Allowance Supplement (FAS) from the Department of Social Security.
FAS will be paid to eligible clients at the maximum rate, free of any income test and in addition to family allowance. It is not taxable. The amount you receive depends on how many children you get family allowance for, and whether you rent accommodation privately.

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

For further information About any of the schemes mentioned contact Student Finance, BA206, Business and Arts Building. Telephone: 819 8862.

Concession tickets
Concession tickets are available for travel to and from Swinburne on public transport.

Students who wish to purchase these tickets should go to the Student Administration Office to complete the necessary forms. Only full-time students are eligible for fare concessions.

Students must present their student card when applying for a concession ticket. Concessions are available from The Contact Centre, Student Union or from STA Travel Agencies.

Full-time students are also eligible for an international student card.

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

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

Postgraduate awards
Commonwealth postgraduate awards assist people studying full-time for Masters degrees. Contact the Office of Research and Graduate Studies, room AC204, telephone 819 8238.

Access Education Department
Head
J. Learmont, BA(Hons), ME(Ed)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.

Advising Centre for Women at Swinburne
The Advising Centre for Women has a two-fold purpose:

1) to provide careers and course advice for women interested in pursuing studies in Business, Engineering and Applied Science.
2) to provide a support service for women studying in the above areas.

For more information please contact:
The Advising Centre for Women
463 Burwood Road, Hawthorn 3122
Ph.: 819 8533

Catering Department
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. 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.

Moorooburk Campus Amenities building
Range of hot food including casseroles, sandwiches, cakes, fruit, hot and cold drinks.

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.

Chaplaincy
Location: 473 Burwood Rd., room 201, alongside the Student Health Centre
Telephone: 819 8489

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

David Rathgen is the Chaplain at Swinburne, and although an ordained Anglican priest, he is available to all students (and staff) regardless of their religious affiliation (or lack of it).

David can arrange weddings, especially for those who find the traditional church setting difficult, or who have had a previous marriage. David will also arrange to celebrate a
baby's birth (a 'christening'), an engagement, or assist with bereavement, grief and funerals (if necessary). As a pastor, he is able to support those in any need, or who wish to work through the basic issues of life, and who wish to find a purpose or sense of direction. David will help you clarify whatever is happening in your life and where God might be at work in it.

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

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

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

**Child-care Centre**

Co-ordinator
S. Kelly, 819 6519

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 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

Early application for use of this service is advised as there is a waiting list in existence.

**Computer Centre**

Manager
M. Plunkett, BEc(Ade1)

Enquiries
S. Allan

Telephone: 819 6509

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, 22 gigabytes of disk 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 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 3090/120 are CICS/DB2; support for artificial intelligence applications is provided by IBM’s Expert System Environment (ESE) and the operating systems available include MVS/XA.

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

(b) UNIX

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

(c) Network

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

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

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

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

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

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

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

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 lea r m h throughout the b n th e i r r fo r t h related p t h l 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 teaching duties or who require special equipment or 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
Location: 463 Burwood Road
It is the policy of Swinburne to provide an educational environment of equal opportunity for all.
Discrimination on the grounds of sex, race, marital status, impairments, religious or political beliefs, sexual preference, and being a parent, childless and de facto spouse is forbidden.
Admissions to courses and assessment of student performances will be conducted according to merit only.
Swinburne is committed to providing an environment free from sexual harassment as well as pursuing a policy of affirmative action.
For further advice or assistance please contact Mary Jones, Equal Opportunity Officer on 819 8855.

Overseas Student Unit
Manager
I.A. McCormick, BCom(Melb), MAdmin(Mon), FASA, CPA
Overseas Student Advisors
Catherine Chu, BA(Mon)
Ida Lee, BA(Mon)
Molly Liu
Sonia Lee
Secretary
Doreen Pun, DipComm(HKBC)
Location
473 Burwood Road, Hawthorn 819 8151
The Overseas Student Unit is responsible for the recruitment and welfare of overseas students studying at Swinburne. All applications from non residents of Australia wishing to study at Swinburne should be lodged with the Unit.
Students are met at Melbourne airport, attend special orientation classes and are enrolled through the Unit.
The coordination of the on-going welfare of overseas students is also the responsibility of the Unit.

Publicity and Information Unit
Head
N. Manning, 819 8847
Handbook and Course Brochures
H. Hayes, DipArts(Media), DipEd, 819 8548
General Enquiries
R. Boschen
E. O'Brien, 819 8444
The role of the Publicity and Information Unit is to publicise, both internally and externally, the activities of the Swinburne Institute of Technology and College of TAFE. The specific functions of the unit include the provision, production and distribution of information relating to Swinburne courses, staff and campus activities. This is achieved through media liaison and advertising, specific course brochures and external publications such as Swinburne news, the Annual Swinburne handbooks, an internal staff newsletter and the staffing and resourcing of the Enquiries Office.
One of the unit's highest priorities is to actively promote Swinburne's public profile and the quality and range of education offered. To this end, the unit plays a major role in the co-ordination and organisation of exhibitions which includes Swinburne's annual Open Day.

Hire of Swinburne facilities
Outside groups wishing to use Swinburne facilities should contact the P[IU] to discuss their requirements. Swinburne lecture theatres and classrooms may be booked for use by outside organisations.

Swinburne Conference Centre
The Swinburne Conference Centre is located at the north-west end of the campus. It is a pleasantly situated centre, ideal for small conferences, seminars and training courses. It comprises a large seminar room, one smaller discussion room and a dining room, all available for outside hire. Enquiries about the facilities available or booking of the centre should be directed to the office staff, 819 8172.

Student parking
Enquiries
Buildings, Grounds and Services, 819 8243 or 819 8760
Limited off-street car parking facilities are provided for students, part-time and full-time. No charge is made.

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

Parking permits
Available free of charge from Buildings, Grounds and Services. Student 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
Failure to comply with parking regulations could incur a Parking Infringement Notice of up to $40. Under the Road Safety Act 1986, the fines are enforceable in court.
Those who abuse the system are also liable to have their parking privileges withdrawn and the parking permits for their cars revoked.

**Students with disabilities**

Consideration is given to the provision of reserved spaces for students with physical disabilities. Enquiries should be directed to Student Administration.

**Motorcycles and bicycles**

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

**Location of car parks**

On-campus parking areas are indicated on the map on the inside backcover 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 5:00 pm 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.

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**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.

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**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.
- Binding service for presentation of assignments etc.
- You are also able to sell your used and unwanted books through the bookshop.

We suggest that if you are intending to purchase a required text or reference, that you do so at the beginning of each semester. If you cannot afford to purchase it immediately, have it put aside. This will help to alert us to any possible shortages early in the semester. Top up orders can then be placed where necessary to ensure the book arrives in a time to be of use for that semester.

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

**Co-operative hours**

**Hours of opening**

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

- Monday to Thursday inclusive: 8.30am 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 12.00pm and 1.00pm

**Christmas vacation:**

Closed mid-December to early February

**Services**

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

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

Student Union — what is it?
The Student Union is a legal expression of the Student body identified with Swinburne. The primary function and focus of the organisation is to represent the members in the common context of their relationship with Swinburne and the Union — as students, and in their education. The second focus of the Union is to provide services, for the members within the framework of effectiveness, convenience and need. The Union in representing the members operates within the realms of the consumer advocate and lobbyist. Successful outcomes on behalf of membership has been dependent on good student representation and a core of professional and staff working together and developing policy, and precedent through careful implementation. Policy developed and decisions implemented are mindful of past and future membership. Incorporation has breathed life in perpetuity, into this organisation and has become increasingly effective by the year in servicing the membership.

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 the general service fee. The purposes for which the Union is established are:

1. to advance the social, educational and general welfare of the student body of Swinburne and to provide services for the student body;
2. to represent and safeguard the students in matters affecting their interests and privileges and to afford a recognised means of communication between the students and the authorities of Swinburne 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 wider recognition and greater appreciation of the standard of all academic awards of Swinburne Ltd.

The 1991 Executive of the Union consisted of:

President: Esther Abram
Vice-president: Geoff Brownlee
Education Director: Lisa Ferguson
Finance Director: Jeremy Edwards

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

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

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

All student members are eligible to stand and vote in elections and all have the same rights in respect to the Union and thus are entitled to use the services provided by it.

Orientation Week
Orientation occurs during the first week of academic classes. During orientation a diversity of entertainment is provided to encourage students to become involved and participate in the campus activities. Orientation week provides the opportunity for students to familiarise themselves with services and to establish friendships with new and returning students. A program of activities for the week is available prior to the commencement of Orientation.

Club and Societies
For further information about activities functions call the Activities Officer on 819 8520.

The Activities Officer is responsible for co-ordinating and assisting the student based clubs and societies on campus.

Those active in 1991 included:

ACES (Association of Civil Engineering Students)
APSS (Association of Swinburne Psychology Students)
Baha ‘I Faith
BIT PC (Bachelor of Information Technology PC Club)
BFC (Blood Film Club of Swinburne)
Christian Association
Croatian Club
Explorers Club
Greek Club
Italian Club
Korean Club
Moranthe Christian Fellowship
MEKS (Motoring Engineering Klub of Swinburne)
Mental Health Club
Photographic Society
Students for Christ
SAM (Swinburne Association of Marketing)
SCABS (Swinburne Chemical and Biology Students)
SIS (Swinburne Islamic Society)
SOSA (Swinburne Overseas Students Association)
SWINJSS (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 accidents, 24 hours a day. For further details, please contact the Accountant in the Union Office.

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

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

Union Staff
The following are a list of staff.

• Union President
• Secretary
• Education Co-ordinator
• Student Advocacy and Campaigns Officer
• Education Research Officer
• Activities Officer
Contact/Information Desk

The Contact/Information Desk is the 'nerve centre' of the Student Union for information on Union services, activities and contact details — in effect a directory of all Union services. Students will find a 'Friendly Contact Worker' who will provide assistance on how to survive at Swinburne. The desk also has listings of various off-campus groups which you may wish to become involved with.

The Desk operates as the ticket sales point for Union activities, and sells t-shirts, windcheaters, and other Union memorabilia. The Australian Buying Advisory Service (ABAS) is available at no charge to students. This service guarantees that the price you have been quoted is in fact an unbeatable offer. So if you are considering buying a camera, television, stereo, etc., see us. Feel free to drop in anytime if you need help, direction, or for any 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 Ethel Hall in John Street).

Reading Room/Photocopying Service

The room is designed for quiet reading and discussion, in a non-smoking environment. Newspapers, magazines and information on various groups, issues and organisations are located in this area. Also located adjacent to the lounge are seven photocopiers. These copiers are cheaper than the library — only ten cents and seven cents respectively per copy (A3 or A4). The Reading Room is open Monday to Thursday from 9.00am to 8.00pm 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 Contact Centre, telephone 819 8291. As the library is a non-profit organisation, its hire rates are very reasonable. All equipment hire requires a deposit and student/staff ID. 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, wallpaper remover, auto tools, orbital sanders, percussion drills, belt sanders, barbeques, PA system, tents and rucksacks.

The Tool Library is open:
- Monday 9.00am — 6.00pm
- Tuesday 10.00pm — 6.00pm
- Wednesday 10.00pm — 6.00pm
- Thursday 10.00pm — 6.00pm
- Friday 9.00am — 6.00pm

Equipment may be borrowed and returned only during the above hours.

The Greenhouse Coffee Lounge

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

Union Cafe

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

Ethel Hall

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

Radio Station 3SSR — Swinburne Student Radio

Location: fourth level of the Union Building.

The Radio Station is run by a committee which consists of:
- Programme Director
- Publicity and Promotions Director
- Station Manager
- Technical Officer

3SSR provides students with a variety of music and other programs which are broadcast to a number of outlets. Students are involved in various activities at the station including production of 'on air' programs (DJ'ing), and the general running, management and organisation of station activities.

Facilities at 3SSR include a comprehensive record library, cartridge production facilities, an 'on air' broadcast studio, and various related equipment including an eight-channel mixing desk, a four-track reel to reel, a half-track mastering reel to reel and an assortment of microphones and leads.

Anyone interested in becoming involved in any 3SSR activities should contact the station's supervisory staff in the radio station offices located on the fourth level of the Union Building.

Legal 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, on 819 8520.

Education, Welfare and Research Department

All matters pertaining to the quality of education and the socio-political welfare of students on campus are handled by this department. The Union employs a Co-ordinator (on a full-time basis) who oversees the activities of this department. The Co-ordinator is available for consultation on any facet of 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, including 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 4th floor of the Union Building.

Education and Welfare Research Unit

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

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

Campaigns and Pressure Group Co-ordination Centre

The Union undertakes actions against those organisations institutions, 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
Campus Typing is a quick efficient typing service to help you complete your assignments and gain the best possible results. It provides a forum for students to present and discuss their views on all matters. This publication is produced by the Student Union Media Office. Contributions by students including graphics, cartoons and articles are welcomed. If you want to learn how it's done, contact the Student Union Media Director or come to the Office. The Student Union also produces a free diary and Year planner which are available from the Contact Desk and at re-enrolment.

**Club printing**

Clubs and societies can have their publicity material printed by the Student Union 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 4, Database III, Lotus 123, as well as your own software packages.

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

**The winning edge can be yours**

**Campus Bind**

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

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

Covers are A4, white, clear pastic 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 organise a Tax Accountant who has a specialist knowledge regarding students, to give seminars free of cost to full and part-time students. Special one-to-one sessions are held at a small cost for those who need extra advice.

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**Swinburne Sports Association**

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

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

Administrative Assistant
K. O’Donnell

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

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

Sports Centre facilities include four glass backed squash courts, a well equipped weight training area, locker, shower and change facilities, multi-purpose clubs and aerobics room, fitness appraisal and meetings room. The Sports Store and Reception/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, Hanggliding, Hockey, Horseriding, Indoor cricket, Indoor soccer, Meditation, Motorcycle, Netball, Nordic skiing, Orienteering, Sailboarding, SCUBA diving, Skydiving, Snowski, Soccer, Squash, Surfing, Tai Chi, Taekwondo, Tennis, Volleyball and Waterskiing.

Swinburne competes in many intercampus 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.
Introduction

This document contains the rules and regulations of Swinburne College of TAFE. It includes details on senior staff, TAFE Board of Management, membership of the Board of Studies, application procedure, credit transfer, student administration office, enrolment regulations, conditions, amendments to enrolments, exemptions, identity cards, fare concessions, general service fee, awards, general policy and procedure for students, discipline, examinations (general and internal), general grievance procedure for students, state training board, external examinations, centre for business development and training, computer services unit, curriculum development unit, centre for engineering technology, national scientific instrumentation training centre, programs for overseas students, business studies division, engineering and industrial science division, further education and community services division.
TAFE Board of Management

The function of the Board is to administer the affairs of Swinburne College of TAFE under authority delegated by Council. Membership of the TAFE Board of Management as at 27 August is:

- President, Swinburne Council: Mr. T.P. Coman.
- System and who are closely associated with an industry or field served by Swinburne College of TAFE, but are not members of staff or students of Swinburne:
  - Mr. K. Adamson, Grad Dip Management, MIFE
  - Mr. K. Deutsch, BSc, BEd
  - Ms. W. Dietman, BA, B Soc Work
  - Mr. J. Hughes, MBA, B Mech Eng
  - Mr. R. Paroissen, FASA
  - Mr. K. Richardson, SAMI

- Vacant

Two members elected by and from the academic staff of Swinburne College of TAFE:
- Mr. R. Carmichael, BA, BEd
- Mr. M. Joyce, BBus, Dip Ed, AASA, CPA

One member elected by and from the general staff of Swinburne College of TAFE:
- Mr. S. Fisher, Trade Cert.

One member elected by and from the students of Swinburne College of TAFE:
- Vacant

Director, Swinburne College of TAFE: Mr. G.A. Harrison (acting), Dip Mech Eng, BSc, TTTC

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

The entrance requirements for courses are described within the respective divisional entries in the Handbook.

Special entry

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

In relation to the latter, a number of places are reserved for such applicants, in particular for applicants who are in the following categories:
- non-English speaking background,
- hearing impaired,
- long-term unemployed,
- women in non-traditional courses,
- sole-supporting parents.

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

Closing dates for applications

Full-time study
- For consideration in the first round of offers:
  - Industrial Sciences 17 January 1992
  - Business 17 January 1992
  - Associate Diploma 17 January 1992
  - Certificate Course 17 January 1992
  - General and Community Studies 25 November 1991
  - Engineering 17 January 1992
  - Associate Diplomas 17 January 1992
  - Advanced Certificate 17 January 1992

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

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

Credit transfer

The College gives recognition to course applicants for relevant experience and prior formal and informal learning obtained through training and education. The recognition may result in the granting of unit exemptions. At enrolment time students should consult with department staff regarding the relevance of their experience, education and training. Students can submit a formal application on the Application for Exemption form.

Students who are nearing the completion of their course and who plan to undertake subsequent studies in TAFE or Higher Education are advised to contact the Head of department of division in which they are enrolled, in order to discuss the course articulation and credit transfer opportunities which may be available to them.

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

Student Administration Office

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

A more detailed description of the various enrolment and examination regulations and procedures is outlined as follows.
Location and office hours
The Student Administration Office is located in Room AD109, Administration Building (AD), John Street, opposite the Business and Arts Building (BA) and the Library. (See map inside back cover). Office hours are as follows:
During teaching weeks
8:30am — 6:30pm Monday to Thursday
8:30am — 5:00pm Friday
During non-teaching weeks
9:00am — 5:00pm Monday to Friday
Note: The Office is closed on public holidays.

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 fee (unless exempt);
the payment of the prescribed general service fee;
the establishment of viable class numbers.
Note: Enrolment is not completed until the fee is paid.

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

Amendment to enrolment details
Change of subjects
If any of the subjects, after the initial enrolment, have been dropped, or any new subjects added, the student must complete an Amendment to Enrolment form (available from Student Administration and departments) which must be presented to the head of department for approval, then lodged at the Student Administration Office immediately.

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 fee (unless exempt);
the payment of the prescribed general service fee;
the establishment of viable class numbers.
Note: Enrolment is not completed until the fee is paid.

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

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.

Application for refund of fees
Application for refund of fees is provided for on the same form, and is valid until 31 March 1992 for Semester 1 and 31 August 1992 for Semester 2. 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 an enrolment change from part-time to full-time status, or where a student continues to study in Semester 2 and has only paid fees for Semester 1, or where the additional subject is a 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, examinations and 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.

Recognition of prior learning

The College gives recognition to course applicants for relevant experience and prior formal and informal learning obtained through training and education. The recognition may result in the granting of unit exemptions. At enrolment time students should consult with department staff regarding the relevance of their experience, education and training. Students can submit a formal application on the Application for Exemption form.

Exemptions

Students seeking exemption 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 student administration as soon as the loss is detected. Cardholders are, under library rules, responsible for any transaction made on the card up to the time of notification of the loss. A replacement card will be issued for a fee of $10.00.

No refund of the general service fee will be made unless the identity card is returned to Student Administration with the notice of withdrawal from a course.

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 1992 had not been determined.

As a guide, fees for 1991 were:

<table>
<thead>
<tr>
<th>Category</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time students</td>
<td>$162.00</td>
</tr>
<tr>
<td>Part-time students</td>
<td>$76.00</td>
</tr>
</tbody>
</table>

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

Note: All students enrolling at Swinburne for the first time will be required to pay an additional $20.00 towards the Student Union Capital Reserve Fund.

The General Service Fee has 2 components:

1. Student Union

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 is 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.

General Policy and Procedure

Student Discipline

Introduction

The following sets out the College policy for a campus wide student discipline procedure and appeals process in order to regulate acceptable standards of student behaviour within the College of TAFE. This is to ensure that the advancement of education is maintained at the highest level, by promoting communication between students and staff on this issue.

The policy is based on natural justice principles and as such is consistent with the United Nations Charter of Human Rights, and Acts of Parliament such as Victorian Equal Opportunity Act, Commonwealth Sex Discrimination and Racial Discrimination Acts.

1. Requirements of students

Each Division of Swinburne College of TAFE has developed rules and regulations concerning such things as attendance, social behaviour, and compliance with course and college regulations for the programs under
2. Informal and formal procedures

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

2.1 General definition

Any activity within the College precincts that harms or threatens to harm the well being and the educational welfare of a person or persons or is likely to bring the college into disrepute may be considered as misbehaviour.

Furthermore, misbehaviour will be defined as any activity which is in breach of the Requirements of the Division in which the student is enrolled.

Any person or persons who are considered to be in breach of the above will be subject to the following procedure:

2.2 Procedure — conciliation and resolution

PHASE (1) INFORMAL PROCEDURE

(Stages One, Two and Three)

Stage — One

2.2.1 On the instance of an act being reported or identified as unacceptable, the teaching or administrative staff member will attempt to resolve the matter on a one-to-one or one-to-many basis.

Stage — Two

2.2.2 If the first action does not resolve the matter then the staff member concerned will raise the matter with the immediate supervisor who will attempt an informal discussion with both parties with the aim of resolving the concern.

Stage — Three

2.2.3 If the second action (stage two) is not successful, then the staff member concerned will raise the matter with the Head of Department. If the staff member involved in the first and second stage is the Head of Department the Head of Division will act as the conciliator in the third action (stage three).

PHASE (2) FORMAL PROCEDURE

Stage — Four

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

2.3 Degrees of punitive action

23.1 Warning on the first instance.
23.2 Suspension for a set period of time from class or all classes.
23.3 Exclusion from the College.

3. Appeals

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

3.2 The Head of Division will assemble an impartial panel consisting of:
- the Head of Division or nominee, as chair of the panel
- an independent staff member who is a nominee of Head of Department
- the President of the Student Union or nominee.

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

4. Confidentiality

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

5. General grievances procedure

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

Examinations

General

1. Timetables

Approximately half-way through each semester, a provisional examination timetable is displayed on the examinations notice board. Students should note their examination times and immediately report any clashes to the Examinations Officer who is located in the Student Administration Office.

The final timetable is displayed on the examinations notice board approximately two weeks before the commencement of examinations.

The final timetable is printed and copies are available to students. They are distributed from several points, including the Student Administration Office.

It is the responsibility of students to obtain a copy of the timetable and to be aware of their examination 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 of the above definitions.
2.7

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 material and submit same through its convener to a moderator appointed by the head of department.
3.2 The panel shall, when required, draft the appropriate 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 material and submit same through its convener to a moderator appointed by the head of department.
3.3 A moderator shall be responsible for making recommendations to the Swinburne Council for the grant of a particular award.
3.7 An irregularity is the unauthorised use or attempted use by or for any student of any means to gain an unfair advantage in any examination, test, assignment, essay or other work, the marks for which form part of the final assessment. It includes taking actions contrary to the instructions for such examination or work, taking into an examination any material with the intention of using it to obtain an advantage.

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.

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

4.3 Collection and despatch of papers
The Examinations Officer is solely responsible for redirecting all completed examination scripts to the appropriate filing Hokori. Students are required to provide their own calculators and drawing instruments. Students will not be permitted to borrow or lend any equipment or material during an examination.

4.4 Examination discipline
4.4.1 When an apparent irregularity is observed in an examination room, the student will be informed immediately by the supervisor but will be permitted to finish the examination paper. The Examinations Officer will immediately report the circumstances to the Chief Examiner, the subject convener, and the head of the teaching department.
4.4.2 At the conclusion of the examination the Chief Examiner shall convene a meeting of the subject convener, the student concerned and the head of the teaching department to determine:
(a) whether there has been a breach of examination discipline;
(b) whether there is a need for assistance with communication with the student; if it resolves that there is such a requirement, it shall adjourn the meeting and...
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:

- A signed subject report in form approved by the awarding faculty board, including:
  - certification that these regulations have been carried out;
  - a statement of the assessment procedure followed;
  - copies of all examinations, tests and assignments;
  - where appropriate, copies of solutions or statements of minimum qualities; and
  - an appraisal of the subject as a whole.

5.1.1 Before recommending the results to the awarding division board or its committee, the head of the teaching 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.

5.1.2 The result recommended for each student must be approved by 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:

- one shall be the nominee of the Chief Examiner;
- one shall be a student of the College nominated by the President of the Student Union;
- one shall be the nominee of the subject convener;
- 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.

5.2 Result categories

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

- 75 - 100% Credit CR
- 50 - 74% Pass P
- 0 - 49% Fail F

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:

- Pass with 80% - 100% A
- various 70% - 79% B
- grades of 60% - 69% C
- distinction 50% - 59% D
- 40% - 49% E
- 0% - 39% F

and, where reports are in two categories only:

- Satisfactory S
- Unsatisfactory U

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 — Continuing NC
- Ceased — No Withdrawal CNW

Special circumstances in connection with the NC category must be approved by the Board of Studies.
6. Absence from examinations
Students who are absent from an examination due to illness or other reason may apply through the Student Administration Office for a special examination. Such application must be accompanied by evidence of a genuine inability to attend the examination, and must be lodged no later than midday of the third working day after the examination.

7. Deferred results
7.1 A deferred result may be granted only by the head of a teaching department. The special circumstances justifying the grant of a 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 department, 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 their final written examination paper. This does not apply to practical examinations.
Reports are in the following categories:
(a) breakdown of marks allocated for each question, or
(b) a full report.

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.

General grievance procedure for students

1. Policy
1.1 Swinburne Council adopted an Equal Opportunity Policy in 1984. The policy affirms commitment to the principles of equal opportunity with regard to employees of, and applicants for employment within Swinburne, and to students admitted to, and prospective students of Swinburne.
1.2 The policy and its successive amendments stipulate that there shall be no discrimination on the grounds of sex, marital status, disability, race, religious or political beliefs, age, sexual preference, or being a parent, childless or a defacto spouse.

2. Definition of terms used in grievance procedure
2.1 Grievance: a complaint presented by an individual, or a group, based on the opinion that they are, or have been, receiving treatment that differs from the treatment received by other individuals or groups.
2.2 Discrimination:
   a) Direct Discrimination — any decision or action which specifically excludes a person or group of people from a benefit or opportunity, or significantly reduces their chances of obtaining it, because a personal characteristic irrelevant to the situation is applied as a barrier.
   b) Indirect Discrimination — attitudes and assumptions which are incorporated into rules, policies and practices, that appear to be neutral or to treat everyone equally, but may in fact disadvantage one group.
2.3 Status or Private Life: The Victorian Equal Opportunity Act 1984 stipulates that no person shall experience discrimination on the grounds of that person’s status or private life. ‘Status’ refers to a person’s sex, marital status, race, impairment, being a parent, childless or a defacto spouse. ‘Private Life’ refers to the holding or not holding of any lawful religious or political beliefs and engaging or refusing to engage in any lawful religious or political activities. The Act applies to education and employment.
2.4 Complainant: person who lodges a grievance.
3. Behaviours or actions which give rise to a grievance

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

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

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

4. Resolving a grievance

Informal procedure

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

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

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

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

4.5 If the student's preference is for internal resolution of the complaint, the Head of Department will take a written record of the complaint on a pro forma grievance form. It will contain:

a) the name of the complainant;

b) the name of the person(s) against whom the complaint is made;

c) the date the complaint is made;

d) the date(s) the behaviour resulting in the grievance took place;

e) a brief description of the nature of the complaint;

f) a summary of follow-up actions taken.

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

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

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

5. Conciliation and resolution

5.1 The Head of Department will meet informally with the respondent for the purposes of:

a) outlining the grievance and naming the complainant (except as covered by Clause 4.7);

b) making a written record of the respondent's reply to the complaint, which is signed and considered a true record;

c) attempting to ensure that there are no reprisals taken against a student who has made a complaint in good faith;

d) outlining the requirements of State and Federal Government anti-discrimination legislation or Swinburne Council policy, where relevant;

e) advising the respondent that another staff member will be nominated to re-assess the student's written work in complaints relating to course assessment.

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

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

6. Re-assessment of submitted work or exam paper

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

6.2 In the case where the respondent is also the Head of Department, the Dean or Head of Division, acting as the student's contact person may nominate a member of staff from another discipline or a member of staff from the same discipline in another institution to undertake a re-assessment of the student's work.

7. Follow-up actions

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

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

7.3 Where the student is subjected to retaliation he/she may approach the Head of Department or Head of Division or Dean where appropriate and an investigation will be instituted.

8. With the agreement of the complainant, the Head of Department will then attempt to resolve the grievance with the member of staff named in the complaint through informal discussion and conciliation.
8. Formal procedure

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

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

8.3 The Appeals Committee will comprise:
   a) the Director’s nominee from within the Directorate, who shall act as the Chair;
   b) a representative of either the TTUV, SASO, or VCUSA, depending upon the constituency of the respondent; and
   c) a representative of the Student Union.

8.4 The written reports, compiled by the Head of Department and signed by the complainant and the respondent will be forwarded by the Head of Department to the Chair of the Appeals Committee.

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

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

9. Investigation of complaint

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

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

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

Actions which may be taken are limited to:
   a) not upholding the case;
   b) upholding the case and stating that the following be considered, where relevant:
      — preparation be made to the complainant for any loss of academic credit or achievement suffered as a consequence of the behaviour
      — re-admitting a student who has been excluded from a course
      — directing the respondent to undertake appropriate staff development programs
      — reprimanding the respondent
      — ensuring that the complainant is not retaliated against by virtue of the complaint
   c) in the case where a grievance which concerned discrimination against a student on the grounds of status or private life being upheld, the following action may also be recommended:
      — suggesting that the respondent undertake counselling.

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

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

10. Appeals

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

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

11. Complaints of discrimination — external procedures

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

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

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

11.4 The appropriate external authority in the case of discrimination complaints is the Office of the Commissioner for Equal Opportunity in Victoria.
12. Confidentiality
12.1 Confidentiality will be strictly observed throughout the conciliation and resolution process. Information and records related to complaints will be considered exempt documents under Freedom of Information legislation.

13. Record keeping and storage
13.1 The written record of the complaint will be retained for a period of 12 months in a confidential manner.
13.2 Where all appeal mechanisms are exhausted or where the complaint is not sustained, written documentation of the case will be destroyed.
13.3 The Equal Opportunity Officer shall have access to statistical information concerning discrimination related complaints.

14. Conflict of interest
14.1 If the Head of Department feels that to undertake conciliation of a complaint would place him/herself in the situation of a conflict of interest, the Head of Department will direct the student to take the grievance to the Dean or the Head of Division.
14.2 A complainant may at any stage of the informal procedure seek the assistance of the Dean or Head of Division if he/she believes a conflict of interest exists or may arise as a result of the complaint.

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


State Training Board External Examinations and special consideration applications

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

EXTRACT

1. Applications — Consideration and special examinations
   1.1 Application for special consideration or admission to a special examination shall reach the office of the STB within 72 hours of the examination. Such applications will be accepted only on the appropriate form and should be sent to:
   Examinations Branch
   State Training Board
   PO Box 266D
   MELBOURNE VIC 3001

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

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

   2.3 Applications will only be accepted on the appropriate form.

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

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

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

   3.4 The State Training Board provides in many cases multiple attempts at examinations in a year and while accident and illness may be unfortunate candidates should not expect the provision of examinations as 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 physically within that time limit.

   3.8 Acceptable grounds for application are restricted to:

   (a) Severe current illness at time of the examination preventing the candidate from sitting that day. This must be verified by a medical practitioner and the candidate must be on the prescribed medication.

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

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

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

3.10 Guidelines for Special Consideration

Students cannot ask for special consideration for a pre-existing illness. The fact that a student was ill prior to or while study was in progress, does not in itself constitute grounds for special consideration. The inability to study is definitely not grounds for consideration.

3.10.1 Special consideration is requested from examiners in the following instances:

(a) Sudden severe illness certified on a written report on the appropriate form. Other unspecified doctor’s certificates are not acceptable.

(b) Close death in a family involving immediate family members.

(c) Chronic handicapped disabilities.

(d) Court appearances.

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

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

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

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

3.10.5 Special consideration will only assist the student in limited cases. General exemptions are not given in any subject. Therefore special consideration is extended to the opportunity to sit, or to attempt the paper.

The student can be given marginal allowance for actual inability to perform or cope with the examination content. The candidate must be able (in general) to reach the common standard expected with only the borderline cases being considered.

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

3.11 Chronic or Long Term Handicapped

3.11.1 A candidate with a history of disability needs only apply once and if application has been approved, that student is issued with a letter showing an 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 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 (c) provision of time,  
(b) extra reading time, (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 practical 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.
A separate form must be completed for each subject. Practical assessments are not kept, theory scripts only may be applied for. College and student number must be quoted. Access to examinations script to the following address: -

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
PO. 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.
— 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 Business Development and Training
Manager: J. Torbiner, BEd(BusStuds), AIMM, AITD
The centre aims to meet the needs of business and industry by providing:
* A variety of short courses and workshops specialising in:
  — Small business establishment and management
  — Secretarial and Word Processing
  — Computer Business Applications
  — Sales and Marketing
  — Management
* A reference and consulting service in:
  — Setting up a business
  — Bookkeeping/accounting and financial requirements
  — Management practices
  — Human Resource Development
* A resource centre with printed and audio-visual material for reference or loan.
* A Human Resource Development service that can design and organise training programs to suit individual organisational needs.

Swinburne College of TAFE
Computer Services Unit
Manager: Mary Waterhouse, BEc, DipEd
Technical Support: S. Caton, AssDipElecEng, SEC A grade
Andrew Zammit, AssDipBus(Micro-computing)
Administration: Annette Quail, IPSA
The Swinburne College of TAFE Computer Services Unit 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 in Building A (TAFE) in the Centre for Business Development and Training rooms. The Unit is equipped with 250 IBM compatible microcomputers arranged in local area networks. A substantial software library is maintained, which includes languages, current application packages and development tools.

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

Swinburne College of TAFE
Centre for Engineering Technology
Manager: L.J. McLaughlan
Co-ordinator, CAD: E.G. Oliver
Systems: PS. Stroude
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 (CAD/CAM)
The CAD/CAM course uses a CAM package in association with Autocad. This CAM package was developed for industry by the Centre (CAMFAC). 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.
National Scientific Instrumentation Training Centre

The NSITC offers a comprehensive range of industry orientated "hands-on" training courses in modern scientific instrumentation including:
- nuclear magnetic resonance spectroscopy,
- high performance liquid chromatography,
- gas chromatography,
- electrochemistry including potentiometry,
- atomic absorption spectrophotometry,
- fourier transform infrared spectrometry,
- and GC-mass spectrometry.

NSITC Manager: Dr. Jon Hall
Scientists: Dr. Louis Kyritzis
            Virginia Poletti
            John Schulze
Admin. Manager: Jacqui Flowers
                819 82791819 8754

Programs for Overseas Students

The College accepts students into full-time accredited programs in applied science, business, computing, engineering, office administration and foundation studies. Through the English Language Centre, English for Academic Study courses of various lengths are offered. These are government accredited courses.

Details on courses for overseas students are available from the Overseas Student Unit, 819 8151 or 819 8647.
Business Studies Division

Head
R.W. Conn, BBus, DipEd, CPA

Finance and Information Technology Department

Head
M.J. Joyce, BBus, DipEd, CPA, FTIA

Academic Staff
M. Aronfeld, DipAcc, DipEd, ASA
S. Bouse, BCom, BBus, GradDipBIT, CPA, ACIS
ACIM, ACA
P. Brewster, BBus
J. Chong, BEx
L.G. Corrie, BCom, TSTC
A. Davy, BBus, DipEd, CPA
M.G. Dibg, BBus, DipEd, CPA
B. Halloran, BEx
M. Hamilton, BSc(Hons), PhD
F.M. Lawlor, BA, DipBusStud, DipEd, GradDipAcc, ASA
R.N. Lewis, BCom, DipEd, CPA
E. McLennan, BSc, BA, DipEd
M. Reaper, BEd
F. Rossi, BEx, GradDipLS, DipEd, MEPA, ASA, AIM
J. Rudolph, BEx, DipEd
G. Senarathne, FCMA(UK), GradDipEd, GradDipBusTech, ASA, MACS
M. Waterhouse, BEx, DipEd

Marketing and Administration Department

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

Academic Staff
K. Allen, BCom, DipEd
L. Cimino, AssDipBusStudLaw, DptIT
B. Havenhand, BA, DipEd, GradDipMktg
C.M. Kent, BA, NZTC
J.A. Mullen, AssDipPSR, DptIT, AIIPS
M. Neilson, DipBusStud
S.E. Quail, BA, DipEd
M. Reardon, BEd
J. Ryan, AssDipBusStud, TTTC
G.I. Scott, BA, TTTC
C.P. Trahair, BA, DipEd, GradDipSecStud
J. Tulk, BEd, GradDipAppSc(BusTech)
J. Wills, BCom, GradDipEd, AAMI, ARMl
N. Zubeckis, BA, DipEd

Centre for Business Development and Training

Manager
J. Torbiner, BEd(BusStuds), AIM, AITD

Business associate diploma courses

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

Accounting
Microcomputing
Marketing
Office Administration

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 Information Technology
Advanced Certificate in Computer Operations (not in 1992)
Advanced Certificate in Personnel
Advanced Certificate in Office Administration

Computer Business Applications Certificate
Certificate of Office and Secretarial Studies
Certificate of Business Studies — Operations
Management: Occupational Health and Safety
Purchasing and Planning
Work Study
Advanced Certificate in Management (not in 1992)

Full-time Courses

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

Part-time Courses

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

The Computer Business Applications Certificate 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 pursing 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.

Entrance requirements

The usual entrance requirements are a pass in Year 11 or an equivalent course for Certificate courses and a pass in Year 12, an equivalent course or mature background for Associate Diplomas or Advanced Certificates.

Career potential

The general aim of the Certificate, Advanced Certificate and Associate Diploma courses is to provide a variety of para-professional courses which are designed to suit the needs of potential section or 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 recognized 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 units passed at other colleges.

If a TAFE Victorian Certificate, Advanced Certificate or
Associate Diploma of Business Studies unit has been passed
at an institution other than Swinburne, it is not necessary to
apply for an exemption. The unit will count towards a certificate
regardless of where it was studied. When applying for your
award simply provide the awarding college (where you passed
the last unit) with result statements from the colleges where
you studied the other units.

Subjects other than Advanced Certificate or Associated
Diploma 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 of
   the relevant Department 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 of the relevant Department.

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 not be given for subjects which are at or below
   Australian University entrance standard, i.e. the equivalent
   of the Victorian Certificate of Education (Higher School
   Certificate).
(2) Credit will be given only if there is a substantial overlap
   of topics, except where alternative subjects provide a
   suitable basis for study in an area of specialisation then
   exemptions may be granted for introductory specialist
   units even though the content of the alternative subject
   does not overlap.

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 re-
enrolment 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
1 & 2 and Applied Business Communications and
Management Skills must be recommended by the Head of
General and Community Studies. After approval, letters of
notification are prepared and rechecked, therefore students
should expect this process to take approximately two to three
months.
Students are advised to start this course with the following:

- To seek advice from the Finance and Information Technology Department before enrolling.

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.

Students completing the Associate Diploma in Accounting may be eligible for membership in the National Institute of Accountants.

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.

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

#### Career potential:

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

<table>
<thead>
<tr>
<th>Title</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Certificate Information Technology</td>
<td>3300 DYC</td>
</tr>
<tr>
<td>Associate Diploma of Business (Micro-computer Systems)</td>
<td>3500 DYA</td>
</tr>
</tbody>
</table>

Students wishing to complete the Associate Diploma of Business in Micro-computer Systems must have successfully completed the Advanced Certificate — Information Technology.

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

#### Compulsory units

**Advanced Certificate — Information Technology**

**Semester 1:**

- TS711 Intro to Micro-computer Applications A
- TS721 Communication Skills A
- TS715 Programming Concepts A
- TS717 Computer Architecture
- TS729 Using a Micro-computer
- TS739 Business Organisations
- TS713 Keyboarding
- TS712 Intro to Micro-computer Applications B
- TS722 Communication Skills B
- TS716 Programming Concepts B
- TS728 Introduction to Peripheral Devices
- TS730 Using a Minicomputer
- TS740 Business Information Processing

**Semester 2:**

- TS723 Communication Skills C
- TS719 Cobol Programming A
- TS717 Programming Techniques A
- TS721 Operating Systems
- TS741 Data Processing System
- TS725 Introduction to Sales & Marketing
- TS724 Communication Skills D
- TS720 Cobol Programming B
- TS718 Programming Techniques B
- TS733 Intro to Data Communications & Networks
- TS734 Micro-computer Hardware & Software Selection
- TS726 Computer Sales & Marketing
- TS714 Accounting Concepts
- Plus two electives

**Electives:**

- TS742 Document Processing Software Packages
- TS743 Spreadsheet & Business Graphics
- TS744 Database Software Packages
- TS745 Accounting Software Packages
- TS767 Drafting and Display Graphics

**Associate Diploma of Business (Micro-computer Systems)**

**Semester 1:**

- TS732 Introduction to Systems Analysis & Design
- TS756 Database Design
- TS752 Database Programming A
- TS757 4GL Programming Option A
- TS773 Micro-computer Systems Analysis & Design
- TS774 Electronic Principles
- TS765 3GL Programming Option A
- TS737 Project Management Techniques
- TS753 Database Programming B
- TS763 User Needs Analysis

**Semester 2:**

- TS766 Application Project C
- TS764 3GL Programming Option B
- TS768 Micro-computer Development Tools
- TS771 User Training Techniques
- TS754 Data Communications
- TS769 Multiuser Micro-computer Systems
- TS772 User Documentation
- TS770 Micro-computer Architecture & Assembly Programming
- TS775 Advanced Local Area Networks
- TS776 Micro-computer Systems

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.
3300DBI 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.

3500DGA Associate Diploma of Business (Office Administration)

This is a two year full-time course, combining both the practical and theoretical concepts necessary for graduates to gain employment in administrative office support areas.

Students who successfully complete the first year of the courses are eligible for the award of Advanced Certificate in Office Administration.

Prerequisites
The prerequisite is satisfactory completion of Year 12 or equivalent. Mature background students with suitable business background will also be admitted to the course.

Course structure
First year
- TS872 Document Production 1
- TS873 Document Production 2
- TS874 Office Administration 1
- TS875 Office Administration 2
- TS841 Business Software Applications 1
- TS422 Business Computer Applications 2
- TS301 Introduction to Accounting
- TS247 Business Law 1
- TS800 Practical Placement

Plus two electives from a specialist stream.

Second year
- TS807 Document Production 3
- TS898 Document Production 4
- TS699 Office Supervision 1
- TS900 Office Supervision 2
- TS801 Practical Placement

Plus six electives from a specialist stream.

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

3222DDA Certificate in Office and Secretarial Studies

This course is designed to equip students with the skills and knowledge to work efficiently in today's changing office environments as office support staff, typists, word processing operators or receptionists.

Course details
Compulsory units
- TH133 Communication Skills 1
- TH134 Communication Skills 2
- TS860 Typing Production 1
- TS891 Typing Production 2
- TS880 Administrative Procedures 1
- TS896 Administrative Procedures 2
- TS863 Word Processing 1
- TS894 Word Processing 2
- TS895 Introduction to Computing 1
- TS996 Introduction to Computing 2
- TS800 Practical Placement

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

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

3000DFJ Certificate of Business Studies — Operations Management

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.
Full list of Module A subjects

- TS501 Method Study
- TS502 Implementation of Changes
- 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
- TS521 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

Duration of course

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

3000DFJ Certificate of Business Studies — Operations Management — Occupational Health and Safety

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 recording, investigation, accident/fault statistical systems and a safety measurement program; and to develop and 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
- 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

Six compulsory general units

- TH103 Business Mathematics 1
- TH104 Communication Skills 1
- TS112 Business 1
- TS113 Business 2
- TS226 Middle-management Practices 1
- TS326 Middle-management Practices 2

Six elective units from the Certificate of Business Studies subjects.

This group of elective units must include at least four of the specialist Operations Management subjects. The specialist electives may be chosen from the following:

- TS503 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
- TS521 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

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 Safety Institute of Australia.

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

- TS501 Method Study
- TS502 Implementation of Changes
- 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

Six compulsory general units

- TH103 Business Mathematics 1
- TH104 Communication Skills 1
- TS112 Business 1
- TS113 Business 2
- TS226 Middle-management Practices 1
- TS326 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 subjects. The specialist electives may be chosen from the following:

- TS503 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
- TS521 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

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

3000DFJ Certificate of Business Studies — Operations Management — Work Study

Career potential

The 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., work study practitioners.
2. Smaller operators who need to be proficient in a variety of technical or business tasks as well as management decision-making.

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

TS503 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

Completion of this group of units (Stage 1 of the course) leads to the award of a Work Study Certificate. This is an eight unit intermediate qualification which forms part of the CBS — Operations Management. The Work Study 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

TS227 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, Materials Management 1 and 2, Planning Procedures 1 and 2.

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).

3300DGB Advanced Certificate in Personnel

Career potential

On completion those who are employed in personnel functions would take approximately three years to complete.

Membership of associations

On completion those who are employed in personnel functions may apply for 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.

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
TH433 Applied Business Communications
TH434 Management Skills 1
TS115 Applied Business Statistics
TS247 Business Law 1
TS248 Business Law 2
TS107 Accounting for Managers
TS380 Selling
TS361 Buyer Behaviour
TS362 Managing the Sales Operation 1
TS363 Managing the Sales Operation 2
TS364 Promotions 1
TS366 Marketing

Second year
TS123 Keyboard Familiarisation
TS421 Business Computer Applications 1
TS422 Business Computer Applications 2
TS436 Applied Business Economics 1
TS435 Management Skills 2
TS367 Marketing Research
TS368 Innovation and Product Management
TS369 Logistics Management
TS370 Direct Response Marketing
TS434 Management Skills 1

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

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

- 3300DCE Advanced Certificate in Marketing
- 3300DCC 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 over two years of full-time study, 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 Further Education and Community Services Division 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; presentations; agenda and minutes; case study; publicity campaign and mounting an exhibition.

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

TH434 Management Skills 1
The role of a manager, the five Ps of a plan, trade motivation, interviewing skills and stress management. Prerequisite: nil.

TH435 Management Skills 2
Occupational health and safety and social justice issues in the work environment, why industrial disputes occur, current issues facing management today, counselling techniques. Prerequisites: TS433 and TS434.

TS006 Legal Studies 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 resources, resource allocation and the price mechanism, aggregate economic behaviour, the role of government, trade and external policy, economic growth and welfare, income distribution and poverty.

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 resources, resource allocation and the price mechanism, aggregate economic behaviour, the role of government, trade and external policy, economic growth and welfare, income distribution and poverty.

TS009 Accounting Victorian Certificate of Education (TOP) subject

Full year 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 for multiple ownership and analysis and interpretation of financial reports.

TS107 Accounting for Managers

This course is designed to enable students in other than financial courses to understand the purpose and operation of accounting systems, to understand the principles of financial management, to 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.

TS115 Applied Business Statistics

Topics studied include the nature of accounting, accounting reports and the accounting equation; recording methods, balance day adjustments; final reports, accounting for multiple ownership and analysis and interpretation of financial reports.

TS140 Industrial Law

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

TS141 Staffing

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

TS142 Personnel Practices

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

TS143 Training and Development

The administration of training and development policies, the principles of performance appraisal and human resource planning, designing, delivering and evaluating training and development programs.
The administration of occupational health and safety policies, individual and group maintenance of appropriate records and reports, health and safety provisions, and management of appropriate records and reports, rehabilitation programs, and specialised agencies in the OHS field.

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

Industrial Relations
The administration of industrial relations policies, collective bargaining, negotiations, and conflict resolution. Implementation of industrial relations systems, including union agreements, and the establishment of collective bargaining for a sole proprietor in both a service and trading organisation. Final accounting reports for a sole proprietor, using a single entry system of bookkeeping, in both a trading and service organisation. Revenue statements showing department contributions and final profit and loss. Preparation of financial statements for sole proprietors. Preparation of cash flow statements.

Accounting Systems (1 unit)
Essential features of equipment used to maintain systems using either manual or electronic systems. Basic concepts and procedures for collection and control of accounting information. Semi-automatic or automatic equipment, i.e., stock, payroll, debits, creditors, cash receipts and payments, and fixed assets. In this unit, the perpetual inventory system and the use of control accounts and subsidiary ledgers for stock, debits, creditors, and fixed assets, are considered in detail.

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

Financial Accounting (1 unit)

Costing Principles (1 unit)
Maintain material cost, operation cost, and standard costing systems. Preparation of a profit and loss statement. Accounting for by-products, operation costing system, standard costing, computerised standard costing, variable and absorption costing and costs for decision-making. Analysis of costs for decision-making.

Costing Systems (1 unit)
Process costing system, accounting for joint products, accounting for by-products, operation costing system, standard costing, computerised standard costing, variable and absorption costing and costs for decision-making.

Auditing (1 unit)
Examination of various aspects of external auditing and internal control as they relate to business organisations.

Advanced Accounting Issues (1 unit)
Equity accounting, current cost accounting and accounting for leases by lessees. Analysis of capital investment proposals and return on investment.

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

Taxation Procedures (1 unit)
Methods of taxation collections, assessment procedures (including objections), tax agents' responsibilities, preparation of taxation returns using a computerised program and general features of taxation planning.

Taxation Practice (1 unit)
Primary producers, taxation provisions relating to partnerships, trusts, 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 
requirements of the Australian Accounting Standards 
and Financial Reporting by the Companies (Vic) Code and 
accounting standards as prescribed by the 
Accounting Standards Board.

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 
leadership.  
Motivation theories of Maslow and Herzberg  
are studied, with an emphasis on understanding the factors 
which influence motivation in the work environment.
Job enrichment, behaviour of individuals and groups. Effective 
communications in business, why failures in communication occur. 
Relationships communication to motivation. 
Aids and barriers to communication.

TS360 Selling
Role and function of a salesperson. Why people buy (motivation). 
Selling techniques and procedures. Overcoming objections. 
Gaining orders. After order service. Field procedures and 
responsibilities. Prerequisites: Nil.

TS361 Buyer Behaviour
Basic psychology and sociology and their use in marketing. 
The relevance of theories of consumer behaviour, 
product decision making process as it is applied to the consumer and 
to businesses. 
Prerequisites: Market and Selling. 
Should be studied prior to or concurrently with this unit.

TS362/3 Managing the Sales Operation 1 and 2
Managing the sales operation. Staffing and training the sales team. 
Motivation of sales staff. Analysis and evaluating 
sales and 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. 
Marketing and Promotions 1, 2.
Prerequisites: Marketing and 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 market's environment. Selection of target groups. Market segmentation. 
The development, implementation and monitoring of a 
marketing strategy. Marketing Control. Creativity and its role in 
marketing. Prerequisites: Nil.

TS367 Market Research
Where marketing research is used. Marketing research procedures. 
Questionnaires, construction and other 
methods. Interviewing techniques. Sampling techniques. 
The field work responsibilities and techniques. 
Selection, training, supervising and 
monitoring field workers. Collection, collation, analysis, 
validation and presentation of data. Marketing research recommenda-
tions. Prerequisites: Applied Business Statistics (or concurrently), 
Marketing.

TS368 Innovation and Product Management
The Product Manager. The Product Life Cycle. The Innovation- 
Adoption process. Brand Management. Idea generation and Screening 
techniques. Prerequisites: Marketing.

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

TS370 Direct Response Marketing
This unit provides an understanding of Direct 
Response Management of 
the consumer. It examines the role of Direct Response marketing 
principles and techniques that can assist in the total 
marketing strategy 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 be studied either prior to or concurrently with 
Direct Response Marketing.

TS371 Marketing Project
The aim of this unit is to complete a group research project related to 
specific marketing problems, the knowledge and skills gained from 
the course. Prerequisites: Marketing, Marketing Research, Promotions 
1 and 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 factors, gathering overseas intelligence, product 
policy, distribution, promotions, pricing. Controls for international 
marketing. Prerequisites: Marketing, Marketing Research, Buyer 
Behaviour and Promotions 1 and 2.

TS373 Management and Marketing for the 
Small Business
Small business in Australia. The role of the entrepreneur in small 
business. Marketing research technique for small business. No 
marketing considerations Marketing and its application to the 
small business and its future. 
Prerequisites: Marketing, Marketing Research, Buyer Behaviour, Promotions 1 and 2.

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 areas. 
marketing — PR techniques, Target market. Evaluating a 
marketing mix. Marketing control.

TS375 Services Marketing
What is a Service Industry? Its role in the Australian economy. The 
types of services marketing — organisations, persons, place and ideas 
marketing. The marketing of services both onshore and offshore. 
Services marketing and the future. Prerequisites: Marketing, Marketing 
Research, Buyer Behaviour, Promotions 1 and 2.

TS409 Budgeting 1
Completion of appropriate budgets and performance reports for trading 
and service organisations. Prerequisites: Completion of TS301, TS312 
and completion of concurrent completion of TS306.

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

TS415 Computer Based Accounting 1
Establishing a database for a computer accounting system. Setting 
up a general ledger with a chart of accounts and subsidiary ledgers, 
entering opening balances and transactions through the various 
ledgers, extract a trial balance, process reports and roll-over accounts 
into a new period. Prerequisites: Completion of TS301 and TS421.
TS421 Business Computer Applications 1
Identifying and explaining the components of a computer system, using DOS, the care and security of computer hardware and storage media. Using a word processing program. Prerequisites: nil.

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

TS425 Computer Based Accounting 2
Using an installed commercial computer package to maintain the records of a company and a partnership and analyse and interpret the reports and implications of alternate management decisions. Prerequisites: Completion of TS415, TS422, TS409, TS306, TS304, TS314 and TS305. Students should also have completed or are concurrently completing TS410 and TS307.

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

TS437 Applied Business Economics 2
The nature and function of macro-economic theory within the framework of an open economy. Prerequisites: TS436.

TS445 Applied Business Mathematics
The role of statistical analysis in business, the types of statistical analysis required in given business situations, the calculation and application of certain statistics to those business situations, the use of a software program to generate particular statistical data. Prerequisite: nil.

TS450 Integrated Work/Field Placement
Applying the theoretical concepts and practical skills acquired in the course to a relevant position within industry. Practical placement of fifteen working days for full-time students or two hours a week for part-time students. Prerequisites: Advanced Certificate in Accounting. Completion of the equivalent of full-time first semester of the Associate Diploma is recommended.

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 measurement of productivity. Methods of improving productivity. Union versus management conflict over productivity issues. The benefits of productivity increases from employees. Companies and the community. Setting priorities for tasks requiring method study. Cost benefit calculations. Assessment of human resource implications of changing work methods. The use of charting in method study. Selecting and drawing the most appropriate type of chart to record a particular job or process. Analysis of an existing method and the development of a new method. Preparation of submissions to management showing costs, sketches, phototypes 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 initial expenditure, operating costs and times needed to recover investment of alternative job methods. Preparation of written and verbal reports on method improvement proposals. Reasons for resistance found in applying and developing the accepted change. Techniques for selling 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 industrial relations. Employee motivation. The contribution of behavioural science, job enrichment and worker participation in relation to motivation. The implementation of new methods. Identifying training needs and redundancy issues. Procedures for maintaining the improved method. The importance and use of standard written practice for training records and procedures. The design of a training plan covering the factors of personnel changes, performance standards, production commitments and key tasks. Demonstrating good job instruction.

TS503 Time Study (1 unit)
The use of work measurement to method study. The uses of and how to establish and maintain standard times. The control charts and procedures. The calculation of appropriate allowances for establishing standard times. Different types of allowances used in recording elemental times using the snap-back timing method with a decimal minute stopwatch. Determining the absolute error per set as the number of cycles required for a particular time study. Rating the performance of operators with different rating scales. Normalised time calculations. Calculation of appropriate allowances for establishing standard time. A comparison of the reasons for selecting standard times including the advantages and limitations of different time study techniques. The investigation of how and why different method study techniques are used.

TS504 Predetermined Motion Time Standards (1 unit)
Advantages and disadvantages of predetermined time measurement systems. Factors influencing the performance of simultaneous motions. The advantages and disadvantages of MTM and other methods. The principles of MTM elements. The advantages of low conscious and high conscious control. Identifying distances used in a job. Using MTM to establish standard times for a job. The application of MODAPTS for establishing standard times including the advantages and limitations of MODAPTS. The identification of movement classes, terminal activities, simultaneous 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 statistical principles and uses, advantages and disadvantages, procedures for making a study, and statistical calculations for setting a standard time. Machine interference including the following topics: man and multi-machine workloads, cyclic and random interference, service time calculations, tables and formulae, application of allowances, the activity sampling approach to machine allowance and costs associated with allocating machines to operators. Estimating techniques including the analytical estimating method, estimator's qualifications, uses of analytical estimating. Estimates based on equipment 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 and how it is used. Analysis and interpretation of financial statements. Use of financial ratios to evaluate solvency, efficiency and profitability. Comparison and analysis of industry averages and prior periods. Standard costing systems and break-even analysis. Financial decision-making on capital expenditure and make or buy problems. Preparing cost/benefit analyses. Incentive wages plans including the main types, requirements, effects on output and industrial relations. Design of a complete 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.
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 tasks. 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 checklists 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 planning with bar charts, networking, forward and backward pass calculations and identifying critical paths, float definitions and formulae, convert a network into a time bar diagram, effects of float on resource allocation, costing of projects and probability of achieving estimated costs, similarity of PERT and precedence diagrams to CPM arrow diagrams and complete analysis procedure.

The objective of this unit is to enable the student to initiate and coordinate the application of management techniques by employee teamwork and identify and analyse cost centres requiring loss control. The topics include: different approaches to productivity improvement, the position of a work study department in the organisation, establish productivity teams and coordinate their functions, techniques or teams 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.

This unit enables the student to apply the industrial engineering applying work study techniques in industrial environments. The topics include: systems analysis and the industrial approaches (5 project phases), forms analysis, design and control, clerical work study techniques, materials handling and inventory control and complete network analysis and the application of industrial engineering in service organisations.

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 operations management program for visual comfort. The dimensions of occupational stress and the principles of good posture. The selection of devices 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, functions of the quality control department and its relationships with other departments, benefits of adequate quality control organisation to the manufacturing firm and its customers.

This unit includes topics on the following areas: the development of modern production management and the objectives of production management from 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.

This unit includes the following topics: the function of the estimating department in large 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, functions of the quality control department and its relationships with other departments, benefits of adequate quality control organisation to the manufacturing firm and its customers.

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.

This unit will enable students to solve problems that may arise from the layout and design of workplaces and travelling ways, and to solve problems arising from materials handling.
TS712 Introduction to Micro-computer Applications B

Definition of data, data access, application programs, data storage, databases, system and user interfaces. Introduction to accounting applications (general ledger, trial balance, 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


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. Sample programs involving sequence, selection, iteration and interactive terminal input/output, provision of test data for debugging.

TS717 Programming Techniques A

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

Identify the factors involved in the process of communication and adapt to changes in that process caused by social and technological change and multiculturalism. Discuss language as the basis for thought and communication, while appreciating the non-verbal component in all communication. Identify personal motivations, needs and purposes of communication. 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 relevant terms: uses of data communication systems; transmission media and methods; hardware components; network topologies; modern; purpose and use of protocols. Prerequisite: Introduction to Peripheral Devices.

TS734 Micro-computer Hardware & Software Selection

Establishment of user needs. Collection of product information; product comparison and evaluation; product recommendation reports. Case studies and practical exercises.

TS737 Project Management Techniques

Project management objectives: project management structures; project control; project documentation. The role of management. Tools and techniques. Team work. Case studies. Prerequisite: 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 Documentation Techniques

Data processing techniques in business organisations. IPO charts: system flowcharts, data flow diagrams and data dictionaries. Physical and logical description of a data processing system. Prerequisite: Business Information Processing.

TS742 Document Processing Software Packages


TS743 Spreadsheet & Business Graphics

Spreadsheet macro facilities. Customised spreadsheets. Graph plotting facilities. Slideshows. Software installation and configuration.
TS744 Database Software Packages

TS745 Accounting Software Packages

TS751 Database Design
Computer files the database approach; database management systems; hierarchical database model; Network database model; relational database model; Database design; data administration. Distributed databases. Prerequisites: Cobol Programming B, Programming Techniques G. Co-requisites: Introduction to Systems Analysis & Design.

TS752 Database Programming A

TS754 Data Communications
Basic components and applications of a data communications system. Function of the seven layers of the OSI/ISO network architecture and of layered protocols in peer-to-peer interaction. Physical characteristics of transmission channel. Modern characteristics. Concept of multiplexing by frequency and time division, channel bandwidth and data rate limits. Considerations involved in connecting a serial printer via RS232C connectors. Error sources and their correction. Characteristics of Telecommunications. Prerequisite: Introduction to Data Communications and Networks.

TS755 3GL Programming Option A
Language syntax. Programming exercises. Definition of "stack" and "queue". Description, implementation and analysis of algorithms for sequential search and binary search. Description, implementation and analysis of algorithms for selection sort, insertion sort, shell sort and quicksort. Definition of "linked list" and "binary tree". Prerequisite: Programming Techniques B.

TS757 4GL Programming Option

TS765 User Needs Analysis
Factors involved in specifying and evaluating the requirements for a system. Defining the requirements of the required system in a RFP. Defining the criteria for evaluating supplier response to a RFP.

TS766 Application Project C
Work within a framework administered by a manager/supervisor. Meet all formal obligations to a manager/supervisor. Provide regular progress reports to or attend regular meetings with a manager/supervisor. Consult with a manager/supervisor when problems arise. Talk and listen to users, with patience. Communicate with users/clients, in a manner befitting a professional analyst/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 Microcomputer Development Tools
Types of software development tools. Evaluation criteria for measuring the benefits offered through the use of software development tools. Low, medium and high level development tools. Prerequisite: 3GL Programming Option A. Co-requisite: 4GL Programming Option.

TS769 Multiuser Microcomputer Systems
Features on multiuser microcomputer operating systems. Installation of multiuser operating systems. Multiuser microcomputer system management. Prerequisite: 3GL Programming Option B.

TS770 Microcomputer Architecture & Assembly Programming
Address bus from CPU select memory or I/O which is accessed in read/write operations. No. of address possible = 2^n for 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 pointer, general purpose data registers, accumulators. Editor. Debugger program. Prerequisite: Computer Architecture.

TS771 User Training Techniques
Learning theories. Needs analysis: task analysis: perception, Verbal-non-verbal communication in learning enhancement. Assessment of the whole needs of a training package. Development of an effective personal approach in identifying 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 Microcomputer Systems Analysis & Design

TS774 Electronic Principles
Concepts of electricity, electrical quantities, series and parallel circuits, AC and DC voltage, analogue and digital circuits. Prerequisite: Computer Architecture.

TS775 Advanced Local Area Networks
Definition and characteristics of LAN, types of LAN topologies and media, networking operations, use of IEEE standards, practical applications, management issues, trouble-shooting strategies. Prerequisite: Introduction to data communications and networks.

TS776 Microcomputer Systems
Integrated circuit technology, Intel bus architecture and memory map, motherboard functions, interrupts hard disk drives and controllers, microcomputer hardware and software diagnostics. eq. Microcomputer architecture and assembly programming skills.

TS791 Introduction to Computers
Topics include: the changing computer environment, computer personnel, hardware and software components, a computer system, data coding systems, file and processing concepts, care and security of hardware and storage media, effects of computers on society, microcomputer concepts and word processing programs for business.

TS792 Keyboarding
Topics include: parts and functions of a keyboard and monitor, ergonomics, touch typing techniques, accuracy and correction, keyboard practice. This unit is included to ensure that students understand the function of all the keys and can touch type to at least 20 words per minute, 90% accuracy.

TS793 Using Systems Software
Topics include: using a personal computer, data communications and networks, using multi-user computer systems, documentation practices for systems management.
Business Information Systems

Topics include: business systems and their environment, business information, business sub-systems, transaction processing, concepts and advantages of data base systems, distributed data processing, selecting a microcomputer system.

Business Software Applications

Topics include: introduction to spreadsheet software, introduction to database software, transfer of files, software applications options (options include — accounting software, integrated package, desktop publishing, graphics, advanced use of a spreadsheet or data base).

Practical Placement

The Practical Placement unit comprises two weeks of supervised work experience in a business organisation to give students an understanding of the work environment and provide practical experience consistent with theoretical course work. The placement of students in both first and second years is arranged by the Marketing and Administration Department.

Administrative Procedures

These units are designed to give the potential office worker an insight into the various facets of the office and the systems by which the efficient flow of information is determined. Topics include: office environment, time management, telephone technique, telephone equipment and its operation, role of the receptionist, reprographics, filing storage systems, resource information management, organizing meetings and conferences and travel, mail, financial and record management.

Document Production

These units are designed to develop keyboarding skills to achieve a minimum speed of 45 words per minute with 98% accuracy on a 5 minute timing, proofreading and editing skills using both a typewriter and word processor. Topics covered are Document Production, Keyboarding Posture, Document Creation and Editing Techniques, Document Formatting, Displaying Text, Displaying Numbers, Multiple Page Documents, Business Letters, Business Memos, Personal Business Letters, Letter and Punctuation Styles, Manuscripts, Advanced Tabulation, Financial Documents, Audio Dictation and Resume Production.

Office Administration

These subjects give students an understanding of the skills and knowledge necessary to identify the various facets of the office's systems and sub-systems which determine the efficient flow of information, interpersonal relationships necessary for co-ordinated work units and office efficiency.

Typewriting Production

These units are designed to enable students to develop a standard of skills which will enable them to touch type at 40 words per minute with 98% accuracy. Topics include proofreading and error correction techniques, production tasks, display, manuscripts, letters, memoranda, tabulations, forms and typewriter maintenance.

Word Processing

These units include an introduction to word processing and its role in the office today. Students will learn word processing terminology, creation and editing of documents, search and replacement of text and text layout.

Introduction to Computing

These units are designed to enable students to identify the need for information in the office and how a computer can input, process, store and output information. Topics include good file management techniques, data protection, care of materials and equipment, security, privacy and ethics of computer usage, communication networks and their uses, and computer packages.
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MlMechE

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Cert(Fit and Mech)
P. Stroud, DipTT, TechCert(Radio), RAAF quals.

Technical Officer
S. Fisher, F&M Trade
R. Smillie, AssDip(MechDesDraft), F&M Trade
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National Scientific Instrumentation Training Centre

Manager
J. Hall, BSc(Hons), PhD, ARACI
Deputy Manager
J. Flowers, 819 8379
Staff
L. Krzyzats, BSc(Hons), PhD, MRACI
V. Poletti, BSc(Hons), MRACI
ELECTRICAL AND ELECTRONICS TECHNOLOGY COURSES

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

**Apprenticeship courses**

**3212ECY** Certificate in Electrical & Electronics

**3212ERA/E** Certificate in Engineering

(Electrical/Electronics) Stream

The apprenticeship course of three years duration is designed to meet the requirements of the Industrial Training Commission of Victoria, the State Electricity Commission of Victoria and the Technical and Further Education (TAFE) Board of Victoria.

The course conducted as a combination of block release and day release, provides the necessary training to prepare an apprentice to pass electrical trade theory and practice at a level approved by the State Electricity Commission of Victoria for issue of the relevant 'P', 'B' and 'A' Grade Licence.

Note:
1. **Prerequisite:** student must be employed as an apprentice.
2. Only persons licensed by the State Electricity Commission of Victoria may carry out electrical wiring work.

**Certificate courses**

**3222EC** 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.

**3300ECW** Advanced Certificate in Industrial Electronics

The aim of this course is to provide vocational training for persons seeking a career in the electrical and industries and to provide the required studies to enable participants to articulate into and from other courses.

**3500ECB** Associate Diploma of Engineering (Electronics)

Associate Diploma courses are designed to train engineering associates who are the immediate support staff for professional engineers in industry.

The course consists of a number of compulsory core subjects and a number of elective subjects to suit a student's needs or interests. Each subject is allocated a value in credit hours. The elective subjects cover specialist areas such as Digital Electronics, Microprocessors, and Communications.

To complete the Associate Diploma course successfully the candidate must complete all core subjects and elective subjects as required.

The students could be involved in any of the following areas in their employment: design development, installation, commissioning, operations or maintenance of plant or equipment associated with the electronics industry.

Membership of associations

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

Full-time study

This course requires two years full-time attendance, of approximately 21 hours per week.

Part-time study

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

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 by both 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 — Space & Number and/or Change and Approximation
- 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.

**Apprenticeship courses**

**3212ERA/E** Certificate in Electrical and Electronics

**3212ECY** Certificate in Engineering Electrical & Electronics Stream

Course structure from 1991

<table>
<thead>
<tr>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>320</td>
</tr>
</tbody>
</table>

1st year

- **NB8M** Occupational Health and Safety
- **NE006** Electrical Fundamentals
- **NE01** DC Principles
- **NE03** AC Principles
- **NE14** Cords, Cables & Applications
- **NE20** Test Equipment
- **NE31** Electrical Drawing Int. & Conn.
- **NE125** Electrical Installation
- **NE129** Domestic Installation Practices

2nd and 3rd year

- **NE09** Single and Three Phase Circuits
- **NE10** A.C. Machines
- **NE11** D.C. Machines
- **NE22** Domestic Installation
- **NE23** Non-domestic Installation 1
- **NE30** Electrical Motor Control and Protection
- **NE32** Circuit Development 1
- **NE52** Transformers
- **NE106** Non-domestic Installation 2
- **NE126** Electrical Installations
- **NE127** Multiple Domestic Installation
- **NE196** Domestic Installation Practice
- **NE199** Non-domestic Installation Practice
- **NE130** Programmable Controllers — Basic

Plus a selection of 5 elective modules from a structured block within a specialist stream such that the total program consists of 24 equivalent full modules. (960 Hrs.)

Information on electives available on request.

2nd year for continuing students only

- **TEU05** Unit 5 Electrical Wiring Theory
- **TEU06** Unit 6 Electrical Wiring Theory
- **TEU07** Unit 7 Electrical Wiring Practice

3rd year for continuing students only

- **TEU08** Unit 8 Electrical Wiring Theory
- **TEU09** Unit 9 Electrical Wiring Theory
- **TEU10** Unit 10 Electrical Wiring Practice

Swinburne College of TAFE
External examinations
(State Training Board)
Licensing exam: theory and practical components
Name
Licensing Exam Theory (LET)
Licensing Exam Practical (LEP)
These exams are not stand alone and together form the licensing exam.
Exemptions
NO exemptions are possible for either component of the licensing examination.

Marking and grades of licenses
The grade of licence issued to the candidate will depend on the mark obtained:
- Between 50 and 75% Eligible for B Grade
- Above 75% Eligible for A Grade
- Less than 50% Eligible for P Grade

As the Theory and Practical components of exam are not stand alone NO MARKS will be issued from these exams but an eligibility for the appropriate grade of licence will be issued.

Certificate courses

3222ECE 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 modules CBE 1.1 DC Fundamentals, CBE 1.2 AC Fundamentals, CBE 1.3 Test Equipment and CBE 6.1 Electronic Assembly Techniques.
(c) An applicant whose maturity and experience indicates an ability to successfully undertake the course will be considered.

Course structure
The Certificate in Basic Electronics consists of 14 modules. A Certificate in Basic Electronics (CBE) will be awarded, upon application, to any student who successfully completes all the CBE modules to the specified performance level.

This basic vocational program may be undertaken as:
(a) A terminal program in its own right, especially for persons working in equipment servicing who want to gain an understanding of electronics.
(b) Forms a part of the core studies of the Associate Diploma of Engineering (Electronics).
(c) The core of the Advanced Certificate in Industrial Electronics.

The program is design to provide students with the core skills and knowledge required at all levels in the electronics and associated industries.

Modules
- Electrical Fundamentals CBE 1
- DC Fundamentals CBE 1.1
- AC Fundamentals CBE 1.2
- Test Equipment CBE 1.3
- Analog Fundamentals CBE 2
- Power Supply Fundamentals CBE 2.1
- Amplifier Fundamentals CBE 2.2
- Analog Applications CBE 3
- Operational Amplifiers CBE 3.1
- Oscillators CBE 3.2
- Power Control Devices CBE 3.3
- Transducers CBE 3.4
- Digital Electronics CBE 4
- Digital Fundamentals CBE 4.1
- Digital Integrated Electronics CBE 4.2
- Introduction to Microprocessors CBE 4.3
- Electronic Workshop Practices CBE 5
- Electronic Assembly Techniques CBE 5.1
- Wiring and Soldering Techniques CBE 6.2

Additional studies are required in addition to the CBE for entry into the Advanced Certificate or the Associate Diploma (Electronics) these are TE145 Mathematics 1E, TH133 Communication Skills, TE141 Electronic Drafting Principles and TE126 Electronic Circuits.

Study modes
Full-time study (year 11 entry), Students will undertake a Certificate in Basic Electronics in two semesters together with additional bridging subjects. (Mathematics 1E and 2E, Communication Skills, Electronic Drafting and Electronic Circuits) to enable them, upon successful completion to enter stage 2 of the Associate Diploma of Engineering (Electronics).

Part-time study is offered on a full day, half day or evening basis.

By attending three evenings per week, the CBE can be virtually completed in one year.

3300ECB Advanced Certificate in Industrial Electronics

Entry level
Completion of VCE Year 11, or equivalent studies with passes in Mathematics, English and at least one subject in Technology Studies. Advanced entry for completion of Electrical Trade or Technician Studies.

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

All core subjects plus 288 hours of elective subjects. A total of approximately 1200 hours of study is required to complete the Advanced Certificate in Industrial Electronics.

Course Structure
Compulsory core subjects (all students) Nominal Hours
- Certificate in Basic Electronics 48
- Communication Skills (Core) 72
- Computer Studies in Electronics 72
- Electrical/Electronic Drafting Principles 72
- Electrical Industrial Control 1A 72
- Mathematics 1E 72
- Programmed Core Subjects (Non-Electrical/Electronic Trade Students) Nominal Hours
- Electrical Circuits and Components 96
- Static and Rotating Electrical Machines 72

Electives:
- Computer-Aided Drafting 72
- Crane and Conveyor Control 72
- Electrical Contracting Administration 136
- Electrical Industrial Control 1B 72
- Electro-Pneumatic Control 72
- Electronic Variable Speed Drives 160
- Generating Plant Control 136
- Electrical Industrial Heating 72
- Microprocessor Applications 120
- Programmable Controllers 1 72
- Programmable Controllers 2 72
- Position Control Systems 108
- Domestic Refrigeration and Air-Conditioning 137

Denotes subjects within other existing accredited TAFE courses.

Subjects shown in bold necessitates work with equipment directly connected to the electrical supply. Students undertaking these subjects require to be an electrical tradeperson or currently undertaking an electrical trade.
3500ECB Associate Diploma of Engineering (Electronics)

Entry level
Satisfactory completion of year 12. However, students who may not have completed year 12 but have the required background through work and/or have satisfactorily completed suitable bridging subjects.

Course structure: Pre-1992 (continuing students only)
The course consists of a minimum of 1888 credit hours of study. The diploma is awarded after completion of the academic studies. A minimum period of 1 year of industrial experience must be completed prior to the student commencing final stage studies.

<table>
<thead>
<tr>
<th>Core subjects</th>
<th>Hours</th>
<th>Semester</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE207 Basic Electric Principles</td>
<td>106</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>TE906 Basic Electronics Theory</td>
<td>144</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>TE909 Basic Digital Theory</td>
<td>108</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>TH331 Communication Skills Core</td>
<td>72</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TE532 Industrial Practices 1</td>
<td>54</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TE147 From Certificate in Basic Electronics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TE451 Mathematics E1</td>
<td>90</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TE651 Circuit Theory 2</td>
<td>126</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>TE148 Digital Electronics 2</td>
<td>126</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>TE538 Microprocessor Fundamentals</td>
<td>108</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>TE470 Digital Electronics 2B</td>
<td>54</td>
<td>3</td>
<td></td>
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<tr>
<td>TE580 analogue Communications 1</td>
<td>126</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>TE323 Electronics 3H</td>
<td>126</td>
<td>7</td>
<td></td>
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</tbody>
</table>

Electives

<table>
<thead>
<tr>
<th>Group A</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TE141 Electronic Drafting Principles</td>
<td>54</td>
</tr>
<tr>
<td>TE235 Computer Studies 1H</td>
<td>54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group B</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TE437 Data Communications 1</td>
<td>108</td>
</tr>
<tr>
<td>TE561 Circuit Theory 3H</td>
<td>126</td>
</tr>
<tr>
<td>TE345 Mathematics E3</td>
<td>90</td>
</tr>
<tr>
<td>TE438 Microprocessor Applications</td>
<td>144</td>
</tr>
<tr>
<td>TE419 Testing techniques and Instruments</td>
<td>126</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enrichment Subjects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TE415 Mathematics E4</td>
<td>72</td>
</tr>
</tbody>
</table>

Other subjects may become available during 1990-1991.

Typical Programs Pre-1992
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 av.
  - 1888 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
- 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.

Course structure:

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Fundamentals</td>
<td>CBE 1</td>
</tr>
<tr>
<td>Analogue Fundamentals</td>
<td>CBE 2</td>
</tr>
<tr>
<td>Analogue Applications</td>
<td>CBE 3</td>
</tr>
<tr>
<td>Digital Electronics</td>
<td>CBE 4</td>
</tr>
<tr>
<td>Wiring and Soldering Techniques</td>
<td>CBE S2</td>
</tr>
<tr>
<td>Total</td>
<td>360</td>
</tr>
</tbody>
</table>

The content of Stage 1 is similar to the Certificate in Basic Electronics curriculum.

Semester 2
- Microprocessor Systems 64
- Electronics Software Tools 64
- Linear Electronics 1 64
- Circuit Analysis 1 32
- Digital Design 1 64
- Project work 32
  - Total 320

Semester 3
- Electronics 3 72
- Communications 1 72
- Microprocessor Interfacing 72
- Electronic Instrumentation 72
- Design Projects 36
  - Total 324

Semester 4
- Microprocessor Control 72
- Electronics 4 72
- Select three of the following:
  - Digital Design 2 72
  - Communications 2 72
  - Circuit Analysis 2 72
  - Electronic Systems 72
  - Microcontroller Hardware Dev. 72
  - Mathematics 3E 72
  - Mathematics 3E 72
  - Total 360

ONE subject of 72 hours equivalent from any other Associate Diploma may be substituted for those above.

Length of course approximately 1364 hours.

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-numerical order of subject codes.

TEU01 Unit 1
Fe and non ferrous metals, base units, derived units, multiples and sub-multiples, safety, acts 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.

TEU03 Unit 3
Measurement of resistance, safety, acts and regulations, cables, cable jointing and termination, installation/testing, testing and fault finding.

TEU04 Pract 1
Assessment of practical components in Units 1-3.

TEU05 Unit 5
Inductors and inductance, capacitors and capacitance, trigonometry and phasors, cable jointing and termination, cabling systems, testing and fault finding of equipment and appliances, testing of installations, wiring 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  Prac 2
Assessment of practical components in Units 5-6.

TEU08  Unit 8
Circuit and plan reading, synchronous motors, polyphase motors and starters, testing and fault finding of equipment and appliances, test instruments and electrical measurements, power in three phase circuits, motor control methods.

TEU09  Unit 9
Lighting principles, installation, control and devices. Single phase motors, programmable controllers, d.c. machines, solid state control, rectification.

TEU10  Unit 10
Assessment of prac components in units 8 and 9.

TE126  Electronic Circuits
This is a block diagram approach to electronic systems.

TE141  Electronic Drafting Principles 1H
Use of Australian Standards for introduction to mechanical drafting, electrical symbols, electrical installation diagram, printed circuit board design.

TE145  Mathematics 1E
Full-time: five hours per week (day) over one semester.
Part-time: two hours per week (day) over two semesters.
Prerequisite: completion of Year 11.
Assessment consists of two parts:
1. Topic tests, one on each topic, contributing to thirty per cent of the final mark.
2. Three-hour examination held in mid-June (or in November) contributing to seventy per cent of the final mark.
Mathematics 1E is a 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.

TE235  Computer Studies 1H
To enable the student to become competent in writing programs in BASIC or another high level language. Topics include computer operation, computer organization, computer programming, computer languages, data transfer, input and output techniques, computer applications, and an introduction to microprocessors.

TE245  Mathematics 2E
Five hours per week over one semester or two hours per week over two semesters, both day and evening.
Prerequisites: Mathematics 1E or qualifications deemed equivalent by the Head of Department, Applied Science.
Assessment: classwork (thirty per cent) and one final examination (seventy per cent).
An extension of Mathematics 1E (TM123). The topics include complex numbers, limits, differentiation and applications, integration and applications, differential equations, Boolean algebra.

References
Supplied notes.

TE319  Circuit Theory 3H
Topics include transfer functions, z, y and h parameters for two-port networks, coupled circuits, active filters — Butterworth, Tchebychev and Bessel and transmission line theory.

TE323  Electronics 3H
Classification of amplifiers, feedback amplifiers, operational amplifiers, direct coupled amplifiers, differential amplifiers, frequency response of amplifiers, active filters, power amplifiers, harmonic distortion in amplifiers, Dower and heat dissipation in amplifiers. Rectification and power supply specifications.

TE338  Microprocessor Fundamentals
The aim of the course is to provide a wide knowledge of microprocessors available in the market today. It is to cover the organization of computers, memory types, memory organisation, MPU, operation of MPU with memory, addressing modes, instruction set, binary arithmetic, status register, programming techniques, minimal systems, interrupts, stacks, subroutines, PIA, ACIA, timing, DMA, programing aids, diagnostics.

TE345  Mathematics 3E
Topics include: hyperbolic functions, Boolean algebra, integration, Fourier analysis, computer programming — enabling the student who has completed Computer Studies 1 to apply the computer as a tool in the solution of the more complex problems associated with the other stage three electrical/electronic subjects.

TE408  Licensing Exam Theory
LET will examine regulations, calculation of M.D., cable sizes, fuse and switch sizes, switchboard designs, testing, safety and Supply Authority Requirements.

TE409  Licensing Exam Practical
TEP will examine testing, defect identification, knowledge of Wiring Regulations and other Supply Authority requirements.

TE437  Data Communications
This subject is based on a local area network. Topics include network topologies, synchronous and asynchronous data transmission, 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
Practical re bridges, application of bridges, signal generators, cathode ray oscilloscopes, microprocessor, voltmeters, ohmmeters, stress instrument, tacho meters, frequency meters, data loggers, digital equipment, audio testing, group delay and system testing.

TE470  Digital Electronics 2B
Combinational circuits, clocked sequential circuits, circuit design with multiplexers and demultiplexers, oscillators, timers, subsystems and interfaces.

TE520-535 Certificate in Basic Electronics
Topics include basic DC circuits, conductors, insulators, voltage divider, constant current/voltage sources, inductance and inductors — magnetic flux/diversity/force, reluctance, permeability, inductance, basic AC circuits, capacitance and capacitors, semiconductor fundamentals, amplifier principles and application, timing and control devices, digital fundamentals/applications, microprocessor control systems/industrial practices, transducers, basic PC board manufacturing methods, rectifiers. More details available on request.

TE561  Circuit Theory 2
A course of DC and AC network analysis including a study of resonance.

References

SUPPLEMENTARY REFERENCES

REFERENCE TEXT BOOKS
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 VOC or its equivalent. Students without science subjects at Year 12 level, will be required to undertake bridging subjects.

Mature-age students without Year 12, but with relevant laboratory experience will be eligible to enter the course, however, it may be necessary for some students to undertake additional bridging subjects to complement their industrial experience.

Mature-age students without relevant laboratory experience will only be considered for the Advanced Certificate in Laboratory Technology.

Students who have completed the Advanced Certificate in Laboratory Technology are eligible to transfer to the Associate Diploma with full credits.

Modes of study

Students will be able to complete the Associate Diploma in the following ways:

- Part-time: Generally four years of part-time study, comprising one afternoon and two evenings, per week for eight semesters.
- Full-time: Generally one year of full-time study followed by two years of part-time study. The Associate Diploma cannot be completed by full-time study alone.

A further requirement is that all students must complete a minimum of two years’ full-time relevant industrial/work experience, of which the majority must be concurrent with enrolment, prior to the award of the Associate Diploma.

Course structure

Stage 1

TH133 Communication Skills
TL001 Biology Laboratory Techniques
TL002 Chemistry Laboratory Techniques
TL003 Physics Laboratory Techniques
TL144 Quality Control Statistics
TL312 Laboratory Management
TL347 Laboratory Computing
TL348 Occupational Hygiene
TL470 Work Project
TL180 Practical Placement

Stage 2

Following Stage 1, all students must complete eight Stage 2 units and satisfy the requirements of at least one stream, in order to be eligible to be awarded the Associate Diploma of Applied Science in Laboratory Technology.

Stream 1

Appropriate for industry, analytical chemistry and instrumentation laboratories.

TL301 Chemistry Practices 3
PLUS at least 2 by two-unit sequences from:
TL309 Electron Microscopy 1
TL310 Electron Microscopy 2
TL350 Chromatographic Analysis 1
TL391 Chromatographic Analysis 2
TL465 Electrochemical Analysis 1
TL466 Electrochemical Analysis 2
TL490 Spectrophotometric Analysis 1
TL491 Spectrophotometric Analysis 2
PLUS two elective units.

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Stream 2
Appropriate for educational institutions and museum laboratories.

TL201 Chemistry Practices 3
TL202 Chemistry Practices 4

PLUS at least one by two-unit sequence from:
TL210 Laboratory Workshop Practices 1
TL211 Laboratory Workshop Practices 2
TL203 Physics Practices 3; and
TL411 Computer Programming

PLUS at least one by two-unit sequence from those listed under stream 1 or 3 requirements.

PLUS two elective units.

Stream 3
Appropriate for biological laboratories.

At least one by two-unit sequence from:
TL256 Mammalian Anatomy and Physiology 1
TL257 Mammalian Anatomy and Physiology 2
TL301 Biochemistry 1
TL302 Biochemistry 2
TL320 Vertebrate 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 Vertebrate Zoology
TL301 Biochemistry 1
TL302 Biochemistry 2
TL401 DNA Technology
TL402 Immunological Techniques
TL460 Microbiology 1
TL461 Microbiology 2
TL462 Microbiology 3
TL463 Microbiology 4

(The four-unit sequence may not include subjects from the two-unit sequence);

PLUS two elective units.

Electives
Electives may be chosen in the following ways:
(i) Units from the other specialist streams in the Associate Diploma of Applied Science in Laboratory Technology;
(ii) Units from the other Associate Diplomas.

3500AHB Associate Diploma of Applied Science — Fire Technology

Career potential
This course has been designed to enable the development (or enhancement for those already in the industry) of knowledge and skills appropriate to paraprofessionals in the Fire Industry. The general areas covered include risk management, design, building protection, rural fire protection, communication systems, environmental safety and management.

The course would appeal to those currently employed, or intending to seek employment, in any of the following fields: fire fighting, fire safety, detection and suppression systems design, occupational health and safety, insurance or building surveying.

Entry requirements
Normal entry is satisfactory completion of Year 12 (VCE), or its equivalent, with passes in Chemistry and Mathematics. However, mature-age students having relevant industrial experience will be favourably considered for selection. Such students without the Year 12 requirements will be expected to undertake bridging subjects.

Modes of study
Units may be available in one or more of the three modes outlined below:
1. Classes scheduled weekly — either 2 or 3 hours per week (depending upon the unit);
2. Block-mode — classes held one day per week 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 co-ordinator 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
TH103 Communication Skills 1
TT100 Fire Mechanics 1
TT101 Fire Mechanics 2
TT110 Building Structures 1
TT120 Fire Chemistry
TT140 Information Technology
TT150 Personnel Emergency Treatment
TT210 Building Structures 2
TT211 Detection Systems
TT212 Suppression Systems
TT213 Fire Safety Management 1
TT220 Principles of Fire Behaviour
TT321 Fire Fighting Equipment & its Application
TS226 Middle-management Practices 1
TL180 Practical Placement

Specialist units
Design
TT301 Detection Systems Design
TT302 Suppression Systems Design 1
TT402 Suppression Systems Design 2
TT403 Suppression Systems Design 3

Communication systems
TT310 Introduction to Communications Technology
TT410 Radio Systems
TT411 Fire Alarm Systems
TT412 Communication Centres

Risk management
TT320 Fire Investigation
TT321 Fire Safety Management 2
TT322 Hazard Management
TT323 Material Science 1

Buildings
TT330 Building Structures 3
TT331 Material Science 2
TT332 Building Services 1
TT432 Building Services 2

Management
TH134 Communication Skills (Management)
TS326 Middle-management Practices 2
TT351 Fire Law 1
TT451 Fire Law 2

Rural
TT360 Rural Fire Behaviour
TT361 Agricultural & Forestry Practices in Fire Management
TT460 Rural Fire Prevention
TT461 Rural Fire Suppression

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Environmental Safety
TT300 Environmental Safety 1
TT371 Special Hazards
TT372 Occupational Hygiene Measurement
The course may be completed in the following ways:
- 2 years full-time;
- 4 years part-time — approximately 6 hours per week;
- a combination of full-time and part-time study.
Students studying full-time are also required to undertake
relevant work experience during the course.

3500AYD Associate Diploma of Applied Science — Computing and Applied Physics

Career potential
Graduates of the Associate Diploma of Applied Science in Computing and Applied Physics will be well suited to work as technical officers in scientific instrumentation and computing. Employment opportunities can be found in the installation and servicing of technical equipment, sales and service, and in-house training programs.

Course emphasis
The course covers:
- Fundamental principles in:
  - computer science;
  - physics;
  - mathematics;
  - electronics;
  - communication skills;
  - language and logic;
  - business management.
- High technology applications in:
  - scientific instrumentation;
  - sensory instrumentation;
  - control systems.

Admission requirements
Applicants need to have attempted VCE Levels 3 and 4 with mathematics and physics subjects. Mature-age applicants without VCE Levels 3 and 4 will also be considered.

Course duration and mode of study
The course is currently offered only on a full-time basis over 2 years.

Further study
On completion, students are eligible to apply for entry into the second year of some related degree courses.

Course structure
Semester 1
TC10F Physics 1
TC11F Mathematics 1
TT140 Information Technology
TC12F Electronics
TH133 Communication Skills 1
TC141 Laboratory Techniques 1
TL210 Laboratory Workshop Practices 1
Semester 2
TC10F Physics 1
TC11F Mathematics 1
TC12F Structured Programming 1
TC12F Electronics
TH134 Communication Skills 2
TS725 Introduction to Sales and Marketing
TS726 Computer Sales and Marketing
Semester 3
TC20F Physics 2
TC21F Mathematics 2
TC22F Structured Programming 2
TC271 Computer Technology 1
TC240 Digital Imaging and Photography

3300AHB Advanced Certificate in Fire Technology

Career potential
The Advanced Certificate in Fire Technology is designed to provide a basic study in technology of fire prevention, suppression and related areas. The course leads to one of two streams of study — Portable Fire Equipment or Operational Fire Fighting. The course was designed by industry to provide a coherent training program and is expected to be used as part of award restructuring within the Fire Industry.

Entry requirements
Normal entry is satisfactory completion of Year 11 or its equivalent.

However, mature-age students particularly if they have experience in the industry will be considered for selection. Students with Year 12, or higher studies in mathematics and science can gain exemption from some units.

Modes of study
The course can be completed in the following ways:
- 5 years full-time
- 4 years part-time
- a combination of full-time and part-time study
- a combination of on-campus and off-campus studies (Fleximode)

Students will undertake stream studies with instruction provided by employers in the industry.

All full-time students will undertake field placement (10 days per semester).

Graduates of the Advanced Certificate in Fire Technology will be credited with approximately one year of full-time study toward their Associate Diploma in Fire Technology.

Course structure
Core units
Stage 1
TH133 Communication Skills
TI100 Mathematics 1
TI120 Chemistry 1
TI300 Fire Physics
TI110 Building Structures 1
TI140 Information Technology
TI160 Personnel Emergency Treatment
TI221 Fire Fighting Equip. & Its Application
TS346 Instructional Techniques
Stage 2
TI120 Fire Mechanics 1
TI110 Fire Mechanics 2
TI120 Fire Chemistry
TI125 Introduction to Fire Behaviour
TI211 Detection Systems
TI212 Suppression Systems
TI213 Fire Safety Management 1
TI229 Management Practices

Swinburne College of TAFE
The Advanced Certificate in Laboratory Technology provides appropriate education and training for scientific laboratory technicians. Entry requirements are 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**
- 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**
- TL134 Communication Skills 2
- TL144 Quality Control Statistics
- TL312 Laboratory Management
- TL347 Occupational Hygiene
- TL470 Work Project

**Electives**

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:
1. Units from the list of Electives set out below:
2. Units from other Advanced Certificates or Associate Diplomas;
3. Units from the specialist streams in the Associate Diploma of Applied Science in Laboratory Technology.

**Elective units**
- TL225 Specimen Preservation 1
- TL226 Specimen Preservation 2
- TL227 Modelling of Biological Specimens
- TL228 Moulding & Casting of Biological Specimens
- TL245 Botany
- TL259 Tissue Culture
- TL331 Organic Chemistry
- TL333 Polymer Science 1
- TL334 Polymer Science 2
- TL413 Ecology 1
- TL414 Ecology 2
- TL416 Entomology
- TL445 Pharmacofofhlcal Methods
- TL453 Glassworking
- TL456 Radioactive Methods
- TL480 Scientific Photography
- TL483 Applied Imaging Techniques

**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 VCE, 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
- Biology

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 maths/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.

**Subject details**
- TC101F Physics 1

Kinematics and dynamics, electromagnetism and circuits, motion characteristics of servomotors, fluids, heat, thermodynamics, wave motion and sound, sensors and transducers.
TC11F  Mathematics 1
Relations, functions, graphs, differentiation, integration, matrices, complex numbers, probability and statistical methods.

TC12F  Electronics
Number systems, logic circuits, Boolean algebra, digital integrated circuits, digital/analog conversion, solid state memories, microprocessors, power switching, diodes, voltage regulators, operational amplifiers and opto electronics.

TC141  Laboratory Techniques 1
Electrical wiring, connectors, laboratory instruments, wiring and assembly methods.

TC181  Structured Programming 1
Introduction to Pascal, problem solving, algorithms, writing programs, testing, documentation and programming techniques.

TC202F  Physics 2
Wave optics, electromagnetism, stepper motor principles, atomic physics and AC circuits.

TC212F  Mathematics 2
Vectors, partial differentiation, differential equations, co-ordinate systems, sequences and series, and fourier analysis.

TC230  Project
Written report on a project relating to a work area.

TC240  Digital Imaging and Photography
Digital imaging from spectroscopy signals, digitization of a video picture, image enhancement, cameras, lenses, lighting, developing, enlarging and printing.

TC242  Laboratory Techniques 2
Principles of scientific instrumentation, repair and maintenance of equipment, excursions to equipment manufacturing plants and service centres.

TC271  Computer Technology 1
Computer architecture, scientific instrumentation software, computer interfacing and control systems.

TC272  Computer Technology 2
Primary and secondary memory, serial and parallel data transmission, networks, peripherals, microprocessor instruction sets, machine level programming, interrupt handling and PC maintenance.

TC282  Structured Programming 2
Modular programming, file handling, data structures and algorithms for searching, sorting, stacks and queues.

TC283  Structured Programming 3
Readings in computer science, theory of algorithms, operating systems, Fortran 77 and ADA.

TC291  Language and Culture
Shaping of language by its cultural context.

TC292  Language and Logic
Syntax, semantics, relations, analysis of arguments, deduction and quantification theory.

TH133  Communication Skills
Principles and practice of effective communication include: collecting and processing information, participating in formal and informal discussions, meetings, developing and analysing argument etc.

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.

TL001  Biology Laboratory Techniques
Prerequisite: Year 12 biology.
Assessment — based on theory and practical work.
Safety in the laboratory, legislation and ethics, microscopy, collection and preparation of plant and animal tissue slides, identification, physiology and classification, reproduction and development, ecology.

TL002  Chemistry Laboratory Techniques
Prerequisite: Year 12 chemistry.
Assessment — based on theory and practical work.
Laboratory safety, atomic structure, bonding and properties, volumetric analysis and acids and bases, laboratory skills.

TL003  Physics Laboratory Techniques
Prerequisite: Year 12 physics.
Assessment — assignments, written tests, practical work.
General safety in the laboratory, measurement and heat, hydromechanics, optics and radiation.

TL101  Chemistry Practices 1
Prerequisites: 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 — based on theory and practical work.
Methods, microscopy, living matter and cells, tissues, organs and systems, collection maintenance and preservation, extension work.

TL112  Physics Practices 2
Prerequisite: physics practices 1.
Assessment — based on theory and 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.

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.

TL201  Chemistry Practices 3
Prerequisites: chemistry practices 2, laboratory computations
Assessment — based on theory and practical work.
Organic chemistry, analytical chemistry.

TL202  Chemistry Practices 4
Prerequisite: chemistry practices 3.
Assessment — based on theory and practical work.
Sampling and spot-testing, solubilities and gravimetric analysis, electrochemistry, introduction to instrumental techniques.

TL203  Physics Practices 3
Prerequisites: physics practices 2, laboratory computation
Assessment — written tests, practical assessment.
Light, statics, physical testing, heat, nuclear physics.
TL200 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.

TL201 Laboratory Workshop Practices 2
Prerequisite: physics practices 2.
Assessment — written tests, practical work.
Basic electricity, basic electronic, electrodes, maintenance, first aid, extension work.

TL205 Methods of Specimen Preservation 1
Prerequisite: biology practices 2.
Assessment — written tests, practical assessment.
The purpose of museum collections, collection and preservation procedures — general, dried mounts, skins, skeletons, working drawings, freezedrying, spirit specimens, regulations.

TL206 Methods of Specimen Preservation 2
Prerequisite: methods of specimen preservation 1.
Assessment — written test. practical assessment.
Objectives, safety tools and supplies, animal anatomy drawing, bird mount, mammal mount, fish mount, finishing.

TL207 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.

TL208 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.

TL209 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, aragonamic plant taxonomy.

TL210 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.

TL211 Mammalian Anatomy and Physiology 2
Prerequisites: biology practices 1, laboratory computations.
Assessment — practical work.
Respiratory system, digestive system, urinary system, nervous system, endocrine system, reproductive system.

TL212 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.

TL213 Biochemistry 2
Prerequisite: biochemistry 1
Assessment — based on theory and practical work.
Energy, thermodynamics, introduction to metabolism, glycolysis, citric acid cycle, respiration, fatty acid metabolism, amino acid and nucleotide metabolism, biochemistry of exercise.

TL214 Electron Microscopy 1
Prerequisite: scientific photography.
Assessment — written tests, folio, practical assessment.
Introduction to electron microscopes, histological equipment for electron microscopy, histological techniques for electron microscopy, preparation of biological material for scanning electron microscopy.

TL215 Electron Microscopy 2
Prerequisite: electron microscopy 1.
Assessment — folio work, written tests, practical work.
Cell infrastructure, operation and photographic techniques using the electron microscope, specialised labelling techniques, construction, servicing and calibration of TEM, SEM and ancillary vacuum equipment, special preparation techniques.

TL216 Laboratory Management
Prerequisites: chemistry practices 1, laboratory computing, laboratory computations, communication skills 1, biology practices 1 and concurrent work experience.
Assessment — assignments and written reports related to students own workplace.
Laboratory operations — guidelines and regulations, laboratory safety — safety audit, first aid, evacuation, portable fire extinguishers, laboratory control-storage, inventory and stock control, equipment servicing, purchasing, budgeting, decision management.

TL217 Invertebrate Zoology
Prerequisite: biology practices 2.
Assessment — written tests, assignments, practical work.
Protozoa, porifera, cnidaria, chhtenophora, molluscs, anthropods, echinoderms, heminthes, onychophora, chordates.

TL218 Laboratory Computing
Prerequisites: none.
Assessment — written tests, practical work.
Using a personal computer, computer equipment and jargon, software.

TL219 Tissue Culture
Prerequisites: biology practices 1, laboratory computations.
Assessment — written tests, practical assessment.
Laboratory familiarisation, sterilisation principles and practices, media, culture environment, surgical technique, basic culture methods, specialised culture methods, legalities and hygiene.

TL220 Organic Chemistry
Prerequisite: chemistry practices 4.
Assessment — written tests, practical work.
Chemical bonding, IUPAC Nomenclature, hydrocarbons-aliphatic, hydrocarbons-aromatic, alcohols, phenols and ethers, allyl and aryl halides, carboxylic acids and their derivatives, aldehydes and ketones, amines and their derivatives, methyloracne, preactivity in substitution reactions, reactions of alcohols, p-bromonitrophenol.

TL221 Polymer Science 1
Prerequisite: chemistry practices 3.
Assessment — written tests, practical work.
Polymers and petroleum products, petroleum refining, properties of plastics, classification of polymers, molecular weight, crystallinity in polymers, glass transition temperature, fracture and deformation modes in polymers, environmental stress cracking, polymerization processes, thermostetting polymers-phenolicisims, polyesters and alyed resins, epoxy resins, polyestino, styrenic polymers, other commercial polymers.

TL222 Polymer Science 2
Prerequisite: polymer science 1.
Assessment — written tests, practical work.
Designing with polymers, processing techniques, identification of plastics, polydiene elastomers, polyamides, adhesives.

TL223 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.

TL224 Chromatographic Analysis 1
Prerequisite: chemistry practices 4.
Assessment — based on theory and practical work.
Ion-exchange, solvent extraction, paper and thin-layer chromatography, electrophoresis.

TL225 Chromatographic Analysis 2
Prerequisite: chemistry practices 4.
Assessment — based on theory and practical work.
Gas chromatography, high performance liquid chromatography.
TL401 DNA Technology
Prerequisite: biochemistry 2.
Assessment — theory and practical work.
Protein synthesis, biochemistry of genetics, molecular biology, inborn errors of metabolism.

TL402 Immunological Techniques
Prerequisite: biochemistry 2.
Assessment — theory and practical assessment.
Electrophoresis, centrifugation, immunology, Radio Isotopes.

TL411 Computer Programming
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.

TL413 Ecology 1
Prerequisites: biology practices 1, laboratory computations.
Assessment — written tests, assignments, class participation and practical work.
In Australian nutrition cycles, energy flow, dominant species.

TL414 Ecology 2
Prerequisites: biology practices 1, laboratory computations.
Assessment — written tests, assignments, class participation and practical work.
Basic life processes, the influence of physical limiting factors on organisms, interactions, organization of populations, organization of a community, development of an ecosystem, excursion/seminar.

TL418 Entomology
Prerequisite: biology practices 2.
Assessment — written tests, assignments and practical work.
Structure and function, classification and metamorphosis, collection methods, identification of major orders.

TL445 Pharmacological Methods
Prerequisites: biology practices 2, chemistry practices 2.
Assessment — written tests and practical assessment.
Drugs, effects of drugs, drug action, apparatus, animals, statistics.

TL448 Vertebrate Zoology
Prerequisite: biology practices 2.
Assessment — written tests and practical assessment.
Fish, amphibians, reptiles, birds, mammals.

TL453 Glassworking
Prerequisites: chemical/practices 1 or biology practices 1 or physics practices 1.
Assessment — practical work.
Splint making, glass cutting, annealing, tube sealing, tee sealing, bulb blowing, rod working, straight joining, tube bending, burette repair, internal seals, glass to metal seals, pipette joins, capillary glass working.

TL456 Radioactive Methods
Prerequisites: chemistry practices 3, physics practices 2.
Assessment — assignments and practical work.
Legal and safety aspects in use of radioactive isotopes, applications of isotopes in industry and research and chemical procedures, experimental techniques and applications.

TL460 Microbiology 1
Prerequisites: biology practices 1, laboratory computations.
Assessment — assignments, tests and 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 — written tests, practical tests.
The origin of microorganisms, 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 and chemotherapy, diseases of the skin, 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-function at 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.

TL465 Electrochemical Analysis 1
Prerequisites: chemistry practices 4, laboratory computations.
Assessment — written tests assignments and practical work.
Conductivity (theory and experimental), potentiometry (theory and experimental).

TL466 Electrochemical Analysis 2
Prerequisite: electrochemical analysis 1.
Assessment — written tests assignments and practical work.
Electrodeposition, polarography, coulometry.

TL470 Work Project
Prerequisites: communication skills 1 and concurrent experience.
Assessment — submission of satisfactory written report.

TL480 Scientific Photography
Prerequisites: chemistry practices 2, laboratory computations.
Assessment — written and practical assignments.
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.

TL490 Spectrophotometric Analysis 1
Prerequisite: chemistry practices 4.
Assessment — written tests and assignments and practical work.
Electromagnetic radiation, ultra-violet/visible spectroscopy (instrumentation) and (experimental).

TL491 Spectrophotometric Analysis 2
Prerequisite: chemistry practices 4.
Assessment — written tests and practical assessment.
Flame, atomic absorption spectroscopy, furnace atomic absorption spectroscopy, flame emission A.A.S. experimental, infra-red spectroscopy (theory) and (experimental).

TS107 Accounting for Managers
Accounting systems, principles of financial management, cash management, accounting reports, cost volume profit relationship and budgeting.

TS226 Middle Management Practices 1
Planning, forecasting, establishing objectives, policies and procedures, programs and schedules, budgeting, decision making and problem solving, control, departmental/Corporate organization.

TS326 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.
Introduction to Sales and Marketing

Definition of selling and marketing, duties of a salesperson, factors involved in successful selling, marketing principles and practice, buyer motivation, marketing strategies, sales interviews and sales targets.

Computer Sales and Marketing

Job in the computer market and sales area, computer sales interviewing, computer purchase option reports, and computer marketing and practice.

Mathematics 1

Basic arithmetic, algebra and trigonometry.

Chemistry 1

(Co-requisite — Mathematics 1)

Atomic structure, periodic table, elements, compounds, electron configuration, bonding, atomic mass, molecular formulae, gases, molarity, stoichiometry, acids and bases.

Fire Physics

(Co-requisite — Mathematics 1)

Measurement, uniform accelerated motion, hydraulics, energy and power, electricity and heat.

Fire Mechanics 1

Kinematics, dynamics, rotation and statics.

Fire Mechanics 2

Fluid mechanics, thermodynamics, electricity and magnetism.

Building Structures 1

A study of structural elements, materials and systems, structural loads and load transfer, construction techniques.

Fire Chemistry

Laboratory skills, oxidation, reduction and electrochemistry, organic chemistry, rates of reaction and thermochimistry.

Introduction to Fire Behaviour

Prerequisite — Fire Physics, Chemistry 1

Combustion, ignition, extinguishment, industrial fire safety for solids, dust, liquids and gases.

Information Technology

Using a personal computer, computer equipment and jargon, word processing, spreadsheets, database management.

Personnel Emergency Treatment

Structure and function of the body, asphyxia, burns; lifting and moving casualties, and a number of medicall accident conditions and procedures.

Building Structures 2

Prerequisite: Building Structures 1

Victorian building regulations, building classifications and construction, floor area limitations, protection of openings and penetrations, building separation and siting, building fire safety.

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.

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.

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.

Principles of Fire Behaviour

Prerequisite: Fire Chemistry, Fire Mechanics 2

Process of combustion, mechanics of heat transfer, fire point, burning of solids, flammability of dust, explosives, fire in enclosures, fire retardant and extinguishment.

Fire Fighting Equipment and Its Application

Prerequisite: Fire Mechanics 1

Search and rescue, ladders, pumps, ventilation and salvage, hose, breathing apparatus, specialist appliances, portable fire extinguishers, foam, hydrants and practical fire fighting.

Management Practices

Prerequisite — Communication Skills, Information Technology

Motivation, communications, styles of leadership, teams, planning and decision making, time management, counselling and conflict resolution.

Detection Systems Design

Prerequisites: Information Technology, Detection Systems, Suppression Systems.

Detectors, standards for detection systems, estimating, valve controlling systems, fire indicator panels, manual fire alarm systems.

Suppression Systems Design 1

Prerequisites: Information Technology, Detection Systems, Suppression Systems.

Existing water supplies, documenting water supplies, specifying water supplies.

Introduction to Communications Technology

Prerequisites: Fire Mechanics 2, Information Technology.

Telecommunications, emergency warning and evacuation systems, communication process, computer systems.

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.

Fire Safety Management 2

Prerequisites: Fire Safety Management 1, Fire Fighting Equipment & Its Application, Principles of Fire Behaviour.

Anson, human behaviour — concept of panic, training staff, fire drills and exercises, communications in building emergencies, emergency procedures, building evacuations, bomb threat management, major installations specification, fire safety policy, management of hazardous work practices, technical specifications, fire investigation.

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, airborne firefighting.

Material Science 1

Prerequisites: Fire Safety Management 1, Fire Fighting 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.

Emergency Management

Disaster prevention preparedness, response and activities in incident management, fire fighting strategies in incidents, briefing and debriefing, incident action plans, combat/support agencies, O.H. & S. considerations, acts and regulations.

Sales and Marketing

Prerequisite — Communication Skills

Role and function of salesperson, motivation, selling concepts, selling support commitment, after-order service, terms and documentation, marketing organisation strategy and research.
TT330  Building Structures 3
Prerequisites: Principles of Fire Behaviour, Building Structures 2.
Building fire safety, building safety during construction and demolition,
building developments and trends versus fire safety, fire safety
problems in high rise buildings, tunnels, bridges and buildings over
highways, damage limiting construction.

TT331  Material Science 2
Prerequisites: Principles of Fire Behaviour, Building Structures 2.
Basic approaches to structural design, purposes of structural fire
protection, cause of structural collapse, fire resistance and severity,
time-temperature curves, structural engineering terms, structural
performance of building elements, structural damage and
reinstatement.

TT332  Building Services 1
Prerequisites: Principles of Fire Behaviour, Building Structures 2.
Electrical services.

TT340  Fire Equipment Servicing 1A
Classification and servicing of a range of portable fire extinguishers
required standard.

TT341  Fire Equipment Servicing 1B
Identification of fire hose, fire hose reel and liquid foam units and the
service of these units.

TT342  Fire Equipment Servicing 2
Prerequisite — Fire Equipment Servicing 1 & 2
Installation of portable fire equipment, classes of fire, halons,
occupational health and safety regulations, EPA regulations.

TT343  Specialist Fire Fighting Equipment
Specialised appliance construction, layout, siting, safety requirements,
training, maintenance, testing and operation.

TT351  Fire Law 1
Prerequisites: Communication Skills 1, Information Technology, Middle
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.

TT360  Rural Fire Behaviour
Prerequisites: Principles of Fire Behaviour, Fire Fighting Equipment
and its Application, Fire Safety Management 1.
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
Prerequisites: Principles of Fire Behaviour, Fire Fighting Equipment
and its application, objectives of fire management, fire buffer zones, linear fire
breaks, foam and forestry management and operations.

TT370  Environmental Safety 1
Prerequisites: Fire Chemistry, Personal Emergency Treatment.
Industrial toxicology, classification of chemical substances, local and
systemic effects of toxins, threshold limit values, industrial cancer and
carcinogens, epidemiology, safety data sheets.

TT371  Special Hazards
Prerequisite: Fire Chemistry.
Nature and classes of hazardous materials, labelling and placarding
requirements, the United Nations numbering system, information
systems, hazardous materials incidents, toxic and infectious materials,
radioactive materials, decontamination.

TT372  Occupational Hygiene Measurement
Prerequisite: Environmental Safety 1.
Potential risks to health in the workplace, environmental hazard
sampling, gas detector tubes, sampling equipment, biological
monitoring, audiometric and spirometric-testing, measurement of noise
and heat stress.

TT402  Suppression Systems Design 2
Prerequisite: Suppression Systems Design 1.
Choosing a suppression system, sprinkler system design, variations
on standard sprinklers.
MECHANICAL AND MANUFACTURING TECHNOLOGY COURSES

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

Enlisted according to the requirements of the Industrial Training Commission of Victoria.

**Technician courses**

- M34EEF Mechanical
- M34EFA Production

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.

**Post-apprenticeship courses**

- 4200EEF 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.

**Welding courses**

- M42EPA TAFE Basic Welding Certificate Course
- M42EB Welding Post-trade

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 AS1796 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 AS1796.

Courses include oxy-acetylene cutting, welding of cast irons, all-positional welding, flame gouging - hand and machine, template work, marking and cutting of pipe and pipe templates, welding of non-ferrous metals, safety precautions, general information as required by a welder.

Day classes in welding are conducted as required for degree students, technicians and metal fabrication apprentices. Enquiries: 819 8529.

**Hobby courses**

- Engineering Workshop Practice
- Hobby Welding

**Short Course in CAD Skills**

This practical course of 42 hours includes basic instruction in the use of AutoCAD, one of the major CAD programs in use in Australian architectural offices and drawing offices. No prior knowledge of computing is necessary, but some knowledge of an architectural or drafting discipline is preferred.

The course is suitable for engineers, draftspersons, architects, business managers, technicians, technical officers, etc., and does not specialise in any particular drafting area.

The course runs for one day per week, for six consecutive weeks, from 9.00am to 2.00pm and at other selected times. Further information: 819 8079

**Apprenticeship courses**

- 3212ERA/M Certificate of Engineering 1
  - Mechanical (previously Fitting and Machining)

Career potential

A part-time day apprenticeship course of three years' duration, designed to meet the requirements of the Industrial Training Commission of Victoria and industry. In the first year, the student is required to attend school 2 days per week (a total of 80 days) while in the second year they are required to attend 1 day per week.

**Entrance requirements**

Students must meet the requirements as specified by the Industrial Training Commission of Victoria. Currently there is no set entrance standard.

**Course structure**

(a) The course consists of three main areas:
  - Broad Base
  - Core (prerequisites for electives)
  - Electives

(b) To obtain a certificate of engineering, the apprentice must pass equivalent to 11 full modules from the Broad Base area plus 13 other elective modules providing all prerequisites are covered.

(c) Swinburne TAFE has devised a course that should suit most students with some flexibility in the elective area.

(d) Each module should take approximately 40 hours to complete.
**Module details**

**Broad Base (compulsory modules)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBB01</td>
<td>Communication and Industrial Relations</td>
</tr>
<tr>
<td>NBB02</td>
<td>Occupational Health &amp; Safety (½ module)</td>
</tr>
<tr>
<td>NBB04</td>
<td>Computing in Engineering</td>
</tr>
<tr>
<td>NBB05</td>
<td>Quality Concepts (½ module)</td>
</tr>
<tr>
<td>NBB06</td>
<td>Machining</td>
</tr>
<tr>
<td>NBB07</td>
<td>Hand &amp; Power Tools</td>
</tr>
<tr>
<td>NBB08</td>
<td>Electrical Fundamentals</td>
</tr>
<tr>
<td>NBB09</td>
<td>Welding &amp; Thermal Cutting</td>
</tr>
<tr>
<td>NBB12</td>
<td>Engineering Drawing Interpretation 1</td>
</tr>
<tr>
<td>NBB13</td>
<td>Engineering Science</td>
</tr>
<tr>
<td>NM08</td>
<td>Engineering Materials</td>
</tr>
<tr>
<td>NM15</td>
<td>Fitting Techniques 1</td>
</tr>
</tbody>
</table>

**Core prerequisites**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM01</td>
<td>Milling 1</td>
</tr>
<tr>
<td>NM05</td>
<td>Engineering Calculations</td>
</tr>
<tr>
<td>NM07</td>
<td>Principles of Machining (½ module)</td>
</tr>
<tr>
<td>NM16</td>
<td>Drills and Drilling</td>
</tr>
<tr>
<td>NM17</td>
<td>Grinding 1</td>
</tr>
<tr>
<td>NM19</td>
<td>Tool sharpening off hand (½ module)</td>
</tr>
<tr>
<td>NM25</td>
<td>Turning 1</td>
</tr>
<tr>
<td>NM26</td>
<td>Turning 2</td>
</tr>
<tr>
<td>NM44</td>
<td>End Drawing Interpretation 2</td>
</tr>
</tbody>
</table>

**Possible elective streams**

**Toolmaking stream**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM20</td>
<td>Precision Measurement</td>
</tr>
<tr>
<td>NM18</td>
<td>Grinding 2 (Cylindrical Grinding)</td>
</tr>
<tr>
<td>NM21</td>
<td>Precision Measurement</td>
</tr>
<tr>
<td>NM22</td>
<td>Machine Repair and Installation</td>
</tr>
<tr>
<td>NM29</td>
<td>Mechanical Power and Transmissions</td>
</tr>
<tr>
<td>NM44</td>
<td>Fitting Techniques 1</td>
</tr>
</tbody>
</table>

**Advanced Machining stream**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM02</td>
<td>Milling 3</td>
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<tr>
<td>NM03</td>
<td>Precision Measurement</td>
</tr>
<tr>
<td>NM16</td>
<td>Grinding 2</td>
</tr>
<tr>
<td>NM17</td>
<td>Precision Machining</td>
</tr>
<tr>
<td>NM27</td>
<td>Turning 2</td>
</tr>
</tbody>
</table>

**Maintenance Fluid Power**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM08</td>
<td>Fluid Power Control 2</td>
</tr>
<tr>
<td>NM64</td>
<td>Fluid Power Control 1</td>
</tr>
</tbody>
</table>

**Certificate of Engineering/Mechanical**

**Broad Base modules**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBB01</td>
<td>Communication</td>
</tr>
<tr>
<td>NBB02</td>
<td>Legal requirements with regard to OH&amp;S</td>
</tr>
<tr>
<td>NBB04</td>
<td>Computer applications</td>
</tr>
<tr>
<td>NBB05</td>
<td>Principles of quality control, systematic procedures of quality control.</td>
</tr>
<tr>
<td>NB06</td>
<td>Basic operations on lathe, milling machine, cut-off saws and bench work.</td>
</tr>
<tr>
<td>NB07</td>
<td>Use of hand and power tools.</td>
</tr>
<tr>
<td>NB08</td>
<td>Safety in electricity, fundamentals, components, lab equipment.</td>
</tr>
<tr>
<td>NB09</td>
<td>Welding, fusion, soft solder, brazing, cutting using oxy acetylene, muriuL arc, gas metal arc.</td>
</tr>
<tr>
<td>NB12</td>
<td>Interpretation of engineering drawing, orthogonal, isometric, oblique. Sketching to AS1100.</td>
</tr>
<tr>
<td>NB13</td>
<td>Basic mathematics, engineering physics, engineering physics, engineering materials.</td>
</tr>
<tr>
<td>NM08</td>
<td>Fitting using scrapers and reamers and dowels, pins, pegs and other fabrication methods.</td>
</tr>
</tbody>
</table>

**Core modules (prerequisites)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM01</td>
<td>Basic milling operations for both vertical and horizontal milling machines including keyway cutting, indexing, form milling etc.</td>
</tr>
<tr>
<td>NM05</td>
<td>Engineering calculations including use of calculator right angle triangle problems, manipulation of algebraic expressions sine and cosine rules.</td>
</tr>
<tr>
<td>NM07</td>
<td>Advanced cutting tool geometry.</td>
</tr>
<tr>
<td>NM16</td>
<td>Types, function and use of drills and drilling machines.</td>
</tr>
<tr>
<td>NM17</td>
<td>Surface grinding flat, square angled parallel, etc. How to a high degree of accuracy.</td>
</tr>
<tr>
<td>NM19</td>
<td>Grinding of lathe cutting tools and drills using off-hand grinding methods.</td>
</tr>
<tr>
<td>NM25</td>
<td>Basic parallel turning to tolerated drawings.</td>
</tr>
<tr>
<td>NM26</td>
<td>Advanced turning of tapers parallels forming turning face plate work and use of steadies.</td>
</tr>
<tr>
<td>NM44</td>
<td>Advanced engineering drawing interpretation formal 3rd angle projection drawing, sectioning, detail drawing, assembly drawing.</td>
</tr>
<tr>
<td>NM34</td>
<td>Air Compression Distribution</td>
</tr>
<tr>
<td>NM36</td>
<td>Introduction to Heat Transfer</td>
</tr>
<tr>
<td>NM37</td>
<td>Steam Plant</td>
</tr>
<tr>
<td>NM39</td>
<td>Engines 1 — Spark Ignition</td>
</tr>
<tr>
<td>NM40</td>
<td>Engines 2 — Medium Diesel</td>
</tr>
<tr>
<td>NM41</td>
<td>Engines 3 — Large Diesel</td>
</tr>
<tr>
<td>NM42</td>
<td>Water Pumping</td>
</tr>
<tr>
<td>NM43</td>
<td>Pumps — Application &amp; Maintenance</td>
</tr>
<tr>
<td>NM44</td>
<td>Engineering Drawing Interpretation 2</td>
</tr>
<tr>
<td>NM45</td>
<td>Electrical Discharge Machining</td>
</tr>
<tr>
<td>NM46</td>
<td>Press Tool 1 — Introduction</td>
</tr>
<tr>
<td>NM47</td>
<td>Press Tool 2 — Blank &amp; Pierce</td>
</tr>
<tr>
<td>NM48</td>
<td>Press Tool 3 — Bend</td>
</tr>
<tr>
<td>NM49</td>
<td>Press Tool 4 — Draw Dies</td>
</tr>
<tr>
<td>NM50</td>
<td>Press Tool 5 — Progressive Dies</td>
</tr>
<tr>
<td>NM51</td>
<td>Precision Machining</td>
</tr>
<tr>
<td>NM52</td>
<td>Moulds &amp; Cavity Dies 2 — Introduction</td>
</tr>
<tr>
<td>NM53</td>
<td>Moulds &amp; Cavity Dies 1</td>
</tr>
<tr>
<td>NM54</td>
<td>Moulds &amp; Cavity Dies 2</td>
</tr>
<tr>
<td>NM55</td>
<td>Moulds &amp; Cavity Dies 3</td>
</tr>
<tr>
<td>NM56</td>
<td>Moulds &amp; Cavity Dies 4</td>
</tr>
<tr>
<td>NM57</td>
<td>Hydraulics 2</td>
</tr>
<tr>
<td>NM58</td>
<td>Hydraulics 3</td>
</tr>
<tr>
<td>NM59</td>
<td>Hydraulics 4</td>
</tr>
<tr>
<td>NM60</td>
<td>Pneumatics 1</td>
</tr>
<tr>
<td>NM61</td>
<td>Pneumatics 2</td>
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<tr>
<td>NM62</td>
<td>Pneumatics 3</td>
</tr>
<tr>
<td>NM63</td>
<td>Fluid Power Control 2</td>
</tr>
<tr>
<td>NM64</td>
<td>Fluid Power Control 1</td>
</tr>
</tbody>
</table>

**Swinburne College of TAFE**
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.

Course detail

<table>
<thead>
<tr>
<th>Hours</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 2</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 3</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 4</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 5</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 6</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 7</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>Module 8</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>Module 9</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 10</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 11</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>Module 12</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 13</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 14</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 15</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>Module 16</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>Module 17</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>Module 18</td>
<td>Related Instruction</td>
</tr>
<tr>
<td>Module 19</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 20</td>
<td>Theory and Practice</td>
</tr>
<tr>
<td>Module 21</td>
<td>General Fabrication</td>
</tr>
<tr>
<td>Module 22</td>
<td>General Fabrication</td>
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<td>Module 25</td>
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<td>Module 27</td>
<td>Structural</td>
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<tr>
<td>Module 28</td>
<td>Structural</td>
</tr>
<tr>
<td>Module 29</td>
<td>Pressure Vessel</td>
</tr>
<tr>
<td>Module 30</td>
<td>Pressure Vessel</td>
</tr>
<tr>
<td>Module 31</td>
<td>Pressure Vessel</td>
</tr>
<tr>
<td>Module 32</td>
<td>Pressure Vessel</td>
</tr>
</tbody>
</table>

M22EFA  Certificate of Quality Technology

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.

3300EEN  Advanced Certificate in Manufacturing Engineering: Quality Technology

Entry standards
The following are the prerequisite qualifications for entry into the courses:

a) Satisfactory completion of Year 11 or equivalent course comprising two semesters' units of mathematics and two semesters' units of English.

b) Experience and maturity deemed by the TAFE institution necessary to succeed in the course, such as satisfactory progress in, or completion of, the Fitting and Machining 32EFG trade course.

NOTE: For students who do not have the prerequisite academic qualifications, a bridging program comprising engineering computations, communication skills, introduction to computers and engineering principles is to be initially undertaken.

Course structure

The core subjects are the same as the Advanced Certificate (Mechanical Engineering) and may be studied on a full time or part time basis.

Compulsory specialist stream subjects (part time study)

<table>
<thead>
<tr>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
</tr>
<tr>
<td>TF197A</td>
</tr>
<tr>
<td>TF197B</td>
</tr>
<tr>
<td>TF195</td>
</tr>
<tr>
<td>TF196</td>
</tr>
</tbody>
</table>

Broadening subjects
One broadening subject must be selected

<table>
<thead>
<tr>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
</tr>
</tbody>
</table>

3500EEB  Associate Diploma in Manufacturing Engineering: Quality Technology

Entry standards
The following are the prerequisite qualifications for entry into the courses:

a) Satisfactory completion of Year 12 or equivalent course comprising two semesters' units of mathematics and two semesters' units of English.

b) Experience and maturity deemed by the TAFE institution necessary to succeed in the course, such as satisfactory progress in, or completion of, the Fitting and Machining 32EFG trade course.

NOTE: For students who do not have the prerequisite academic qualifications, a bridging program comprising engineering computations, communication skills, introduction to computers and engineering principles is to be initially undertaken.

Course structure

Students having completed the Advanced Certificate in Manufacturing Engineering: Quality Technology may undertake the Associate Diploma in Manufacturing Engineering: Quality Technology on a part time basis.
Elective specialist stream subjects
Four electives must be selected from the following specialist stream subjects:
- TF297 Statistical Quality Control 11
- TF317 Dimensional Metrology
- TF253 Computer Appreciation and Applications to Quality Control
- TF462 Reliability and Prototype Testing
- TF464 Product Liability and Product Recall Management
- TF465 Quality Control Systems and their Assessment
- TF467 Human Factors

Broadening units
Up to seven broadening units to be selected for study. It is recommended that these subjects should include Metrology 1AB and 2AB if the units completed up to this stage do not include Dimensional Metrology. Total: 30

Swinburne Certificate of Quality Control
Students who have successfully completed the five specialist stream units of the Advanced Certificate and three electives from the Associate Diploma in Quality Technology will be eligible for a Certificate in Quality Control awarded by Swinburne College. These subjects are as follows:

Compulsory subjects
- TM127 Statistics 1
- TM197B Statistical Quality Control B 1 unit
- TF195 Organisation and Management for Quality A 1 unit
- TF196 Organisation and Management for Quality A 1 unit

Electives
Three electives are to be selected from the following:
- TF297 Statistical Quality Control 11 1 unit
- TF340 Principles of Measurement 1 unit
- TF317 Dimensional Metrology 1 unit
- TF253 Computer Appreciation and Application for Quality Control 1 unit
- TF462 Reliability and Prototype Testing 1 unit
- TF464 Product Liability and Recall Management 1 unit
- TF465 Quality Control Systems and their Assessment 1 unit
- TF467 Human Factors 1 unit

Advanced Certificate and Associate Diploma Courses
Entrance requirements
Advanced Certificate
Satisfactory completion of a VCE or equivalent course comprising 4 semesters’ units of mathematics and 2 semesters’ units of English and Physics at Year 12; or Experience and maturity deemed by Swinburne College of TAFE necessary to succeed in the course, such as satisfactory progress in, or completion of, the 3212EQG Fitting and Machining trade course.

Note: For those students that do not have the prerequisite academic qualifications, then a bridging program comprising Engineering Computations, Communication Skills, Introduction to Computers and Engineering Principles is to be initially undertaken.

Awarding
The certificate is awarded after completion of the academic studies and provision of evidence of two years of relevant industrial experience.

Associate Diploma
Same as Advanced Certificate or completion of an advanced certificate in Engineering.

Career potential
The Advanced Certificate has been designed to enable a graduate to be employed in such positions as technical assistants, supervisors, trainee detail draftspersons, junior technical officers in such industries as appropriate to the engineering discipline chosen.

The Associate Diploma may enable the graduate to gain more senior positions in engineering industries. These positions may include project engineers, design draftspersons, technical officers, works engineers, and methods engineers.

These courses have been designed to meet the requirements of industry, but also allow a student to expand his/her particular engineering interests by the selection of “broadening” subjects.

3300EEM Advanced Certificate in Mechanical Engineering
Course Structure
Graduates who have completed the Advanced Certificate (Mechanical Engineering) will be able to undertake the Associate Diploma (Mechanical Design Drafting), or Associate Diploma (Mechanical Engineering). The Advanced Certificate may be studied on a full-time or part-time basis.

Core subjects
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD001</td>
</tr>
<tr>
<td>TD002</td>
</tr>
<tr>
<td>TD003</td>
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<tr>
<td>TD004</td>
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<td>TD005</td>
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<td>TD006</td>
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<td>TD007</td>
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<tr>
<td>TD014</td>
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<td>TD015</td>
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<td>TD016</td>
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<td>TD017</td>
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<tr>
<td>TD018</td>
</tr>
<tr>
<td>TD019</td>
</tr>
<tr>
<td>TD020</td>
</tr>
</tbody>
</table>

Sub Total: 12

Compulsory Subjects
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD024</td>
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<tr>
<td>TD025</td>
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<tr>
<td>TD026</td>
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<tr>
<td>TD027</td>
</tr>
<tr>
<td>TD028</td>
</tr>
<tr>
<td>TD029</td>
</tr>
</tbody>
</table>

Sub Total: 5

Broadening Subjects

One broadening unit must be selected. 1

Broadening subjects are essentially those that are available in existing Certificate of Technology course.

Total: 18

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

Bridging subjects
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD010</td>
</tr>
<tr>
<td>TD011</td>
</tr>
<tr>
<td>TD012</td>
</tr>
<tr>
<td>TD013</td>
</tr>
<tr>
<td>TD016</td>
</tr>
<tr>
<td>TD019</td>
</tr>
<tr>
<td>TD020</td>
</tr>
</tbody>
</table>
3500EEC Associate Diploma of Engineering (Mechanical Design Drafting)

Course structure
May be studied on a full-time or part-time basis.
In addition to the subjects studied in the Advanced Certificate (Mechanical Engineering), the following are to be undertaken:

Compulsory Subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<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>
<td>1</td>
</tr>
<tr>
<td>TD035</td>
<td>Mechanical Design 2B</td>
<td>1</td>
</tr>
<tr>
<td>TD036</td>
<td>Mechanical Design 3A</td>
<td>1</td>
</tr>
<tr>
<td>TD037</td>
<td>Mechanical Design 3B</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 7

Broadening Subjects

Five broadening subjects must be selected.  
Total 5

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>
</tr>
</thead>
<tbody>
<tr>
<td>TD039</td>
<td>CAD/CAM Basic</td>
<td>1</td>
</tr>
<tr>
<td>TD041</td>
<td>Robotics</td>
<td>1</td>
</tr>
<tr>
<td>TD043</td>
<td>Production Planning and Control 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD044</td>
<td>Production Planning and Control 2A</td>
<td>1</td>
</tr>
<tr>
<td>TD045</td>
<td>Production Planning and Control 2B</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 8

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD046</td>
<td>Metrology 1 A/B</td>
<td>2</td>
</tr>
<tr>
<td>TD055</td>
<td>Numerical Control 1</td>
<td>2</td>
</tr>
<tr>
<td>TD056</td>
<td>Numerical Control 2</td>
<td>2</td>
</tr>
<tr>
<td>TD047</td>
<td>Materials Handling 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD048</td>
<td>Materials Handling 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD049</td>
<td>Jig and Tool Drafting 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD050</td>
<td>Fluid Power 1</td>
<td>1</td>
</tr>
<tr>
<td>TD051</td>
<td>Fluid Power 2</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 4

Broadening Subjects
Six broadening units must be selected.  
Total 6

3300EN Advanced Certificate in Manufacturing Engineering

Course Structure
The core subjects are the same as the Advanced Certificate (Mechanical Engineering) and may be studied on a full-time or part-time basis.

Compulsory Subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD039</td>
<td>CAD/CAM Basic</td>
<td>1</td>
</tr>
<tr>
<td>TD041</td>
<td>Robotics</td>
<td>1</td>
</tr>
<tr>
<td>TD040</td>
<td>CAD/CAM Advanced</td>
<td>2</td>
</tr>
</tbody>
</table>

Sub Total 4

Elective Subjects
Elective subjects must be selected to the value of two units from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD048</td>
<td>Metrology 1 A/B</td>
<td>2</td>
</tr>
<tr>
<td>TD055</td>
<td>Numerical Control 1</td>
<td>2</td>
</tr>
<tr>
<td>TD056</td>
<td>Numerical Control 2</td>
<td>2</td>
</tr>
<tr>
<td>TD047</td>
<td>Materials Handling 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD048</td>
<td>Materials Handling 1B</td>
<td>1</td>
</tr>
<tr>
<td>TD049</td>
<td>Jig and Tool Drafting 1A</td>
<td>1</td>
</tr>
<tr>
<td>TD050</td>
<td>Fluid Power 1</td>
<td>1</td>
</tr>
<tr>
<td>TD051</td>
<td>Fluid Power 2</td>
<td>1</td>
</tr>
</tbody>
</table>

Sub Total 2

Total 7

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
TF01F-TF05F 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 people for the welding industry where a basic welding skill only is required.
(b) To provide basic instruction for progression to the TAFE Intermediate Welding Certificate Course.

Course content
The course is stated as training objectives based on the Systems Approach to training. All objectives are performance objectives.
The course consists of six modules. Modules 1 to 4 are practice and modules 5 and 6 are theory.
The nominal duration of the course is 2 x 120 hour semesters.

Entry level
To obtain entry to this course the student must be not less than fifteen years of age on the first day of the course.
The student must also have basic written and oral English.

Course structure

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO01</td>
<td>Manual Metal Arc Welding</td>
</tr>
<tr>
<td>TWO02</td>
<td>Gas metal Arc Welding</td>
</tr>
<tr>
<td>TWO03</td>
<td>Flame Cutting and Gouging</td>
</tr>
<tr>
<td>TWO04</td>
<td>Flame Gas Welding</td>
</tr>
<tr>
<td>TWO05</td>
<td>Practice Associated Theory</td>
</tr>
<tr>
<td>TWO06</td>
<td>Additional Theory</td>
</tr>
<tr>
<td>TWO25</td>
<td>Basic Welding Exam</td>
</tr>
</tbody>
</table>

4200EPA Intermediate Welding Course (Endorsement to Certificate in Basic Welding)

Objectives
(a) To qualify personnel for the welding industry where an intermediate welding skill only is required.
(b) To provide instruction for progression to the TAFE Proficiency Welding Course.

Course content
The course is stated in training objectives based on the Systems Approach to training.
The course consists of six modules. Modules 7 to 10 are practice and modules 11 and 12 are theory.
The nominal duration of the course is 2 x 120 hour semesters.
Consistent with the Systems Approach to training this will vary with the individual ability of each student.

Entry level
(a) The successful completion of the TAFE Basic Welding Certificate Course; or
(b) An equivalent qualification as determined by each TAFE provider.

Course structure

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TW001</td>
<td>Manual Metal Arc Welding</td>
</tr>
<tr>
<td>TW002</td>
<td>Gas metal Arc Welding</td>
</tr>
<tr>
<td>TW003</td>
<td>Flame Cutting and Gouging</td>
</tr>
<tr>
<td>TW004</td>
<td>Flame Gas Welding</td>
</tr>
<tr>
<td>TW005</td>
<td>Practice Associated Theory</td>
</tr>
<tr>
<td>TW006</td>
<td>Additional Theory</td>
</tr>
<tr>
<td>TW025</td>
<td>Basic Welding Exam</td>
</tr>
</tbody>
</table>

4200EPB Proficiency Welding Course (Endorsement to Certificate in Basic Welding)

Objectives
(a) To qualify personnel for the welding industry where a high degree of welding skill is required, but where Statutory Certification is not necessary.
(b) To provide instruction for progression to Statutory Certification for suitably qualified personnel.

Course content
The course is stated as training objectives based on the Systems Approach to Training.
The course consists of six modules. Modules 13 to 16 are practice and modules 17 and 18 are theory.
The nominal duration of the course is 1 x 120 hour semester.
Consistent with the Systems Approach to Training this will vary with the individual ability of each student.

Entry level
(a) The successful completion of the TAFE Intermediate Welding course; or
(b) An equivalent qualification as determined by each TAFE provider.

Course structure

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TW013</td>
<td>Module 13 - Manual Metal Arc Welding</td>
</tr>
<tr>
<td>TW014</td>
<td>Module 14 - Submerged Arc Welding</td>
</tr>
<tr>
<td>TW015</td>
<td>Module 15 - Gas Metal Arc Flux cored Arc Welding</td>
</tr>
<tr>
<td>TW016</td>
<td>Module 16 - Gas Tungsten Arc Welding</td>
</tr>
<tr>
<td>TW017</td>
<td>Module 17 - Prac Associated Theory</td>
</tr>
<tr>
<td>TW018</td>
<td>Module 18 - Additional Theory</td>
</tr>
</tbody>
</table>

Special subject

**Electric Welding**
A subject to enable qualified tradespersons to improve their knowledge and skills in order to pass special government welding examinations.

**TF415** Electric Welding Special

**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
Subject details

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

Introduction to the concept of quality control as a system. Quality control systems Standards and audit.

TF198 Statistical Quality Control 2

Study of methods applied in measuring and assessing variance in quality. Continuous sampling techniques, acceptance sampling by variables, design of experiments, failure modes, cumulative sum techniques, defects analysis.

TF253 Computer Appreciation and Applications to Quality Control

This subject provides an appreciation of the range of uses and current applications of computer technology in quality control work. It includes computer, BASIC, FORTRAN and COBOL programming, microprocessors, computer graphics, uses of computer packages in quality control.

TF297 Statistical Quality Control 2

Study of methods applied in measuring and assessing variance in quality. Continuous sampling techniques, acceptance sampling by variables, design of experiments, failure modes, cumulative sum techniques, defects analysis.

TF317 Dimensional Metrology

Precision measuring techniques and application of principles of measurement. Length measurement (standards and gauges), flatness, dimension tolerances, co-ordinate measurement.

TF383 Material Cutting Technology

A theoretical approach to aspects of cutting materials, chip control, turning—a tool wear, cutting efficiency and economics, chatter, milling—lead angles, cutter diameter and number of teeth, power requirements, vibration and surface finish, drilling—performance comparison, laser drills.

TF385 Training Techniques

Introduction to training aids, methods and presentation examining questioning techniques, training situations and the evaluation of training.

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 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


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 geometry, trigonometry, mensuration, logarithmic notation and statistics as used in engineering.

TD012 Computer Studies

Introduction to computers. Peripherical equipment. Operating systems.

TD014 Engineering Materials 1A

The understanding of the properties, testing and uses of engineering materials; the structure and solidification of metals; mechanics of corrosion.

TD015 Engineering Materials 1B

The heat treatment of plain carbon steels; cast iron; alloy steels. Aluminium, copper, magnesium, nickel, zinc, lead, tin and other alloys; plastics; adhesives.

TD016 Engineering Drafting 1A

Use of office furniture and equipment; basic drafting skills; drafting practices as per Australian Standards; types of fasteners.

TD017 Engineering Drafting 1B

Basic mechanisms and their applications, detail drawings, assembly drawings, auxiliary views, basic solid geometry.

TD018 Communication Skills 1A

Introduction to computers. Peripherical equipment. Operating systems.

TD019 Communication Skills 1B

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

TD020 Engineering Principles 1A

Forces, vectors, kinematics of linear, curvilinear and circular motion, Newton's Laws, kinetics of motion.

TD021 Engineering Principles 1B

Moments, torque, friction, equilibrium, work energy and power, momentum, machines, sound.

TD023 Statistics

The study of mathematical and graphical methods of determining reactions, forces and conditions of equilibrium in static systems.

TD024 Applied Mechanics 1A

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.

Applied Mechanics 3A
Revision and extension of the principles of mechanics and the application of appropriate codes to the selection and design of machine elements; in particular those allied to power transmission.

Mechanical Design and Drafting 1A
DRAFTING PRACTICES EXTENDED; USE OF BEARINGS, THEIR LUBRICATION AND TOOLS, KNOWLEDGE AND LEVELS OF UNDERSTANDING REOUIRED TO FUNCTION AS A PROMOTION LINER OR ENG. ASSISTANT.

Mechanical Design and Drafting 1B
Layout of steelwork drawings; connection methods; functional design of supports, guards, frames for mechanical equipment, platforms, ladders; corrosion protection.

Mechanical Design and Drafting 1C
Development of the drafting skills and knowledge of equipment required for the process plant and piping industry.

Mechanical Design 2A
The application of the fundamentals of engineering principles and applied mechanics to the analysis of design problems and machine elements.

Mechanical Design 2B
The application of the fundamentals of engineering principles and applied mechanics in the design of structures in accordance with the relevant Australian standards.

Mechanical Design 3A
Extension of knowledge in the analytical design of product and general plant and the use of reference materials and drafting.

Mechanical Design 3B
Products and Mechanical Plant
Further analytical design of products and selection of multi-element systems, manufacturing methods, and design costing.

CAD/CAM Basic
Topics include; introduction to automation, the computer, the role of the computer in manufacturing, numerical control.

CAD/CAM Advanced
Extension of the topics in CAD/CAM basic in more depth and detail.

Robotics
Includes the following components: related to industrial robotics: Description, definitions, safety of operation, work layouts, tooling and end effectors, installation, understanding of the robot actuators, and various types of programming.

Production Planning and Control 1A
Nature and purpose of production control. The organization of production control. Preparation of forecasts, schedules, machine loading, and inventory control.

Production Planning and Control 1B
Control of work estimating, manufacturing authority and preparation of programmes with material control.

Production Planning and Control 2A
The production function and its relationship with organisational policies. Budgeting and control, capacity analysis, planning techniques and quality control.

Production Planning and Control 2B

Materials Handling 1A

Materials Handling 1B
Legal handling and storage requirements. Storage technology and costs. Mobile road handling, load measuring and power drives in handling.

Metrology 1A
An introduction to fine measurement using length standards, comparators, and limit gauges. The identification of errors in fine measurement.

Metrology 1B
The fine measurement of lengths and angles. The testing of straightness, flatness, squareness and surface texture. The use of optical projection.

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

Fluid Power and Applications
The principles of hydraulics. Components, symbols, control materials and applications. The design of circuits using calculations for component sizing and selection.

Jig and Tool Drafting 1A
Planning techniques. The principles of jig and fixture design. The design of a drill jig and drawing to Australian Standards.

Jig and Tool Drafting 1B
The elements of milling and turning fixtures. The design of a milling fixture and turning fixture and drawing to Australian Standards.

Numerical Control 1
Introduction to numerical control. The planning procedure, preparation and writing of manual part programs for a CNC lathe and machining centre.

Numerical Control 2
Introduction to computer assisted programming. Geometry and motion statements, post processor statements and operation system manipulation.

Thermodynamics A
Theory and applications related to generation and use of steam. Transfer, selection of air compressors and inter combustion of fuels.

Boilermaking
Introduction to the trade, identification and use of electrical switches, selection of materials and use of tools.

Module 1
Calculation of circumstances and diameters of circles, marking out constructions, identification and use of electrical switches, switches and method of slinging, crane hand signals.

Module 2
Calculation of circumstances 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.

Module 3

Module 4
Flame-cutting, bevelling and piercing by hand, flame-cutting various sections and welding preparations. Straightline flame-cutting machine, profile flame-cutting machine, flame-cutting processes, machines and applications.

Module 5
Protective clothing and accessories for electric welding. Selection of electrodes by classification, electric welding techniques and exercises. Electrical terms associated with MMA welding, types of welded 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 brazing.

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 handrail, fabrication of truss panel point, layout and fabrication of pressure 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 paid, 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, offset hoppers, rectangular to round transition piece, 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

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 end to end butt. Pipe to plate braze. Flat bronze weld on cast iron.
Intermediate Welding Modules

TW005 Module 5 (Practice Associated Theory)

TW006 Module 6 (Additional Theory)

TW007 Module 7 (Manual Metal Arc Welding)
Pad, fillet and butt welding in various positions with various types of electrode.

TW008 Module 8 (Gas Metal Arc Welding/Flux Cored Arc Welding)
Vertical fillet (FCAW) pipe butt-horizonal fillet (GMAW). Stainless steel flat butt (GMAW).

TW009 Module 9 (Gas Tungsten Arc Welding)
Various butt welds in steel. Flat butt weld in Aluminum.

TW010 Module 10 (Cutting Processes)
Plasma cutting. Flame pipe bevelling by machine. Mechanical bevelling.

TW011 Module 11 (Prac Associated Theory)

TW012 Module 12 (Additional Theory)
Production of Iron and Steel. Alloying elements. Pre-heating, weldability and characteristics of Stainless Steel, Aluminium, Copper and Copper alloys.

TW026 Module 26 (Intermediate Welding Exam)
This test is to be taken after the successful completion of Modules 7 to 12 inclusive. Theory: 90 minutes. Practice: 4 hours. After successful completion of this test, application may be made for the TAFE Intermediate Welding Statement of Attainment.

TW027 Module 27 (Proficiency Welding Exam)
This test is to be taken after the successful completion of Modules 13 to 16 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

The Swinburne Centre for Engineering Technology is a high technology training and development centre. Its aim is to integrate the specialist disciplines within Swinburne, specialising in developing and conducting short courses in AutoCAD and CAD/CAM.

The Centre offers onsite training, consultancy and special prototype machining projects and development and sales of CAMPAC software to industry and educational institutions.

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

Current offerings in short courses are:
- CAD Skills
  An introductory course designed to upgrade people’s skills to operate a Computer Aided Design software package to a level of proficiency.

- Advanced CAD
  Follows on from CAD Skills and introduces 3D drafting, digitising, attributes and isometric drawings.

- CAD Programming
  A course designed to train personnel in CAD Skills experience, how to program using AutoLISP, menu customisation and script programming.

- Machining from CAD
  AutoCAD and CNC principles using CAMPAC. CAMPAC is a powerful software developed, written and sold by Swinburne and used to process CAD drawing information into machine tool language.

- Automation Technology
  The course provides managerial personnel with a better understanding of computer hardware/software and its applications to automated manufacturing industries through on and practical demonstrations.

- Diagnostics and Servicing on CNC Machines
  The course is designed to give maintenance personnel first line diagnostics and servicing capability for troubleshooting on CNC machine tools.

- Numerical Control
  Use of NC machines.

- CNC Programming
  Basic and advanced manual CNC programming including conversational programming.

- Execugame
  Gaming exercise in manufacturing business management and skills.

- Technical Publications
  Using AutoCAD and Pagemaker for personnel who must produce technical pamphlets, brochures, etc.

- Animation
  This new progam is used to produce moving displays on the computer screen for high quality presentation work for sales, meetings, etc.

- Robotics
  The use and safety of robots.
CAMPAC
CAMPAC is a proven CAD/CAM software package used in Australian manufacturing industries for producing components from AutoCAD drawings. It is a CAM package which combines cutter path generation, program editing and communications all accessed from inside AutoCAD. The package was designed at the Centre to allow the operator to follow a sequence of simple, logical steps, to quickly produce the CNC machine driving instructions. CAMPAC is a commercially available package.

National Scientific Instrumentation Training Centre
The NSITC is a joint venture between Swinburne College of TAFE, Swinburne Institute of Technology, Varian Pty. Ltd. and Foss Electric (Australia) Pty. Ltd. The Centre offers a comprehensive range of “hands-on” training in modern scientific instrumentation including:
- high performance liquid chromatography,
- nuclear magnetic resonance spectroscopy,
- gas chromatography,
- electrochemistry including potentiometry,
- atomic absorption spectrophotometry,
- FT-IR and GS-mass spectrometry.
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Secretary
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Workplace Skills Unit

Manager
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COURSES OFFERED

Access Education Department

Code Title
4290LDJ Volunteer Tutor Training
4290LVP Vocational Preparation Program
2100LDO Basic Studies Program
2100LZE Vocationally-Oriented Evening Classes
2100LZT Transition Program

General and Community Studies Department

Code Title
2200LZA VCE
2200LZF Arts Preparatory Program
2100LZD Migrant English Access
3100MCT Home Carers TrainingCourse
3222KFA Child Care Assistant/Teacher
3500MDA Associate Diploma of Social Science (Community Development)

COURSE DETAILS

Access Education Department

4290LDJ Volunteer Tutor Training

Two courses of training are offered. One prepares volunteers to work on a one-to-one basis with adult students who need individual tuition in the basics of reading, writing and spelling. The second prepares volunteers to tutor mildly intellectually disabled adults in life-coping skills.

TR100 Basic Literacy
TR106 Life Skills

2100LZE Vocationally-oriented Evening Classes

The course provides practical subjects for mildly intellectually disabled adults in the evening. Subjects offered are:

TR120F Fitting & Machining
TR121F Literacy/Numeracy

2100LZT Transition Program

Students attend for five days per week. The program encourages mildly intellectually disabled adults to develop their practical skills and to improve their levels of literacy, communication and independence, as well as offering practical work experience. Subjects offered are:

TR112 Electrical Studies
TR113 Fitting and Machining
TR114 Home Economics
TR115 Literacy/Numeracy
TR117 Computer Skills
TR118 Work Education
TR119 Horticulture

4290LVP Vocational Preparation Program

This short course is for mature age students who wish to sit an examination to enter their chosen field in nursing, fire brigade, or the police force.
**2100LDO Basic Studies Program**

<table>
<thead>
<tr>
<th>Code</th>
<th>Program Name</th>
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<tbody>
<tr>
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<td>English Workshop</td>
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<td>Mathematics Workshop</td>
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<td>TR103</td>
<td>Spelling Workshop</td>
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<td>TR107</td>
<td>Volunteer Tutor Program (Adult Literacy)</td>
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<td>TR108</td>
<td>Volunteer Tutor Program (Life Skills)</td>
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<td>TR145</td>
<td>Written Communication Skills (for the deaf)</td>
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<tr>
<td>TR150</td>
<td>Basic Mathematics for Women</td>
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<tr>
<td>TR160</td>
<td>Preparation for VCE</td>
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</table>

**General and Community Studies Department**

**2200LZA Victorian Certificate of Education**

The VCE at Swinburne is designed to meet the needs of students who intend to proceed to tertiary education, in particular, to the diploma and degree courses offered by the faculties of arts, applied science, business and engineering of Swinburne Institute of Technology.

The program is studied in a tertiary environment. First class faculties of arts, applied science, business and engineering are required to pass a minimum of four including English, visual, computer, student amenities and counselling.

For entry into full-time VCE preference is given to applicants who are over 18 years of age and have been away from study for at least 12 months.

**Course structure**

Twenty subjects are offered. Students usually take five subjects and are required to pass a minimum of four including English, to meet tertiary entrance requirements. A wide range of subjects is available for part-time day and evening students.

The business VCE course comprises English, Accounting, Economics, General Mathematics and Legal Studies.

The humanities VCE covers a range of subjects offered, in different combinations.

The science VCE offers courses in:

- Engineering Science
- Biological Science

Before choosing subjects, students, especially part-time, are advised to check the entrance requirements 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 examinations.

**Subjects**

- TG001F English Units 3 & 4
- TG002F Legal Studies
- TG003F Economics
- TG004F Accounting
- TG005F Physics
- TG006F Chemistry
- TG007F Biology
- TG008F Information Technology
- TG009F Media
- TG010F Literature
- TG011F Australian History
- TG012F Psychology
- TG013F Environmental Studies
- TG014F Political Studies
- TG015F Human Development in Society
- TG016F English Units 1 & 2
- TG031F Space and Number 3 & 4
- TG033F Reasoning & Data 3 & 4
- TG036F Change & Approximation 3 & 4 Ext.

**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 1990 places emphasis on Australian studies to provide the content focus for a program which is geared to cater for students enrolling in a range of arts subjects. At present the program consists of four units with the following titles:

- TH303 Images of Australia through Film and Television
- TH306 Research Skills
- TH307 Argument & Analysis
- TH308 Australian Writing

The program offers support and training in preparing a range of assessment tasks and helps provide the skills required to undertake tertiary programs for those students who are returning to study.

The program is available in semester one and semester two: full-time enrolment requires one semester study (approximately fifteen weeks duration), and part-time enrolment can be taken over two semesters.

**2100LDZ Migrant English**

There are programs to prepare students of a non-English speaking background for tertiary study. Day VCE/ESL English classes are offered and there is a summer school in January 1991.

VCE English Units 1 & 2 is offered on a part-time evening basis, and prepare students for VCE English Units 3 & 4, which is offered both day and evening.

- TJ004 English for Academic Purposes
- TJ005 Further Listening & Speaking Practice
- TJ006 Further Reading & Writing
- TJ007 Further Writing & Speaking

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.

**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.

**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
- TH311 Caregiving Skills
- TH312 Children’s Experiences
- TH313 Communication and Life Skills
Community Information Workers Certificate
This course is offered in conjunction with the Camberwell Community Centre. It is designed to provide training for workers who provide advice, counselling and practical assistance to individuals seeking information relating to community resources.

3500MDA Associate Diploma of Social Science (Community Development)
The Associate Diploma gives training and qualifications for people working in community organisations. The course is suitable for mature age people with experience in community work and/or few formal qualifications in the area.
Prospective students who are not mature age are encouraged to apply if they can demonstrate some community work interest and experience.
The Associate Diploma is 2 years full-time or 4 years part-time study. There is a field work provision in the course. The Associate Diploma articulates into the third year of a Bachelor of Arts (Community Development) at Victoria College and the Western Institute.
Entry dates to the course will vary, so prospective students are advised to contact the Department, General and Community Studies before submitting an application.
The following subjects are studied:
- TH200F Australian Society — A Sociological Introduction
- TH201 Community Development Theory and Practice 1
- TH202 Community Development Theory and Practice 2
- TH203 Community Development Workshop 1 — Study Skills/Return to Study
- TH204 Community Development Workshop 2 — Information and Access
- TH205F Australian Economy
- TH206F Australian Political System — An Introduction
- TH207 Community Development Workshop 3 — Interpersonal Skills
- TH208 Introduction to Research
- TH209 Research
- TH210 Introduction to Social Policy
- TH211 Community Development Theory and Practice 3
- TH212 Community Development Theory and Practice 4
- TH213 Community Development Workshop 4 — Groups
- TH214 Community Development Workshop 5 — Societal Communication
- TH215 Poverty and Social Security
- TH216F Field Work
- TH217F Ageing in Australian Society
- TH218F Housing

Subject Details
- TG001F English Units 3 & 4
This subject, which is compulsory at VCE level, aims to enable all students to develop their critical understanding and control of the English language so that they can use it in a wide range of situations, ranging from personal and informal to more public occasions, and to develop a level of competence adequate for the demands of post-school employment and further education.
- TG002F Legal Studies
Unit 3: Making and Changing the Law
This unit is about the institutions and processes which determine laws in Australia and the process by which laws are changed. In particular, it examines the roles of parliament and the country as law-making bodies.
Unit 4: Dispute Settlement and the Attainment of Justice
This unit focuses on the dispute-settling institutions, processes and procedures which operate within the legal system and an evaluation of the legal system as a whole. The evaluation including consideration of the strengths and weaknesses of the legal system, and areas possibly in need of change and reform.
- TG003F Economics
Unit 3: Economic Objectives
This unit examines particular economic objectives of the Australian economy and the performance of the economy in relation to those objectives. The concept of standard of living provides a context within which economic objectives and the performance of the economy are studied.
Unit 4: Economic Management
This unit focuses on government management of the Australian economy. Management is related to the attainment of economic objectives and seeks to achieve, as far as possible, the objectives of the economy.
- TG004F Accounting
Unit 3: Double Entry Accounting for Service Firms
This unit introduces the double entry accounting procedures for recording from verifiable evidence. This system is supported by the accrual method of recognition of revenue and expenses. The unit focuses on service firms: those firms which rely predominantly on the skill or expertise of personnel to satisfy client needs.
Unit 4: Double Entry Accounting for Trading Firms
This unit focuses on the further development of double entry accounting procedures through the introduction of trading firms: firms which are principally engaged in selling goods to customers for a profit. The unit emphasises accounting for management, the design of appropriate reports, and the alternative available to accountants both in recording and reporting transactions.
- TG005F Physics
Unit 3: Investigation, Sound, Electronics and Electric Power
This unit examines sound, electronics, electric power and the principles of investigation in selected contexts.
Unit 4: Motion, Gravity, Structures, Light and Matter
This unit provides an overview of physics through a study of universal gravitation, force, energy relationships and an exploration of ideas of modern physics.
- TG006F Chemistry
Unit 3: Chemistry and the Market Place
This unit adopts a global perspective by examining the large-scale industrial production of some chemicals. The work of chemists in these industries is examined. The idea that molecular structure can be modified is introduced in an investigation of surface chemistry. The investigation of quality control introduces students to a range of analytical techniques and the work of analytical chemists.
Unit 4: Energy and Matter
This unit examines the relationship between the production and use of energy in animate and living systems. It provides an opportunity to revisit the concept of the mole, chemical reactions, stoichiometry, equilibrium, organic chemistry and atomic structure, and illustrates the development of chemical ideas within the context of the periodic table.
- TG007F Biology
Unit 3: Survival Mechanism
This unit examines cellular processes and the various mechanisms which enhance the survival of individual organisms.
Unit 4: Biological Continuity and Change
This unit examines the mechanisms of biological inheritance and the processes of evolution.
TG008F Information Technology
Unit 3: Information Technology in Society
This unit examines the development of the technology and techniques associated with processing, managing and communicating information, and the impact of these developments on information systems and society. Practical work may be required.

Unit 4: Information Technology in Society
This unit examines information technologies, the means by which their development and use can be controlled by society, and philosophies about the nature of future society.

TG009F Media
Unit 3: This unit looks at the way stories are constructed in feature films and the production techniques that are used such as camera work and soundtrack. It also includes a study of televised violence and its effect on children.

Unit 4: This unit involves a major practical project in broadcast radio. Students will make segments of a radio program but in some cases they may work in video or still photography. It also includes an analysis of the way women are portrayed in the mass media.

TG010F Literature
Unit 3: Literature
This unit explores the use of language in various kinds of texts and the ways in which readers respond to and interpret them. It considers the ideas and beliefs that texts represent, and the values and views of life expressed through texts. It also examines how literature may reflect or comment on social, historical and cultural contexts.

Unit 4: Literature
This unit explores the use of language in various kinds of texts and the ways in which readers respond to and interpret them. It considers the ideas and beliefs that texts represent, and the values and views of life expressed through texts. It also examines how literature may reflect or comment on social, historical and cultural contexts.

TG011F Australian History
Units 3 & 4: Australian History
These units examine the meanings that have been made of Australia’s past by historians, film makers, politicians, novelists, artists and others. Sources such as these are used to explore issues and problems involved with the role of history in society and the nature of historical inquiry.

Students are required to: complete an introductory activity; maintain a workbook; analyse representations of power and cultural identity; research and report on aspects of the way in which Australian people lived their lives during selected historical periods; and investigate and prepare essays on changes in the Australian economy and in the organisation and distribution of power.

TG012F Psychology
Students will be introduced to Psychology as the science of human behaviour. This subject touches almost every aspect of our lives and should provide students with insight into the everyday phenomena of human actions, attitudes and motives. The course combines theory with practical exercises and activities.

TG013F Environmental Studies
Unit 3: This involves an investigation of the components of the ecosphere which are used or developed to satisfy human needs. The conceptual framework environment function, human impact and conservation is used to consider the environmental implications of the extraction, production and consumption of resources. Examples are selected from flow, stock and continuous resources, with at least one resource examined in an Australian context.

Unit 4: A Sustainable Earth
This unit focuses on the interdependence of the biotic and abiotic components of the ecosphere and the role of human activity in both modifying and restoring the self-sustaining nature of the Earth’s life support systems. Two examples of disruption to the Earth’s natural systems are investigated: atmospheric modification and reduction of genetic diversity.

TG014F Political Studies
Unit 3: Political Systems and Structures of Power
This unit looks at the political systems of Australia and one other country. In each case, the relationship between the state and the core values, laws and principles of the society are explored. The actual operation of political systems is considered with reference to the institutional framework within which they are based.

Unit 4: Political Systems and Structures of Power
This unit takes a key example of public policy in Australia and examines it in detail to enhance understanding of political decision-making. Attention is paid to the ways in which debate is conducted, support for various positions is mobilised and influence exerted. The implications for the role of government in the system are explored. Political change in another country is analysed in terms of its source, opposition and effect both within the country and beyond.

TG015F Human Development in Society
Unit 3: People, Food and Nutrition
This unit examines the vital role of food in people’s lives, its importance in the physiological development and its role in the development of social and cultural patterns. The numerous factors that influence food choice and the effect of the availability of a great variety of foods on food trends in Australia is also examined.

Unit 4: Growth and Development
This unit examines growth and development across the human life span, including factors affecting growth and development, the management of resources at different stages of the life span, and community resources available to assist growth and development.

TG031F Space & Number 3 & 4
This subject involves Arithmetic, Algebra, Geometry and Trigonometry as the major areas of study plus four additional topics chosen from Financial arithmetic, Descriptive statistics, Co-ordinate Geometry, Trigonometric applications and Matrices. The course includes skills practice and standard applications, problem solving and independent investigative projects.

TG033F Reasoning & Data 3 & 4
This subject includes the study of statistics, probability, logic and algebra (covering the use of formulas and equations relevant to statistics, probability and logic). The course includes problem-solving and independent investigative projects.

TG036F Change & Approximation 3 & 4 Ext.
This subject extends work previously undertaken in calculus, coordinate geometry and algebra and includes the study of an additional area of mathematics: differential calculus. The emphasis is on using calculus to solve problems and to conduct independent investigative projects.

TH200F Australian Society — A Sociological Introduction
Covers the structures, forces and pressures which operate within society today. Key sociological concepts like inequalities and the emergence of race, gender and class. Assessment: based on two major research papers.

TH201 Community Development Theory and Practice 1
Provides an overview of the historical development and key issues of community development. Explores and analyses models and theories of community development through students own experiences. Assessment: internal projects and essays.

TH202 Community Development Theory and Practice 2
Concentrates on rights work, for instance welfare rights. How to use a rights approach to develop skills and issues of community development. Assessment: practical work and case study.

TH203 Community Development Workshop 1 — Study Skills/Return to Study
Introduces the main theories and current issues in human communication. Assists students in developing their own communication skills. Assessment: assignments and participation.
TH204 Community Development Workshop 2 — Information & Access
Examines information about individuals, communities, policies and society. Raises professional and ethical issues about information collection, storage and use. Introduces issues associated with working with community organisations such as policy, management and the construction of community profiles. Assessment: assignments and a community profile project.

TH205F Australian Economy — An Introduction
Introduces students to the economic context of community development in Australia. Examines unemployment, inflation, income distribution and the role of the State in the economy. Internal project assessment.

TH206F The Australian Political System — An Introduction
Covers politics, policy processes and the role of the State in Australian society and its application to community development. Assessment: internal assignments.

TH207 Community Development Workshop 3 — Interpersonal Skills
Covers effective communication skills for the fulfillment of work commitments. Focuses on interpersonal communication, interviewing, problem solving and negotiation with various community development contexts. Assessment: internal assignments and case study.

TH208 Introduction to Research
Provides an introduction and overview to the use of research in community development. Examines issues and concepts necessary for undertaking and interpreting research and applying the principles of research. Assessment: internal assignments and research projects.

TH209 Research
Develops skills and knowledge gained in Introduction to Research further. Concentrates particularly on action research. Assessment: internal assignments.

TH210 Introduction to Social Policy
Provides an introduction to social policy formation processes, decisions and outcomes. Also students gain an understanding of how to implement social change within their community. Assessment: internal assignments.

TH211 Community Development Theory and Practice 3
Explores the ways organisations operate in terms of their relationships, objectives and power. Alternative structures are also examined. Assessment: internal assignments.

TH212 Community Development Theory and Practice 4
Covers the theory and practice of socialisation within community development; an analysis of the relationship of social movements to political processes and political parties. Assessment: internal social action project and participation in class.

TH213 Community Development Workshop 4 — Groups
Explores the setting up and maintenance of practical groups by committees of management, tenants groups. Assessment: internal assignments.

TH214 Community Development Workshop 5 — Societal Communication
Further develops the communication skills of interpersonal and small group level to the public arena of wider society. Explores skills, knowledge techniques and strategies for enhancing community awareness and support for community development issues. Assessment: internal research brief and plan.

TH215 Poverty and Social Security
Emphasis is placed on a theoretical approach to poverty and on the specific effect of poverty of these groups and services most vulnerable to its impact. Assessment: internal research assignment and written assignment.

TH216F Fieldwork
Provides opportunity to apply skills and knowledge to practical situations. Tutorials are held for discussion about experiences within community development organisations.

TH301 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.

TH310 Caregiving Skills
This unit is concerned with the care of the child — daily routines, nutrition, hygiene and safety. Some of the topics covered are food hygiene, cleanliness and personal hygiene, toileting and nappy changing and will give students the opportunity to practise basic skills.

TH312 Children’s Experiences
This unit will introduce the caregiver to skills and knowledge needed to provide an enjoyable environment for children in order to further their learning and development. Students will have the opportunity to 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.

TR101 English Workshop
The subject gives students the opportunity to upgrade their oral and written skills to enable entry into more formal courses. Participants are expected to be able to speak and write basic English before taking this subject.

TR102 Mathematics Workshop
This is a flexible program which gives people who wish to improve their basic mathematics knowledge an opportunity to work individually in an informal learning situation.

TR103 Spelling Workshop
A short course offered both during the day and evening for adults who are keen to improve their spelling.

TR107 Volunteer Tutor Program (Adult Literacy)
Adult students are matched with an individual tutor for tuition in basic reading, writing and spelling. Students are required to be able to speak fluent English.

TR108 Volunteer Tutor Program (Life Skills)
Students are matched with a tutor for tuition in literacy and numeracy related to life-coping skills. It is a program for mildly intellectually disabled adults.

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.
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