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**S W I N B U R N E**

**H A N D B O O K**

**COLLEGE OF TAFE**

SWINBURNE UNIVERSITY OF TECHNOLOGY  
TECHNOLOGY  
TECHNOLOGY

# 1992 Calendar

## January

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

## February

- 3 **SCT** semester 1 begins  
SCT apprentice classes begin
- 10 SCT all other classes begin  
SIT enrolment period begins for Round 1 offers through VTAC  
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 offers through VTAC
- 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 Census date for HECS (semester 1)  
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 SCT semester 1 examination period begins  
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 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

- 5 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 SIT semester 2 examination ends
- 23 SCT semester 2 examination period begins
- 30 SCT 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

**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 LIBRARY

# 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.*

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*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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and  
Swinburne College of TAFE**  
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Australia

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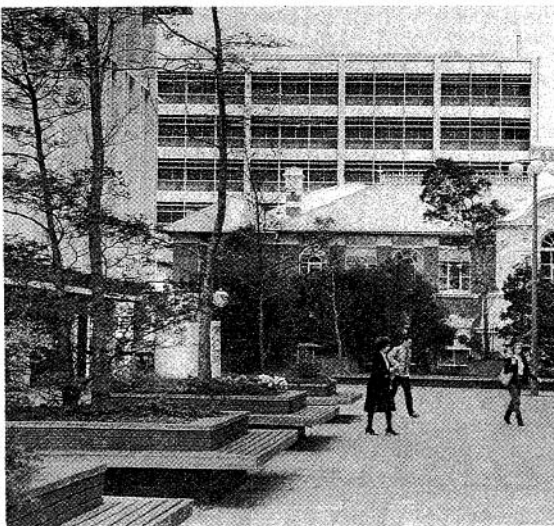
**further education and  
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## Swinburne

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 the Hon. G. S. it a former mayor of Hawthorn and a member of the Parliament of Victoria, who was largely responsible for the initial establishment of the college.

In 1965 Swinburne affiliated with the Victoria Institute of Colleges which was established in that year by an Act of the Parliament of Victoria to foster the development and improvement of tertiary education in technical, 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 France came to the aid of Queen Margaret of Scotland. She rewarded him with a grant of land in what is now Northumberland, on the banks of the Swin Burn, a small river that flows into the North Tyne, where he built a castle. He became known as William Swinburn(e) and soon the county reverted to the crown of England.

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

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

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

## General Information

### Swinburne Council

Membership as at 12 August 1991

Appointees of the Governor-in-Council

C.M. Burnup, BA(SIT), DipEd(LaT)  
J.J. Eastwood, BA(Hons), DipEd(Melb) (Vice-President)  
J.P. Hall, BE(Elec)(Melb), FAIM  
J.D.W. Martin, BArch, GradDipT&RP  
M.A. Puglisi, LLB(Melb), Barrister and Solicitor (Vic) Supreme Court

B. Van Ernst BA, BEd(Mon), MEd(LaT), TPTC, MACE

Nominee of the Minister for Education

M.A. Johns, BBus(SIT), MCom(Melb), AASA, CPA

Members elected by the Council of Swinburne

T.W. Brown, FCA

T.P. Bruce, LLB(Melb)

T.P. Coman, DipAppChem(STC), FRACI (President)

J.M. Harrison, CBE, AM, FAIM

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(Glass), 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

G.A. Harrison, DipMechEng(CIT), BSc(Melb),  
TTTC(Vice-President)

Member elected by academic staff, SIT

G.C.J. Morieson, BA(Mon), DipSocStud(Melb),  
GradDipEd(Haw)

Member elected by academic staff, SCT

K.E. Matthiesson, BA(Hons), DipEd

Members elected by general staff

N.H. Nilsen

I.A. Douglas, BA(N'cle), MSc(Strath)

Member-elected by students, SCT

G.A. Brownlee

Member elected by students, SIT

E.M. Abram, BA(SIT)

Council Secretariat

Secretary

F.G. Bannon, BCom(Melb), FCPA, ACIS, ACIM, LCA

Executive Officer

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

### Directorate

Director, Swinburne Institute of Technology and  
Swinburne College of TAFE

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

Associate Director

F.G. Bannon, BCom(Melb), FCPA, ACIS, ACIM, LCA

Director, Swinburne College of TAFE

G.A. Harrison(Acting), DipMechEng(CIT), BSc(Melb), TTTC

### Office of the Director

Project Officer

S.J. Krul, BA(Hons)(Massey), MAITEA

## Swinburne Institute of Technology

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

### Faculty of Applied Science

Dean of Faculty  
Professor J.G. McLean, BVSc(Syd), HDA(Hons), PhD(Melb)

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

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

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

Head, Department of Physics  
Professor R.B. Silberstein, BSc(Hons)(Mon), PhD(Melb),  
MAIP, MIBME, MACPMS

### Faculty of Arts

Dean of Faculty  
Professor L.A. Kilmartin, BA(Qld), MA(ANU), PhD(LaT),  
MAPsS

Chair, Department of Humanities  
R.L. Love, BSc(Qld), CHPS(Cantab), MA, PhD(Melb)

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

Chair, Department of Social and Political Studies  
P.J. Love, BA(Hons), MA(LaT), PhD(ANU)

### Faculty of Business

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

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

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

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

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

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

### Faculty of Engineering

Dean of Faculty  
Professor L.M. Gillin, BMetE, MEngSc, MEd(Melb),  
PhD(Cantab), ASMB(Ball't), FIEAust, FAIM, MACE, AAIP,  
MAIMME, MAIAA

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

School of Civil Engineering and Building  
Associate Dean  
R.B. Sandie, BCE, MEngSc(Melb), FIEAust, MASCE, MACE  
School of Electrical Engineering  
Associate Dean  
B.A. Neyland, BEE(Melb), DipEd(FTC), ME(Melb), TTTC, MIE  
Aust

School of Innovation and Enterprise

**Director**  
Professor L.M. Gillin, BMetE, MEngSc, MEd(Melb),  
PhD(Cantab), ASMB(Ball't), FIEAust, FAIM, MACE, AAIP,  
MAIMME, MAIAA

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

## 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 ic Programs (Eastern mpus  
Associate rfi B.C. McDonald, BCom, DipEd(Melb),  
FASA, 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  
R.W. Conn, BBus(SIT), DipEd(Mon), AASA, CPA

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

Head, **Marketing and Administration** Department  
I.M. Walker, BCom(Melb), DipEd(MSC), MA(Illinois, USA)

Manager, Centre for Business Development and Training  
J. Torbiner, BEd(BusStuds)(MSC), AIM, AIMM, AITD

Acting Head, **Engineering and Industrial Science** Division  
R. Fallu, BSc, DipEd(Mon)

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

Acting Head, Industrial Sciences Department  
J. Schulze, DipAppChem(RMIT), DipEd(Haw), ARACI

Head, Mechanical and Manufacturing Technology  
Department

J. Brennan, CEng(IME, Ireland), DipEng(NavalArch)(RMIT),  
BEng(Mech)(RMIT), DipEd(Haw)

Manager, Centre for Engineering Technology  
L.J. McLaughlan, TTrIC, DipTT(Haw)

Manager, **National** scientific Instrumentation Training  
Centre

J. Hall, BSc(Hons), PhD(LaT), ARACI

Acting Head, Further Education and Community Services  
Division

R.M. Carmichael, BA(Mon), BEd(LaT)

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

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

Manager, Workplace Skills Unit  
S. Naylor, TPTC, TSPTC

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

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

## Swinburne services

Computer-based Developments and Information Systems  
Manager, Computer Centre

M.O. Plunkett, BEc(Adel)

Education Unit

Head

B. Hawkins, BA(NewEng), MEd(Melb), MACE

## General Information

Library and Information Technology Services  
Swinburne Librarian  
**P.C. Sirmmenauer, BA(Melb), DipLib(NSW), AALIA**  
Head, Information Technology Services  
**K. Anderson, MA(Brad), BSc(Melb), DipEE, MIEAust, MACE, TTTC**

## Corporate Division

Director  
Professor J.G. Wallace, MA(Glas), MEd(Glas), PhD(Brist), FASSA  
Associate Director  
FG. Bannon, BCom(Melb), FCPA, ACIS, ACIM, LCA  
Buildings, Grounds and Services  
Manager  
S. Blackburn (Acting)  
Maintenance Officer  
Vacant  
Management Services Officer  
D. Sharp  
Central Technical Workshops  
Manager  
G. Nettleship, CEng, MIMarE  
Catering Department  
Manager  
Vacant  
Council Secretariat  
Executive Officer  
A.J. Miles, BSc(Melb), BEd(Mon)  
Equal Opportunity Officer  
M. Jones, CertEd(Wales), BEd(VicC), MEdThesis (Mon)  
Finance Department  
Manager  
J. Vander Pal, DipAccy(PTC), BBus(SIT), AASA, CPA, RCA  
Systems Accountant  
J.F. Rayner, BSc(Melb), DipEd(Melb)  
Divisional Accountant, **SCT**  
P. Wilkins, BBus(VicC), GradDipAIS(CIT), AASA  
Divisional Accountant, SIT  
P. Hotchin, BA(Deakin), GradDipBusAdmin(SIT), AASA, CPA  
Freedom of Information Officer  
S.P. Jervis, BA(Adel)  
Human Resources Department  
Manager  
PD. Mudd, BE(NSW), AFAIM  
Safety Co-ordinator  
A. Skotnicki, BAppSc(FIT), GradDipIndHygne(Deakin)  
Planning and Information Systems  
**Manager**  
R.D. Sharma, BSc(Tas), DipEd(Tas), GradDipOpsRes(RMIT)  
MEdAdmin(New Eng), PhD  
Institutional Promotion and Development  
Manager  
Vacant  
Publicity and Information Unit  
Head  
N. Manning  
Swinburne Press  
Manager  
A.D. McNaughton  
Registrar's Department  
Registrar  
G.L. Williamson, BSc(Adel), GradDipSocStats(SIT)  
Assistant Registrar (Applied Science)  
M.M. Hickey, BA(Deak)  
Assistant Registrar (Arts)  
H.M. Ralston, BCom(Melb)

Assistant Registrar (Business)  
M. Conway, BA(Griffith), MAITEA  
Assistant Registrar (Engineering)  
A.L. Dews, BBus(SIT), ARMIT  
Assistant Registrar (Services)  
L. Scheuch-Evans, BS in Foreign Service (G'town)  
Assistant Registrar (Student Administration)  
P.E. 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.

Situated 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)  
PC. Simmenauer, BA(Melb), DipLib(NSW), AALIA  
Administration  
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M. Hawkins, CertAppSocSc(LibTech)  
A. Steere, AssDipAppSocSc(LibTech)  
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H. Hazard, BA(Syd), DipLib(Mon)  
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**Acquisitions/Collection Management**  
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M. Austin, BA(Mon), DipEd(Mon),  
GradDipLib'ship(MCAE)  
A. Copeland, BSocSc(RMIT)  
L. Charles, AssocDipAppSocSc(LibTech)  
A.D. Evans, CertAppSocSc(LibTech)

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J. Saul, BA(Lib'ship)(BBAE)  
J. Meggyesy, CertAppSocSci(LibTech)  
\*K. Appituley, BEd(InstTT&EdSci,Jakarta),  
GradDip(PAdmin)(GradSch'IPAdmin,Jakarta),  
GradDip(Lib'ship)(R'rinaCAE)  
\*M. Delahey, CertReg(RMIT)

#### Readers' Services (Acting)

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#### Circulation

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L. Rutherford, AssocDipSocSci(LibTech)

#### Reader Education

B. Donkin, DipArts(SIT), GradDipEd(Hawthorn),  
AALIA

#### Reference

J.M. Ager, BA(Melb), GradDipLib'ship(CCAE)

#### Reference and reader education

C. Bertrand, CertAppSocSci(LibTech)  
B.A. Camfield, BA(SIT), AssocDipLib'ship(RMIT)  
\*C. Cody, BA(Lib'ship)(BCAE), MEnvS(Melb)  
\*A. Muir, TC(W'gong), DipT(W'gong), BEd(Lib'ship)(Mon),  
AALIA  
F. O'Donnell, BA(Lib'ship)(BCAE)  
\*T. Olson, BA(Mon), GradDipLib'ship(RMIT)  
G. Turnbull, BEd(LaT), GradDipLib'ship(RMIT),  
GradDipTeach(BrisCAE), AssDipFineArts(QCA),  
CertCommIII(QCA)  
\*R. Wallis, BA(Mon), GradDipLib'ship(RMIT)  
S. Whelan, BA(LaT), GradDipLib'ship(MCAE)  
M. Wilkinson, AssDipAppSocSci(LibTech)

#### Systems and Research

I.A. Douglas, BA(N'cle), MSc(Strath)  
R. Higman, CertRadTVElecTech(RMIT)

• Contract staff (full or part-time)

#### Information Technology Services

K. Anderson, MA(Brad), BSc(Melb), DipEE, MIEAust,  
MACE, TTTC  
R. Philp, ABC TechCert  
G. Dudley, CertTech(AV)(RMIT)  
M. Clarke  
G. Hay  
K. Salehi, BA(CIT), DipPSP(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 screening of educational films; audio and video recording including micro-teaching; 35mm slide and overhead projector transparency making; general photographic assignments; high speed audio duplicating, sound studio production and editing, and production of computer-based learning resources.

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

Slide projectors, overhead projectors, audio and videotape recorders: equipment for projecting computer 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 to the Swinburne Library Information Service. The Swinburne Librarian, or the senior staff member on the premises, may refuse entry to the library to any person not registered as a borrower.

Persons entitled to borrow from the library

Members of the 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 Librarian 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: 1.00pm 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. All material borrowed 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 ('V'), 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.

Fortnightly, 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.

Items not returned by the date specified when recalled —

### General Information

\$10.00 per item, 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 reported 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.

Offenders 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), MEd(Couns)(LaT),  
GradDipEdPsych(Monash), MAprelim(Melb), MAPsS,  
VAFT, AIM

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),  
GradDipHumanServicesResearch(Phillip), EdD(UMass),  
MAPsS, VAFT

Student Counsellors

B. Jenkins, BEd(MCAE), GDipApPsych(Couns)(SIT)  
R. Kelly, BA(Melb), DipEd(Mon), MA(Linguistics)(Lanc),  
MA(Couns)(Auck)

R. McDonald, BA(Melb), DipEdPsych(Mon), MAPsS

C. McLeod, BBehSc(Hons)(LaT), DipEd(LaT), MAPsS

Receptionist

J. Ralph

Housing, Part-time Employment and Financial Advice

B. Graham, BAppSc(Pharm)(TCAE)

Careers Services Staff

Head

R. Ware, BA(LaT), GDipEd(MSC), PostGDipCareers  
(VicColl)

Careers Counsellor

R.C. Waite, BA, GDipEd(Flinders), GDipEdCouns(Sai)

Schools Liaison Officer

L.E. Baron, BA(RMIT), DipEd(LaT)

Careers Information Officer

K. Weedon, 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 18023

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?

### 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 (\$6341 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 (ABSTUDY)

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 is administered by DEET.

### Young Homeless Allowance

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

### Family Allowance Supplement

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

Rate	Weekly maximum		
	16-17 years	18 and over	Special
Standard	62.05	74.55	88.40
Away	102.40	113.25	134.30
Independent: single	102.40	113.25	134.30
married without child(ren)	102.40	113.25	121.60
married with child(ren)	121.60	121.60	121.60
			(159.75 for sole parents)

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 8882.

### Concession tickets

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

Students who wish to purchase these tickets should go to the Student Administration Office to complete the necessary forms.

Only full-time students are eligible for fare concessions.

Students must present their student card when applying for a concession form. Australian Airlines and Ansett Airlines concessions are available from The Contact Centre, Student Union or from STA Travel Agencies.

Full-time students are also eligible for an international student card. Available from The Contact Centre, Student Union.

### Scholarships and Awards

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

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

### Postgraduate awards

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

## Access Education Department

Head

J. Learmont, BA(Hons), MEd(Mon), MACE, 819 8816

### Compensatory Education

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

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

### Community Access Programs

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

Consequently, a variety of courses in mathematics and English are available at a range of different skill levels from 1:1 tuition to small group classes. In addition, courses are provided with appropriate mathematics and English content to cater for students interested in sitting an entrance examination in nursing, the police force or the fire brigade.

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

## 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 8633

## 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.

Mooroolbark 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

## General Information

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 8519

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

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

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

The Centre caters for children up to five years of age, not only from Swinburne parents, but other members of the community. A sliding scale of fees has been adopted.

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

## Computer Centre

Manager

M. Plunkett, BEc(Adel)

Enquiries

S. Allan

Telephone: 819 8509

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

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

### (a) IBM 3090/120E

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

The 3090 is configured with 32 Mb main memory, 16 channels, 15 giga bytes of disc storage and a communication subsystem to support asynchronous and synchronous terminals, local area and wide area networks and several remote user sites. Local terminal facilities are distributed through the Applied Science, Art, Arts, Business and Engineering faculties and the TAFE 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 310. The parallel architecture will facilitate the expansion of 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 throughout the site by providing them with information and related support 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.I.U. 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.

## General Information

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 5.00pm only.

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

## Swinburne Press

Manager  
D. McNaughton, 819 8123

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

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

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

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

## Swinburne Student Bookshop Co-operative Limited

Manager  
R. Wilkens, 819 8225  
General enquiries: 819 4406

### History

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

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

### Membership

For the Co-operative to continue to operate successfully it must have members. By members buying shares and patronising the bookshop they are in turn ensuring the Bookshop has an inflow of share capital for growth and the patronage ensures its viability.

In return the Co-operative provides a convenient and efficient service on campus. Members are also entitled to attend and vote at all A.G.M.'s and are also eligible to be elected a Board member of the Co-operative as per the society's rules.

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

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

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

#### We sell:

- Text and references, novels, and general interest books.
- Secondhand books.
- Full range of stationery supplies.
- Full range of office supplies.
- Gifts, cards, wrapping paper and novelties.
- Audio and video cassettes.
- Film and film processing.
- Graphic and artist supplies.
- Calculators and accessories.
- 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 12-1.00pm

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
Activities Director	Vacant
Education Director	Lisa Ferguson
Media Director	Marilyn Gunta
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 occurs at least once a month from February to November and is open to all members.

The affairs of the Union fall principally into the following areas: education and welfare, 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 other 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)  
ASPS (Association of Swinburne Psychology Students)  
Baha 'i Faith  
BIT.P.C. (Bachelor of Information Technology P.Club)  
B.F.C. (Blood Film Club of Swinburne)  
Christian Association  
Croatian Club  
Explorers Club  
Greek Club  
Italian Club  
Korean Club  
Morantha Christian Fellowship  
MEKS (M 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)  
Swinburne Campus Chapter of Engineers  
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

- Word Processing Officer
- Contact Co-ordinator
- Media Co-ordinator
- Accountant
- Catering Co-ordinator
- Manager

### Contact/Information Desk

The Contact/Information Desk is the 'nerve centre' of the Student Union for information on Union services, activities and coming events — in effect a directory of all Union services. Students will find a 'Friendly Contact Worker' who will provide assistance on how to survive at Swinburne. The desk also has listings of various off-campus 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 1.00pm — 6.00 pm  
Wednesday 1.00pm — 6.00pm  
Thursday 1.00pm — 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 (e.g. the Government) which implement policies seen as deleterious to the welfare of students. To meet the organisational requirements of such campaigns, students volunteer their time, and the Education, Welfare and Research

Committee assist these students in regard to rallies, marches, lobbying, etc. Examples of such actions are: Anti-Tuition Fees, Anti-Education Tax, Travel Concession for all Tertiary Students, and Stop the Closure of the TAFE College.

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

### **Student publications**

The Student Union publishes one weekly newspaper called "The Swine". "The Swine", published on Thursday, covers broader news and entertainment. 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 its done, contact the Student Union Media Director or come to the Office. The Student Union also produces a free diary and Year planner which are available from the Contact Desk and at re-enrolment.

### **Club printing**

Clubs and societies can have their publicity material printed by the Student Union Media Office at minimal cost.

### **Campus Typing**

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

We will word process your assignments, job applications, resume, letters and thesis, 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 S.U. Building or telephone 819 2966 or 8553.

### **The winning edge can be yours**

Campus Bind

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

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

Covers are A4, white, clear 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.

## **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/Administration Office areas are also located in the Centre.

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

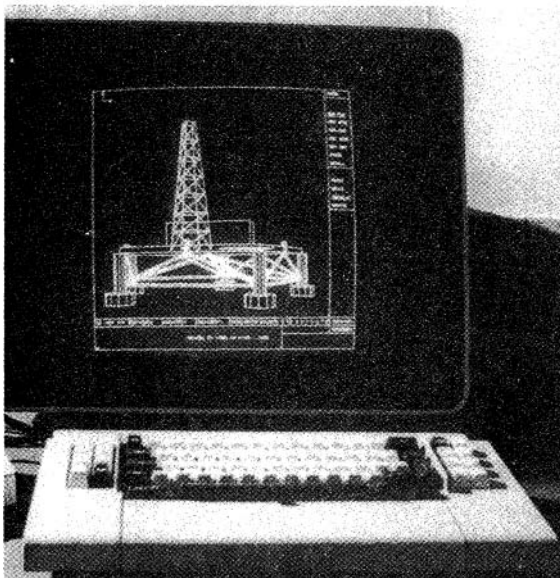
The Sports Association employs three full-time staff to oversee the day to day administration of the centre. The qualified Physical Education Officer offers members advice on weight training and health as well as conducting fitness appraisals. The Recreation Officer ensures a wide variety of recreation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

Clubs and Receptions 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, Tae Kwon Do, Tang Soo Do, Tennis, Volleyball and Waterskiing.

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

Further information on the Swinburne Sports Association's facilities, clubs, services and recreations are available from their information Handbook, available free of charge at the Sports Centre.

# swinburne college of TAFE



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## 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. TP. Coman.

Seven members who have knowledge of the State Training 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, GradDipManagement, MIFE

Mr. K. Deutsch, BSc, BEd

Ms. W. Dietman, BA, BSocWork

Mr. J. Hughes, MBA, BMechEng

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, DipEd, AASA, CPA

One member elected by and from the general staff of Swinburne College of TAFE:

Mr. S. Fisher, TradeCert.

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

Vacant

Director, Swinburne College of TAFE: Mr. G.A. Harrison (acting), DipMechEng, 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

Associate Diploma 17 January 1992

Certificate Course 13 December 1991

General and Community Studies 25 November 1991

Engineering

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.

Students whose fees are to be paid by an employer or other body must bring written evidence at the time of enrolment so that the College may send to the body an invoice for fees.

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

### Late enrolment fees

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

### Additional fees

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

### Amendment to enrolment details

#### Change of subjects

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

Students must notify the Student Administration Office of any withdrawal and/or additions of subjects:

- (a) by 31 March 1992 for subjects with a mid-year final examination result, and
- (b) by 31 August 1992 for subjects with an end of year final examination result.

Failure to notify will affect the student's examinations and results in those subjects.

Note:

If a class has been cancelled by the department due to insufficient enrolments after a student's official enrolment, students are still required to lodge an Amendment to Enrolment form.

### Adding subjects

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

Notwithstanding any department rules, after 31 March 1992 (for subjects concluding at the end of the first semester) or 31 August 1992 (for subjects concluding at the end of the second semester (for subjects concluding at the end of the second semester) an amendment will be permitted only where special circumstances exist and the approval of the head of department concerned and the Registrar has been given. A fee of \$10.00 per subject will be charged. Students not enrolled in a subject during examination period must seek approval of the department concerned. A fee of \$50.00 per subject added will be charged.

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

### Withdrawing from all study

A student who is withdrawing from all study for the year — whether or not leave of absence is being sought — should complete an Amendment to Enrolment form.

A form is available from Student Administration. Students are strongly urged to discuss a proposed withdrawal from studies with the head of the department or contact teacher before taking any action.

Failure to notify withdrawal will result in enrolled subjects remaining on the record and failing grades being recorded.

### Refund of fees as a result of cancellation

Application for refund of fees is provided for on the same form, and is valid until 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 enrolment changes from part-time to full-time status, where a student continues to study in Semester 2 and has only paid fees for Semester 1, or where the additional subject is part of a fee paying short course.

### Enrolling in a different course

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

### Residential address for correspondence

Throughout the year information regarding courses, examination results and other special notices are sent to students. Students must provide a correct address so that they may be contacted at a moment's notice, otherwise they may jeopardise their chances of meeting deadlines and observing other special requirements.

If a student changes a name, an address, or employer, an Amendment to Personal Details form must be completed and lodged immediately at the Student Administration Office.

### 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:

- |                    |   |
|--------------------|---|
| Full-time students | — more than one semester academic \$162.00      |
| Full-time students | — at least one semester work experience \$90.00 |
| Part-time students | — \$76.00                                       |

For all College purposes, a full-time student is one enrolled for subjects which require a total 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
- (2) Sports Association.

### Awards

Students eligible to receive certificates are required to apply on the form prescribed, available from Student Administration. Applications close on 30 September each year and for applicants who anticipate completing the academic work in the following December exams, the conferring ceremony will be held in the following year.

Any request for exemption(s) must be approved in writing by the College before an application for a certificate can be made, in order to prevent delays in granting of the certificate. Original evidence of same subject(s) completed elsewhere must be supplied with applications together with an additional photocopy which will be retained by Student Administration. For more information refer to section on exemptions.

## 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

its jurisdiction. Students will be informed of these requirements at the time of their initial enrolment by the enrolling division.

Any activity that is in breach of the requirements of the Division in which a student is enrolled, and which have been circulated by authorized Heads of Divisions or Departments, will be considered as misbehaviour, and thus be subject to disciplinary action being taken.

## 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

- 2.3.1 Warning on the first instance.
- 2.3.2 Suspension for a set period of time from class or all classes.
- 2.3.3 Exclusion from 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 the above definitions.
- 2.5 The Chief Examiner is the Director of Swinburne. Responsibilities of the Chief Examiner are, for the time being, delegated to the Assistant Director, Swinburne College of TAFE.
- 2.6 An awarding division board is the Division Board responsible for making recommendations to the Swinburne Council for the grant of a particular award.
- 2.7 An irregularity is the unauthorised use or attempted use by or for any student of any means to gain an unfair advantage in any examination, test, assignment, essay or other work, the marks for which form part of the final assessment. It includes taking actions contrary to the instructions for such examination or work; taking into an examination any material with the intention of using it to obtain an advantage.

#### 3. Subject panels

- 3.1 The head of department shall appoint a subject panel for the necessary subject areas comprising at least two members of the teaching staff of SCT, one of whom shall be appointed the convener. The head of department shall notify the appropriate division board of the panel's composition no later than the April meeting.
- 3.2 The panel shall, when required, draft the appropriate material and submit same through its convener to a moderator appointed by the head of department.
- 3.3 A moderator shall be responsible for final submissions to the head of department.
- 3.4 The convener of each panel shall be responsible for:
- 3.4.1 In the case of examinations and tests, the allocation of questions, the final balance of the paper and the distribution of scripts for marking;
- 3.4.2 In the case of continuous assessment, the method of assessment and the maintenance of the register of requirements, tests and performance.
- 3.5 Each examination or test paper shall be provided with written solutions or a statement of basic skills to be attained. The panel must be in agreement with the solutions, statement and assessment.

- 3.6 The convener shall arrange for appropriate proof-reading and checking of papers and assignments. All examination papers must be forwarded to the Examinations Officer accompanied by a completed Examination Face Sheet.
- 3.7 The subject panel must check the times and rooms allocated for examinations in the subjects for which it is responsible, and notify the Examinations Officer of any irregularities.
- 3.8 The subject panel must ensure that one of its members be on campus and immediately available to the Examinations Officer for the duration of those examinations for which the panel is responsible.
- 3.9 The panel shall carry out any further duties as required by the head of department.

#### 4. Conduct of examinations

##### 4.1 General

Unless otherwise stated on the timetable, morning examinations will commence at 9.00am and afternoon examinations at 1.30pm. Students will not be permitted to enter the examination room after 30 minutes have elapsed from the commencement of the examination, and will not be permitted to leave during the first 30 minutes nor during the last 30 minutes of the examination.

At the end of the examination students are required to remain seated until the room supervisor has collected all scripts and Swinburne material.

Unless expressly prohibited by the subject panel, electronic calculators may be used. Such calculators must be battery operated.

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

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

##### 4.3 Collection and despatch of papers

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

##### 4.4 Examination discipline

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

4.4.2 At the conclusion of the examination the Chief Examiner shall convene a meeting of the subject convener, the student concerned and the head of the teaching department to determine:

- whether there has been a breach of examination discipline;
- whether there is a need for assistance with communication with the student; if it resolves that there is such a requirement it shall adjourn the meeting and

arrange for the presence of appropriate professional services when the meeting is reconvened;

- (c) if it resolves that there has been a breach of examination discipline, the penalty to be imposed upon the student.

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

The Chief Examiner will decide whether or not there has been an irregularity. If it is the decision of the Chief Examiner that there has been an irregularity a meeting of the following persons will be convened:

- (a) the student(s) concerned,
- (b) the subject convener, and
- (c) the heads of the awarding and teaching departments;

to decide whether any penalty shall be imposed upon the students(s).

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

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

Such appeal shall be determined by a committee appointed for the purpose by the Director.

The Appeal Committee shall consist of five persons of whom:

- (a) one shall be the nominee of the Chief Examiner;
- (b) one shall be a student of the College nominated by the President of the Student Union;
- (c) one shall be the nominee of the subject convener;
- (d) two shall be members of the academic teaching staff of the College nominated by the head of the teaching division;

provided that no member of the Appeal Committee shall have been a party to the original investigation.

## 5. Processing results

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

- 5.1.1 The result recommended for each student enrolled for the subject;

- 5.1.2 A signed subject report in form approved by the awarding faculty board, including:

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

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

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

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

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

## 5.2 Result categories

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

75 — 100%	Credit	CR
50 — 74%	Pass	P
0 — 49%	Fail	N

- 5.2.2 Subjects undertaken as part of a Victorian Certificate of Education (Tertiary Orientation) shall 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

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

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

and, where reports are in two categories only:

Satisfactory	S
Unsatisfactory	N

- 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.

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

Access course completed ACC  
Access course not completed ACX

## 6. Absence from examinations

Students who are absent from an examination due to illness or other reason may apply through the Student Administration Office for a special examination. Such application must be accompanied by evidence of a genuine inability to attend the examination, and must be lodged 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 head of division for onward transmission to the division board.
- 7.6 Student Administration shall notify the head of the awarding division of any deferred result which has not been finalised within three months of the date of publication of the deferment. The division board must deal with the matter at its next meeting.

## 8. Students discontinuing

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

## 9. Retention of examination scripts

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

## 10. Reports

On payment of the appropriate fee within thirty (30) days of publication of the results, a candidate is entitled to a full report on his/her 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.

## Fees

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

(Access to examination scripts and marks for each question will be available on request and without fee.)

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

## 11. Alteration of original result

Any amendment to internally assessed results will be accepted upon presentation of a Result Amendment form duly signed by the subject teacher, the head of department, and authorised by the head of the teaching division.

The head of division can authorise amendments to results within two (2) months after the date of original publication of the result.

Any amendments proposed after two (2) months must be submitted to the divisional board responsible for the teaching department involved for approval.

## 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.

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

### 3. Behaviours or actions which give rise to a grievance

- 3.1 A grievance arises when a student cannot obtain redress through normal channels for what he/she considers to be unfair or different treatment. Such treatment may occur in course assessment, or in classroom behaviour and interactions.
- 3.2 A grievance may include behaviour outlawed by the Victorian Equal Opportunity Act, the Federal Racial Discrimination Act or the Federal Sex Discrimination Act, such as discrimination on the basis of sex or marital status, or racial harassment.  
A separate grievance procedure exists to handle cases relating to sexual harassment.

### 4. Resolving a grievance

#### Informal procedure

- 4.1 In the first instance, the student should discuss the complaint where relevant, with the lecturer (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;
  - g) a summary of follow-up actions taken.
 The complainant will read and sign the grievance form as being a true record, after making any appropriate alterations.
- 4.6 No written record shall be taken nor any further action initiated, if the complainant is not willing to name the respondent or does not permit the Head of Department to enter into a conciliation process with the respondent.
- 4.7 In cases where complaints are made by a class (two or more students) concerning academic or teaching staff, the complainants will not be named and the Head of Department may proceed with conciliating and resolving the complaint.

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

### 5. Conciliation and resolution

- 5.1 The Head of Department will meet informally with the respondent for the purposes of:
  - a) outlining the grievance and naming the complainant (except as covered by Clause 4.7);
  - b) making a written record of the respondent's reply to the complaint, which is signed and considered a true record;
  - c) attempting to reach an agreement with the complainant which is acceptable to the complainant;
  - d) attempting to ensure that there are no reprisals taken against a student who has made a complaint in good faith;
  - e) outlining the requirements of State and Federal Government anti-discrimination legislation or Swinburne Council policy, where relevant;
  - g) 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.

- 7.4 Where a member of staff is found to have retaliated against the student, disciplinary procedures will be instituted.  
Such disciplinary action may be taken against the member of staff complained of in the original complaint or any other member of staff undertaking retaliatory action.

## 8. Formal procedure

- 8.1 If a grievance cannot be successfully conciliated by the Head of Department to the satisfaction of the complainant, the complainant may instruct the Head of Department to proceed with a formal complaint.
- 8.2 All formal complaints will be presented to the Appeals Committee.
- 8.3 The Appeals Committee will comprise:
- the Director's nominee from within the Directorate, who shall act as the Chair;
  - a representative of either the TTUV, SASO, or VCUSA, depending upon the constituency of the respondent; and
  - 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:
- 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;
  - the Committee may call the complainant or the respondent to attend the meeting to explain any aspect of their written statement. If the complainant is required to appear before the Appeals Committee he/she may be accompanied by his/her Head of Department. If the respondent is required to attend he/she may be accompanied by his/her staff association or union representative. The complainant and respondent would not normally appear before the Appeals Committee at the same time;
  - the Committee may call any witnesses who have submitted written statements concerning the grievance to appear before the Appeals Committee;
  - 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:

- not upholding the case;
  - upholding the case and stating that the following be considered, where relevant:
    - preparation be made to the complainant for any loss of academic credit or achievement suffered as a consequence of the behaviour
    - re-admitting a student who has been excluded from a course
    - directing the respondent to undertake appropriate staff development programs
    - reprimanding the respondent
    - ensuring that the complainant is not subjected to retaliatory action as a result of the complaint
  - 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 of the Committee's decision. The appellant shall be entitled to present new evidence or to re-argue his/her case.
- 10.2 The finding of such an appeal shall be communicated to the appellant within fourteen days of the appeal being lodged.

## 11. Complaints of discrimination — external procedures

- 11.1 In the case of a grievance being concerned with allegations of discrimination against the complainant on the grounds of that person's status or private life, the complainant has the right to present a complaint to the appropriate external authority.
- 11.2 Where internal grievance procedures are being followed, the complainant may wish to refer the matter to the appropriate external authority at any stage of the process, and in particular:
- when no further action is taken;
  - 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/or support:
- Student Union;
  - Swinburne Student Services;
  - 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.

Council Policy (as amended) December 1988.

## State Training Board External Examinations and special consideration applications

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

### EXTRACT:

#### 1. Applications — Consideration and special examinations

- 1.1 Application for special consideration or admission to a special examination shall reach the office of the STB within 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 a compensation for personal trauma.
- 3.5 No more than three special examinations per semester will be granted in State Training Board examinations. Candidates should only apply for critical subjects to maintain their course objectives.
- 3.6 The inability to attend examinations is not grounds for a special examination. Misreading of timetables, diaries, pressure of work, overseas trips and similar reasons put forward for non attendance are not acceptable grounds for an application.
- 3.7 Time limits will be strictly applied and the 72 hour deadline from the day of the examination will be essential in any submission. The application must reach the State Training Board examinations physically within that time limit.
- 3.8 Acceptable grounds for application are restricted to: —
- Severe current illness at time of the examination preventing the candidate from sitting that day. This must be verified by a medical examiner immediately and a comprehensive medical report presented. Unspecific certificates or unclear basis for medical grounds will not be accepted. The report must be on the specified form and in the prescribed manner.

- (b) Mild Complaints  
Mild complaints such as migraine, stomach upsets, colds may not be sufficient grounds for the granting of special examinations. Candidates therefore, should not expect that a medical report will automatically provide them with access to examinations.
  - (c) Close family death applications must be supported with printed evidence and a Statutory Declaration. The supporting evidence must be complete.
  - (d) Attendance at a court of law which is scheduled and unavoidable. Evidence must be presented 14 days prior to the normal examination sitting date. Where possible reschedule of the time of sitting will be arranged rather than a granting of a special examination therefore prior notice is essential.
- 3.9 In certain circumstances, Colleges who strongly feel that a special examination should be provided (and if a special examination does not exist) may be requested to provide the examination. The procedure is set out clearly on page 4 of the State Training Board TEX 20 examiners handbook. Colleges must not proceed without the permission of the STB Examinations Branch.
- 3.10 Guidelines for Special Consideration  
Students cannot ask for special consideration for a pre-existing illness. The fact that a student was ill prior to or while study was in progress, does not in itself constitute grounds for special consideration. The inability to study is definitely not grounds for consideration.
- 3.10.1 Special consideration is requested from examiners in the following instances:
- (a) Sudden severe illness certified on a written report on the appropriate form. Other unspecific doctor's certificates are not acceptable.
  - (b) Close death in a family involving immediate family members.
  - (c) Chronic handicapped disabilities.
  - (d) Court appearances.
- 3.10.2 Applications for above must reach the State Training Board Examinations within strict time limits.
- 3.10.3 (a) & (b) must be received by State Training Board Examinations within 72 hours from examination.
- 3.10.4 (c) & (d) must be received by State Training Board Examinations 14 days prior to the examinations. Evidence must be provided to support the application.  
Any application received after the paper is marked will not be accepted, therefore speed is essential for applications to be effective.
- 3.10.5 Special consideration will only assist the student in limited cases. General exemptions are not given in any subject. Therefore special consideration is extended to the opportunity to sit, or to attempt the paper. The student can be given marginal allowance for actual inability to perform or cope with the examination content. The candidate must be able (in general) to reach the common standard expected with only the borderline cases being considered.
- 3.10.6 Special consideration will only be requested, and examiners are asked to apply a valued judgement if possible. No criteria is therefore imposed on examiners to consider or take into account such requests. The final judgement remains with the referee decision given to the examiners in their appointment.
- 3.11 Chronic or Long Term Handicapped
- 3.11.1 A candidate with a history of disability need only apply once and if application has been approved, that student is issued with a letter showing any extra time allowance or special provisions. The student should thereafter enclose photostats of that letter with each examination script so that further consideration can be given by the examiner who actually marks the paper.
- 3.11.2 Chronic recognizable complaints such as Dyslexia, hearing, sight and cerebral palsy problems are usually easily verified. Any such evidence from handicapped rehabilitation centres or prior medical and College records as to the complaint will usually be acceptable and need not be further verified (by additional medical reports) other than by a letter from the Centre/College involved. However, the student must still fill in the form so that details are complete and further work is not needed by College or Examinations staff to glean missed particulars. Common allowances are: —
- (a) Extra examination time,
  - (b) extra reading time,
  - (c) provision of scribe,
  - (d) isolation provision.
- 3.11.3 College student administration record sections of colleges must retain the appropriate form for distribution to all candidates on request.

## STB — Application for Examiners report Recorrections

- 1 Any candidate who fails an externally set and marked examination other than a 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 recorection 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 recorection 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 recorection, and where the recorection result is not available before the time set for the examination, the candidate should be allowed to sit for the examination and an appropriate endorsement of the fact should be made on the front of his/her answer papers.

- (b) A candidate who is not granted a pass on a correction of his/her examination paper will be furnished with a report on that examination paper.
- (c) Students who have passed in any subject cannot apply for a remark in that paper.
- (d) Where a paper is externally set but internally marked by the college it is then a matter between the candidate and the college. Recorrections are only available for examinations that are both externally set and marked by the STB.

### STB Examinations — Application for access to examinations script

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

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

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

The following points should also be noted: —

- Copy drawings larger than A4 are not available however inspection is possible.
- Papers are only kept for 6 months after examination date.
- Practical assessments are not kept, theory scripts only may be applied for.
- 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. Torbner, 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. Catton, AssDipElecEng, SEC A grade  
Melissa Lukies  
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/re-accreditation, course evaluation/validation and course approval processes. The unit also provides a number of curriculum related staff development activities including: Curriculum Writing Skills Training, Part Time (and initial) Teacher Training Programs, Occupational and Training Needs Analysis.

### Swinburne College of TAFE Centre for Engineering Technology

Manager: L.J. McLaughlan  
Co-ordinator, CAD: E.G. Oliver

Co-ordinator, Communication

Systems: P.S. Stroude  
CAD/CAM Systems: H. Ramaekers  
Technical Officer: S. Fisher

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

This service to industry involves:

- Training
- Consultative interaction
- Research and development projects
- Prototype development

Current offerings in short courses are:

- Computer aided drafting (CAD)
- Computer aided manufacture (CAM)
- Numerical control
- Combined computer aided drafting and computer aided manufacture (CAD/CAM)

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

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

These will be followed by courses in CAE, to be developed in conjunction with the 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 Kyratzis  
Virginia Poletti  
John Schulze  
**Admin. Manager:** Jacqui Flowers  
819 83791819 8754

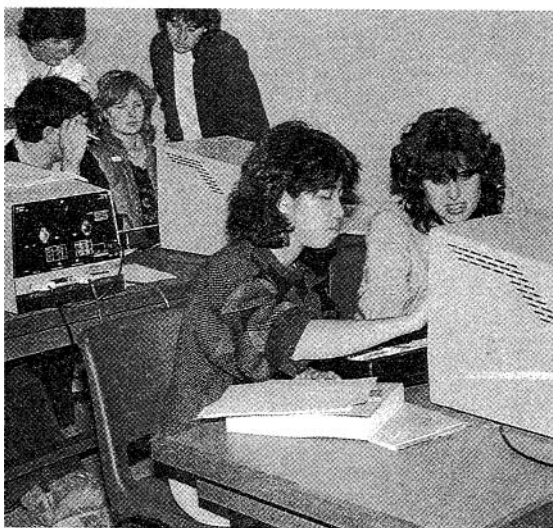
## **Programs for Overseas Students**

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



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## 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, BEc  
L.G. Corrie, BCom, TSTC  
C. Davy, BBus, DipEd, CPA  
M.G. Doig, BBus, DipEd, CPA  
B. Halloran, BEc  
M. Hamilton, BSc(Hons), PhD  
F.M. Lawlor, BA, DipBusStuds, DipEd, GradDipAcc, ASA  
R.N. Lewis, BCom, DipEd, CPA  
E. McLennan, BSc, BA, DipEd  
M. Reaper, BEd  
F. Rossi, BEc, GradDipLS, DipEd, MEPA, ASA, AIMM  
J. Rudolph, BEc, DipEd  
G. Senaratne, FCMA(UK), GradDipEd, GradDipBusTech,  
ASA, MACS  
M. Waterhouse, BEc, DipEd

## Marketing and Administration Department

### Head

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

### Academic Staff

K. Allen, BCom, DipEd  
L. Cimino, AssDipBusStudLaw, DipTT  
B. Havenhand, BA, DipEd, GradDipMktg  
C.M. Kent, BA, NZTC  
J.A. Mullen, AssDipPSP, DipTT, AIPS  
M. Neilson, DipBusStud  
S.E. Quail, BA, DipEd  
M. Reardon, BEd  
J. Ryan, AssDipBusStud, TTTC  
G.I. Scott, BA, TTTC  
C.P. Trahair, BA, DipEd, GradDipSecStud  
J. Tulk, BEd, GradDipAppSc(BusTech)  
J. Wills, BEcon, GradDipEd, AAMI, ARMI  
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 pursuing the Operations Management course in any of the three specialist areas may be awarded a Short Middle Level Certificate on completion of the eight compulsory specialist units.

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

### Applications for exemptions

Certificate, Advanced Certificate and Associate Diploma 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 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.

### Further information

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

Mr. M.J. Joyce  
Head, Finance & Information Technology Dept.  
Telephone: 819 8721  
OR  
Mr. I. Walker  
Head, Marketing & Administration Dept.  
Telephone: 819 8165

### Changes in course structures

Due to a major review of all TAFE courses and the resulting changes that are being implemented, it is extremely important that students obtain up-to-date information on course structures before they enrol.

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

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

## 3500DBC Associate Diploma of Business (Accounting)

### Career potential

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

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

### Course structure

The structure of the Associate Diploma in Accounting requires the successful completion of twelve compulsory units to be undertaken in the first year of full-time study, followed by nine compulsory and three elective units in the second year of full-time study. Each area of specialisation consists of twelve units (compulsory units plus electives).

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

Note: This course is post Year 12 or mature age entry level.

### Compulsory First Year Units

TH433	Applied Business Communications
TH434	Management Skills 1
TS247	Business Law 1
TS301	Introduction to Accounting
TS302	Accounting Reports
TS303	Accounting Systems
TS304	Partnership and Introductory Company Accounting
TS415	Computer Based Accounting 1
TS421	Business Computer Applications 1
TS422	Business Computer Applications 2
TS436	Applied Business Economics 1
TS445	Applied Business Mathematics

### Compulsory Second Year Units

TS248	Business Law 2
TS305	Financial Management
TS306	Costing Principles
TS307	Costing Systems
TS308	Auditing
TS311	Taxation Fundamentals
TS314	Company Financial Reporting
TS409	Budgeting 1
TS425	Computer Based Accounting 2
A further three units to be selected from the following:	
TS310	Advanced Accounting
TS312	Taxation Procedures
TS313	Taxation Practice
TS410	Budgeting 2
TS437	Applied Business Economics 2
TS450	Integrated Work/Field Placement
TS435	Management Skills 2

#### Unit Sequence — Part-time students

Students are advised to start this course with the following subjects:

Semester 1:	TS301	Introduction to Accounting
	TS421	Business Computer Applications 1
Semester 2:	TS302	Accounting Reports
	TS422	Business Computer Applications 2

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

#### Membership of associations

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:

Title:	Code:
* Advanced Certificate — Information Technology	3300 DYC
* Associate Diploma of Business (Micro-computer Systems)	3500 DYA

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

TS727 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

TS731 Operating Systems

TS741 Data Processing System Documentation Techniques

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

TS751 Database Design

TS752 Database Programming A

TS757 4GL Programming Option

TS773 Micro-computer Systems Analysis & Design

TS774 Electronic Principles

TS755 3GL Programming Option A

TS737 Project Management Techniques

TS753 Database Programming B

TS765 User Needs Analysis

Semester 2: TS766 Application Project C

TS756 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
TS421	Business Applications 1
TS422	Business Computer Applications 2
TS301	Introduction to Accounting
TS247	Business Law 1
TS800	Practical Placement

Plus two electives from a specialist stream.

##### Second year

TS897	Document Production 3
TS898	Document Production 4
TS899	Office Supervision 1
TS900	Office Supervision 2
TS801	Practical Placement

Plus six electives from a specialist stream.

#### Prerequisites

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.

### 3222DYC Computer Business Applications Certificate

#### Career potential

The general aims of the course are to provide computer users in business with the skills to use computers efficiently in their workplace; and an understanding of a wide range of computer concepts and a knowledge of business information requirements, such that they will be able to identify ways of improving their own productivity and the productivity of others, by applying computer technology. It is especially suited to employees of smaller organisations lacking in-house specialist data processing professionals.

#### Prerequisites

Students are eligible to enter this course of study if they have satisfactorily completed an approved course at Year 11 level or an approved equivalent. The course is not designed for school leavers. Applicants should have at least one year of appropriate industrial experience before undertaking the course. However, applicants who do not have the required industrial experience could still be eligible if they have current employment in an appropriate position.

#### Duration of course

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

#### Course structure

All units are compulsory.

TS791	Introduction to Computers
TS792	Keyboarding
TS793	Using Systems Software
TS796	Business Information Systems
TS797	Business Software Applications

#### Duration of course

This course is offered on a part-time, evening basis, two nights per week. The minimum completion time is one year.

### 3300DGK Advanced Certificate in Management

This course is unlikely to run in 1992. Please contact the Head, Marketing and Administration Department on 819 8165.

### 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 environment as office support staff, typists, word processing operators or receptionists.

#### Course details

##### Compulsory units

TH133	Communication Skills 1
TH134	Communication Skills 2
TS880	Typing Production 1
TS881	Typing Production 2
TS865	Administrative Procedures 1
TS866	Administrative Procedures 2
TS883	Word Processing 1
TS884	Word Processing 2
TS895	Introduction to Computing 1
TS896	Introduction to Computing 2
TS800	Practical Placement

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

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 reporting, accident investigation, **accident/loss** statistical systems and a safety measurement program; and 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
TS507	Plant Layout and Network Analysis
TS508	Management — Team Techniques
TS521	Safety 1
TS522	Safety 2
TS523	Safety 3
TS524	Safety 4

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

Six compulsory general units

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

Six elective units from the Certificate of Business Studies subjects.

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

TS503	Time Study
TS504	Predetermined Motion Time Standards

TS505	Statistical and Estimating Techniques
TS506	Financial Analysis and Labour Control
TS551	Planning Procedures 1
TS552	Planning Procedures 2
TS553	Materials Management 1
TS554	Materials Management 2
TS571	Purchasing 1
TS572	Purchasing 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).

Duration of course

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

Membership of associations

Students completing the course of study can apply for membership of the 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
TS551	Planning Procedures 1
TS552	Planning Procedures 2
TS553	Materials Management 1
TS554	Materials Management 2
TS571	Purchasing 1
TS572	Purchasing 2

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

Six compulsory general units

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

Six elective units

Six elective units from the Certificate of Business Studies subjects. This group must include at least four of the specialised Operations Management units not already studied, e.g. Safety 1 and 2, Management — Team Techniques, Plant Layout and Network Analysis.

#### Study sequence

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

#### Duration of course

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

#### Membership of associations

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

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

#### 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. 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	<b>Business Mathematics 1</b>
TS113	<b>Business Mathematics 2</b>
TS226	<b>Middle-management</b> Practices 1
TS326	<b>Middle-management</b> 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).

#### 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.

### 3000DFF Certificate of Business Studies — Work Study

Students previously enrolled in any of the three certificate courses above may complete the certificate by taking equivalent units from the Certificate of Business Studies — Operations Management.

### 3300DGB Advanced Certificate in Personnel

#### Career potential

The aim of the course is to provide graduates with the skills, knowledge and professional practices that will enable them to perform the duties of a personnel officer in public or private organisations. Graduates will operate as support staff in the personnel management field and be responsible for the day to day administration of policies relating to employment, wage and salary administration, training and development, industrial relations and occupational health, safety and welfare.

#### Prerequisites

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

#### Course structure

##### Twelve Compulsory units

TH133	Communication Skills 1
TH134	Communication Skills 2
TS140	Industrial Law
TS141	Staffing
TS142	Personnel Practices
TS143	Training and Development
TS144	Occupational Health and Safety
TS145	Wage and Salary Administration
TS146	Industrial Relations
TS147	Personnel Project
TS217	Communication Skills 3
TS218	Communication Skills 4

#### Duration of course

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

#### Membership of associations

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

### 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
TS360	Selling
TS361	Buyer Behaviour
TS362	Managing the Sales Operation 1
TS363	Managing the Sales Operation 2
TS364	Promotions 1
TS366	Marketing

### Second year

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

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):

3300DCB	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 on a full-time basis over two years or on a part-time basis taking 4-5 years to complete.

### Membership of Associations

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

## Victorian Certificate of Education (HSC) Evening Classes

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

TS901	Accounting
TS902	Economics
TS903	Legal Studies

For a complete description of all VCE (HSC) subjects, see the 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; meetings; 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 process of a business plan, leadership, 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 legal studies. This course is designed to assist students in understanding the operations of law in our society. It should equip students with an understanding of how law affects our everyday lives, with particular regard to the rights and safeguards it bestows and the obligations and limitations it imposes. Topics covered include: the need for law, the structure and development of the Australian Legal System, the law-making bodies and legal processes, crime and criminal sanctions, the Law of Torts, consumer protection and the form of business organisations.

### TS008 Economics Victorian Certificate of Education (TOP) subject

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

### TS009 Accounting Victorian Certificate of Education (TOP) subject

Full year accounting course for students with limited or no prior knowledge of bookkeeping or accounting.

Topics covered include: basic concepts and terminology; the accounting cycle; costing methods; balance day adjustments; final reports: accounting procedure for control; accounting for multiple ownership and analysis and interpretation of final reports.

### TS107 Accounting for Managers

This course is designed to enable students in other than financial courses to understand the purpose and operation of accounting systems, understand the principles of financial management, apply techniques of financial analysis to basic business problems, to participate with professional accountants in planning and decision-making related to their area of responsibility.

Topics studied include the nature of accounting, accounting reports for sole proprietors, forms of business ownership, accounting reports for companies, limitation of accounting reports, cash management, cost volume profit relationship and budgeting.

### TS115 Applied Business Statistics

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

### TS140 Industrial Law

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

### TS141 Staffing

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

### TS142 Personnel Practices

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

### TS143 Training and Development

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

**TS144 Occupational Health and Safety**

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

**TS145 Wage and Salary Administration**

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

**TS146 Industrial Relations**

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

**TS147 Personnel Project**

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

**TS217 Communication Skills 3****TS218 Communication Skills 4**

Communication Skills 3 and 4 will each consist of four options selected to meet the needs of course participants. Options include: stress management, time management, motivation and job satisfaction, customer relations, assertiveness, managing conflict, leadership.

**TS226 Middle-management Practices 1 (Planning and control)**

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

**Use of budgets** as a resource allocation plan and to measure performance and establish **accountability**. **Application** of **MBO techniques**. Planning of personal time. Decision-making and problem-solving. **Use of a management and managerial quality**. Designing a **departmental organisation** structure, formalising organisation, **organisational charting** and documentation **Departmental organisational analysis**, **job analysis**, defining departmental functions, writing operating objectives. Corporate organisation structure and relationships. This includes use of functional authority. Centralised and decentralised decisions, matching authority and responsibility, chain of command and span of control, resolving conflict.

**TS247 Business Law 1**

History and development of Australian law and system of courts. The role of our **constitution**, the **purposes, procedure and interpretation**. **Case law** and the **doctrine of precedent**. The application of the law, involving a detailed study of one or two areas such as negligence, workers compensation or defamation. Law of contracts.

**TS248 Business Law 2**

Legal aspects of sole traders, partnerships and companies. The law relating to insurance, taxation, consumer protection, tenancy, property and negotiable instruments.

**TS301 Introduction to Accounting (1 unit)**

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

**TS302 Accounting Reports (1 unit)**

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

**TS303 Accounting Systems (1 unit)**

Essential features of equipment used to maintain systems using either **semi-automatic or electronic equipment**. **Initial features** of **control and recording for the following systems** using either **semi-automatic or electronic equipment**, i.e. stock, payroll, debtors; 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, debtors, creditors and fixed assets, are considered in detail.

**TS304 Partnership and Introductory Company Accounting (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 contents of documentations involved. Journal and general ledger entries for the formulation of a partnership and the admission of a partner to an existing business. Journal and general ledger entries in a company's books for the formation of a company, the issue of shares to the public by a public company, the acquisition of the assets and liabilities of another business and the settlement of the purchase consideration with the previous proprietor(s). Statutory and other registers and records relating to the shares of a company. Profit distribution for partnerships including the profit and loss appropriation statement and a balance sheet of a partnership. Preparation of funds statements for partnerships in accordance with the accounting standards.

**TS305 Financial Management (1 unit)**

Analysis and interpretation of financial statements using ratio analysis. Types and sources of finance for a sole trader, partnership and company. Cost-volume profit analysis.

**TS306 Costing Principles (1 unit)**

Maintain process, operation and standard costing systems. Preparation of a profit and loss statement adopting variable and absorption costing principles. Analysis of costs for decision-making.

**TS307 Costing Systems (1 unit)**

Process costing system, accounting for joint products, accounting for by-products, operation costing system, standard costing, computerised standard costing, variable and absorption costing and costs for decision-making.

**TS308 Auditing (1 unit)**

Examination of various aspects of external auditing and internal control as they relate to business organisations.

**TS310 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.

**TS311 Taxation Fundamentals 1 unit)**

Concepts relating to assessable income, allowable deductions, tax rebates and preparation of taxation returns for individuals and businesses.

**TS312 Taxation Procedures (1 unit)**

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

**TS313 Taxation Practice (1 unit)**

Taxation provisions relating to partnerships, trusts, primary producers, companies and superannuation funds. Preparation of all relevant taxation returns.

### TS314 Company Financial Reporting (1 unit)

Preparation of company financial statements in compliance with the provisions of the Australian (AASB) Code and accounting standards promulgated by the accounting profession. Audited financial statements and Stock Exchange listing requirements.

### TS326 Middle-management Practices 2 (Leadership and human resource utilisation)

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

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

### TS360 Selling

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 consumer's decision making process as it applies to the consumer and the marketing mix. Prerequisites: Marketing and/or Selling should be studied prior to or concurrently with this unit.

### TS362/3 Managing the Sales Operation 1 and 2

Setting sales targets. How to plan, organise and manage the sales operation. Staffing and training the sales team. Motivation of sales staff. Analysis and evaluating sales and sales staff performances implementation and control of company policies, procedures and identity. Prerequisites: Selling.

### TS364 Promotions 4

The role of promotions in marketing strategies and mixes. How to plan, develop, implement and monitor a sales promotion campaign. Promotional techniques for varying industries. Telephone selling and promotional techniques. Basic principles and copywriting for direct mail and advertising. Prerequisites: Marketing and/or Selling.

### TS365 Promotions 2

The role of advertising, publicity and PR in marketing. Advertising — copywriting, media characteristics, costing and expense analysis. Devising a media plan to reach a target market. Writing and placing media releases. Publicity strategies and techniques. Prerequisites: Promotions 1, Buyer Behaviour.

### TS366 Marketing

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

### TS367 Market Research

Where marketing research is used. Marketing research procedures. Sources of information. Questionnaire construction and other survey methods. Interviewing techniques. Sampling techniques. The field workers responsibilities and techniques. Selection, training, supervising and monitoring field workers. Collection, collation, analysis, validation and presentation of data. Marketing research recommendations. 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. Prerequisite: Marketing.

### TS370 Direct Response Marketing

This unit is designed to provide an overview of the process of Direct Response Management of large firms with consumers. It examines the ways in which Direct Response marketing principles and techniques can assist in the total marketing strategy plan in either its own right or as part of a total marketing package. The emphasis is on techniques and skills in the Direct Response Marketing area. Prerequisites: Marketing, Buying Behaviour and Computer Business Applications should also be studied either prior to or concurrently with Direct Response Marketing.

### TS371 Marketing Project

The aim is to complete a group research project relating to a specific marketing problem, using the knowledge and skills gained from the entire course. Prerequisites: Marketing, Marketing Research, Promotions 2, Logistics Management.

### TS372 International Marketing

The relationship between international trade and international marketing. The international environment — economics, culture, political and legal. The techniques of international marketing — the right attitude, competitive factors, gathering overseas intelligence, product policy, distribution, promotions, pricing. Controls for international marketing. Prerequisites: Marketing, Marketing Research, Buyer Behaviour and Promotions 1/2.

### 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 — retail, services and manufacturing. Small business and its future. Prerequisites: Marketing, Marketing Research, Buyer Behaviour, Promotions 1/2.

### 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 arena. Marketing — MR techniques, Target market selection, developing a marketing mix, marketing control. Prerequisites: Marketing, Marketing Research, Buyer Behaviour, Promotions 1/2.

### 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 1/2.

### TS376 Retail Marketing

The role and nature of the retailing operation in modern marketing systems. Covers the requirements of retailers including research, merchandising and promotions, location, organisational requirements and staff training. Prerequisites: Marketing, Marketing Research, Buyer Behaviour, Promotions 1/2.

### TS409 Budgeting 1

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

### TS410 Budgeting 2

The completion of appropriate financial performance reports for manufacturing organisations. Prerequisite: Completion of TS409, TS301, TS302 and completion of or concurrent completion of TS306.

### TS415 Computer Based Accounting 1

Establishing a data base for a computer accounting system. Setting up a general ledger with a chart of accounts and subsidiary ledgers, entering opening balances and transactions through the various ledgers, extract a trial balance, process reports and roll-over accounts into a new period. 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 in different 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 for change and developing the acceptance of 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 methodically. The uses of and procedures for establishing standard times. The forms and the necessary information about the recording of elemental times using the snap back timing method with a decimal minute stop watch. 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. Different types of allowances including allowances for personal and social. Machine control and unrestricted operations. Calculation of allowances for restricted work. Carrying out a proof study or production study.

**TS504 Predetermined Motion Time Standards (1 unit)**

Advantages and disadvantages of predetermined motion time standard systems. Different levels and types of PMTS systems. The principles and application of methods time measurement. Factors influencing the performance of simultaneous motions. The advantages and limitations of master standard data. The elements of MSD and their derivation from MTM elements. The concepts of low conscious and high conscious control. Identifying distances used in MSD. Using MSD to establish standard times for a job. The application of MODAPTS for 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 in 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 application, forms design, confidence and accuracy calculations, control charts, standards setting and production study. Group timing technique which includes relationship to activity sampling, advantages and disadvantages, procedures for making a study, and statistical calculations for 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 engineering performance standards.

**TS506 Financial Analysis and Labour Control (1 unit)**

This unit covers the following topics: The major components of a financial information system, data collection methods and types of reports. The need for financial information and how it is used. Analysis and interpretation of profit and loss statements, cash flow statements and manufacturing statements. Use of financial ratios to evaluate solvency, efficiency and profitability. Comparison of ratios with industry averages and prior periods. Standard costing systems and breakeven 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, limitations and wage calculations. 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.

### **TS507 Plant Layout and Network Analysis (1 unit)**

The general purpose in this unit is to enable the student to develop plant layout techniques, to apply the factors affecting project planning and to apply network analysis techniques to planning 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, network relations and logic relationship between activities, forward and backward pass calculations and identify critical paths, float definitions and formulae, convert a network into a time bar diagram, effects of float allocation 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.

### **TS508 Management — Team Techniques (1 unit)**

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

### **TS509 Work Analysis — Clerical and Services (1 unit)**

This unit enables the student to apply the industrial engineering approach to non-manufacturing environments. The topics include: systems analysis and the industrial approaches (5 project phases), forms analysis, design and control, clerical work study techniques, materials management and inventory control, warehousing and distribution analysis and the application of industrial engineering in service organisations.

### **TS510 Minicomputer Applications (1 unit)**

The objective of this unit is to enable the student to use a mini or micro-computer 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 and to run any operations management software package.

### **TS521 Safety 1**

The main objectives of this unit are: to evaluate the need for and the nature of accident prevention. To apply an injury prevention scientifically and the multidisciplinary methodology. Students will be able to identify injury hazards and select appropriate remedies, communicate the analysis of the hazards and suggest the effectiveness of the remedies that have been implemented. Other topics include: the appraisal of protective clothing and equipment, the problems associated with its use and acceptance, environmental hazards such as noise and vibration, toxic substances, legislation affecting OSH and accident compensation, and the development of procedures for a range of different emergencies.

### **TS522 Safety 2**

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

### **TS523 Safety 3**

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

### **TS524 Safety 4**

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

### **TS551 Planning Procedures 1**

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

### **TS552 Planning Procedures 2**

This unit includes the following topics: the function of the estimating department in 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.

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

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

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

### TS554 Materials Management 2 (1 unit)

The general purpose of this unit is to enable the student to recognise the need for a high standard of physical stock control and the economic advantages associated with efficient physical distribution of a firm's finished goods.

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

### TS571 Purchasing 1

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

### TS572 Purchasing 2

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

### TS601 Introduction to Management

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

### TS602 Information for Managers

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

### TS604 Finance for Managers

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

### TS605 Human Management

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

### TS606 Personnel and Industrial Relations Management

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

### TS607 Public Sector Management

This unit covers the following topics: structure areas of Government public service, Government instrumentalities, safeguards, function management areas, preparation and presentation of a case to have change brought about or change prevented, interdepartmental and community joint activities.

### TS608 Retail Management

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

### TS609 Office Management

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

### TS610 Supply Management

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

### TS611 Production Management

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

### TS612 Marketing Management

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

### TS613 Computer Based Management Information Systems

This unit covers the following topics: information systems defined, which data should be collected, data collection techniques, data organisation, data control, protection and review, dissemination of information.

### TS614 Management Project

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

### TS711 Introduction to Micro-computer Applications A

Definition of "application software" and "software package". Fundamentals of word processing. Document creation, editing and storage. Text and document formatting. Document printing. Fundamentals of spreadsheet. Spreadsheet creation, editing and storage. Spreadsheet revision and printing. Special functions and formulae.

### **TS712 Introduction to Micro-computer Applications B**

Definition of databases; data file applications (e.g. word inventories, mailing lists, relating files, etc); database products. Using databases to generate accounting packages (database, stand alone, menu-driven, industry-based, etc), and accounting package applications (general ledger, payroll, accounts payable and received, 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**

Business accounting requirements. Flow of information and the book-keeping process. Accounting elements and the accounting equation. Ledgers and trial balance. Source documentation. Chart of accounts. Journals.

### **TS715 Programming Concepts A**

Definition of software. Categorisation of software types. The stored program concept. Definition of "algorithm". Program constructs. Algorithm design and description, use of flow charts to design programs using the three key structural features, definition of pseudo-code in algorithm design. Programming in a 3GL, sample programs involving sequence, selection, iteration and interactive terminal input-output, provision of test data for debugging.

### **TS716 Programming Concepts B**

Programming languages and translation. Time, space and accuracy concepts. The software lifecycle, problem analysis, algorithm design, coding, testing and debugging, documentation, maintenance, illustration of stages using simple programming examples. Programming in a 3GL. Prerequisites: Programming Concepts A.

### **TS717 Programming Techniques A**

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

### **TS718 Programming Techniques B**

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

### **TS719 Cobol Programming A**

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

### **TS720 Cobol Programming B**

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

### **TS721 Communication Skills A, B, C and D 2/3/4**

Identify the factors involved in the process of communication and adapt to changes in that process caused by social and technological change and multiculturalism. Discuss language as the basis for thought and communication, while appreciating the non-verbal component in all communication. Identify personal motivations, needs and purposes of participants in particular communication situations and within a multicultural community. Think logically in order to become more effective in decision making, problem solving and time management. Use written and spoken language with precision and purpose. Comprehend accurately when reading and listening. Select appropriate communication and interpersonal skills to suit particular situations. Work co-operatively within groups of various sizes, structures and purposes.

### **TS725 Introduction to Sales and Marketing**

Definition of "selling" and "marketing". Duties/responsibilities of a salesperson. Factors involved in successful selling. Marketing principles and practice. Buyer behaviour/motivation. Marketing strategies. Sales interviews. Sales targets.

### **TS726 Computer Sales and Marketing**

Jobs in the compute; marketing/sales area. Computer sales strategies. Computer sales interviews. Computer purchase option reports. Computer marketing principles and practice.

### **TS727 Computer Architecture**

Computer hardware components and architecture. Introduction to digital logic. Component logic. Machine processing cycle. Instruction decoding. Logic and operation of the main storage. Interrupts. Software/hardware connection. Alternative architectures.

### **TS728 Introduction to Peripheral Devices**

Common peripheral devices. Binary codes and coding systems. CPU/peripheral communication. Data storage devices. Connecting peripherals. Prerequisites: Computer Architecture.

### **TS729 Using a Micro-computer**

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

### **TS730 Using a Minicomputer**

Types of minicomputer systems. Logging on and off. Directories, files and user privileges. Directory and file management commands. Advanced features of full screen editors. Access and use of application programs. System communication facilities.

### **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**

Analysis of organisations. Identification of business sub-systems. The systems Development Life Cycle: alternative SDLC's; SDLC documentation. Management. Data gathering; modelling tools. System requirements specification and system implementation. Prerequisites: Programming Techniques B, Business Information Processing.

### **TS733 Introduction to Data Communications & Networks**

Definition of relevant terms: uses of data communication systems; transmission media and methods; hardware components; network topologies; modems; 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**

Business systems and their environment. Organisation goals and objectives. Management structures. The economy and the financial system. Effects of technological change.

### **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**

Types of document handling packages. Advanced word processing. Desktop publishing. Package installation. Prerequisites: Introduction to Micro-computer Applications B, Using a Micro-computer.

### **TS743 Spreadsheet & Business Graphics**

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

**TS744 Database Software Packages**

Database fundamentals. Software installation and configuration. Advanced commands and utilities and multifile databases. Database design and documentation. Database programming. Prerequisites: Introduction to Microcomputer Applications B, Programming Concepts B, Using a Micro-computer.

**TS745 Accounting Software Packages**

Commercial accounting packages. Use of accounting packages. Payroll software. Software installation and maintenance. Prerequisites: Introduction to Micro-computer Applications B, Accounting Concepts, Using a Micro-computer.

**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 B. Co-requisites: Introduction to Systems Analysis & Design.

**TS752 Database Programming A**

Design and construction of a database system. Interfacing with an application language. Prerequisites: Introduction to Systems Analysis & Design, Database Design, 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-peer interaction. Physical characteristics of transmission channel. Modem characteristics. Concept of multiplexing by frequency and time division, channel bandwidth and data rate limits. Considerations involved in connecting a serial printer via RS232C connectors. Error sources and their correction. Characteristics of Telecom services. 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**

Properties of typical 4GL's. Entry of database definition. Definition of data integrity rules. Creation of well-designed and meaningful data entry and update screens. Definition of data subsets to control access to data. Generation of report formats. Automatic generation of code. Syntax of the language. Validation testing to ensure system meets requirements. Prerequisites: Programming Techniques B, Database Programming B.

**TS765 User Needs Analysis**

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

**TS766 Application Project C**

Work within a framework administered by a manager/supervisor. Meet all formal obligations to a manager/supervisor. Provide regular progress reports to or attend regular meetings with a manager/supervisor. Consult with a manager/supervisor when project problems arise. Enter into and adhere to agreements with users/clients. Communicate with users/clients, in a manner befitting a professional analyst/microsystems consultant. Work effectively within a systems development team. Respect confidentiality, privacy, and individual and group sensitivities. Apply an appropriate System Development Methodology using specific techniques to develop a substantial micro-computer information system, in a team environment. Prerequisites: Introduction to Systems Analysis & Design, Database Programming B, Project Management Techniques, User Needs Analysis. Co-requisite: Micro-computer Systems Analysis & Design.

**TS767 Drafting & Display Graphics**

Fundamentals of CAD drafting and graphics packages. Using CAD and graphics packages. Software installation and configuration. Prerequisites: Introduction to Micro-computer Applications B, Using a Micro-computer.

**TS768 Micro-computer Development Tools**

Types of software development tools. Evaluation criteria for measuring the benefits offered through the use of software development tools. Low, medium and high level development tools. Prerequisite: 3GL Programming Option A. Co-requisite: 4GL Programming Option.

**TS769 Multiuser Micro-computer Systems**

Features on multiuser micro-computer operating systems. Installation of multiuser operating systems. Multiuser micro-computer system management. Prerequisite: 3GL Programming Option B.

**TS770 Micro-computer Architecture & Assembly Programming**

Address bus from CPU select memory or I/O which is accessed in read/write operations. No. of address possible =  $2^n$  for n address lines. Memory mapped I/O. Program resides in memory in the form of machine code. Useful number systems and conversions. Binary integer arithmetic. Assembly language programming. Assembler. Function of program counter, status register, stack pointer, memory pointer, general purpose data register, accumulator, 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**

Analysis of successful user documentation. Phases of documentation. Technical writing skills. Manual preparation. Prerequisite: User Training Techniques.

**TS773 Micro-computer Systems Analysis & Design**

Characteristics of microcomputer application. Exploring limits of feasibility. Communication skills. Dataflow analysis. Information analysis. Exploring alternatives of automation. Design of human-machine interfaces. Structure chart. Determine record volumes anticipated to estimate storage requirements. Data controls. System management utilities. Acceptance testing. Prerequisites: Introduction to Systems Analysis & Design, Database Programming B, Project Management Techniques, User Needs Analysis. Co-requisites: Application Project C, 4GL Programming Option. Micro-computer Development Tools.

**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 tools. Prerequisite: Microcomputer architecture and assembly programming etc. it principles:

**TS791 Introduction to Computers**

Topics include: the changing computer environment, computer personnel, hardware and software components of a computer system, data coding systems, file and processing concepts, care and security of hardware and storage media, effects of computers on society, micro-computer 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/minute, 90% accuracy.

**TS793 Using Systems Software**

Topics include: using a personal computer, data communications and networks, using multi-user computer systems, documentation practices for systems management.

### **TS796 Business Information Systems**

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

### **TS797 Business Software Applications**

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

### **TS800/ Practical Placement TS801**

The Practical Placement 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.

### **TS865 Administrative Procedures 1 TS866 Administrative Procedures 2**

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, organising meetings and conferences and travel, mail, financial and records management.

### **TS872 Document Production 1 TS873 Document Production 2**

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.

### **TS874 Office Administration 1 TS875 Office Administration 2**

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

### **TS880 Typewriting Production 1 TS881 Typewriting Production 2**

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.

### **TS883 Word Processing 1 TS884 Word Processing 2**

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

### **TS895 Introduction to Computing 1 TS896 Introduction to Computing 2**

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

### **TS897 Document Production 3**

### **TS898 Document Production 4**

These units further develop keyboarding, proofreading, editing, organisational and English language skills in order that students can, using both a typewriter and word processor efficiently produce commonly used business documents from handwritten, edited, rough draft and audio dictation at a production rate of 30 words per minute.

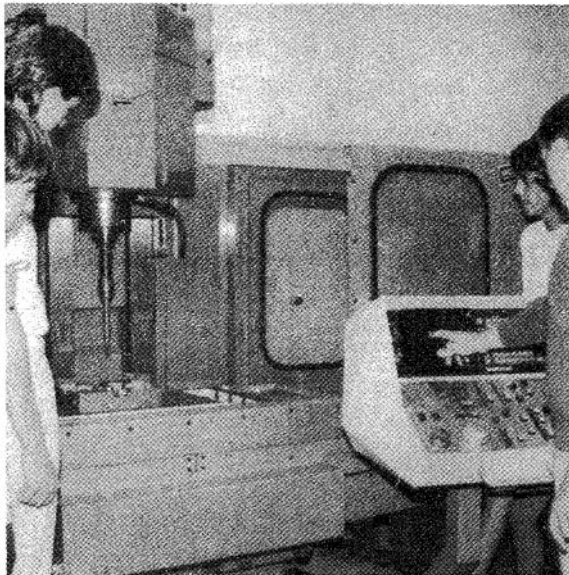
Document Production 4 aims to develop keyboarding skills to achieve a speed of 55 words per minute with 98% accuracy on a 5 minute timing. This unit further develops the skills from unit 3 so that students can, using a typewriter, word processor or desk top publishing package, efficiently produce business documents from handwritten, edited rough draft and audio dictation at a production rate of 35 words per minute.

### **TS899 Office Supervision 1 TS900 Office Supervision 2**

Office Administration 3 and 4 enhance the skills and knowledge learnt in Office Administration 1 and 2 to enable students to develop an awareness of the procedures, policies and techniques necessary for the efficient supervision and training of staff.

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### Head (Acting)

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G. Tonkin, ARMIT, TTTC  
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Secretaries

K. Quayle and M. Tence, 819 8378

## Mechanical and Manufacturing Technology Department

### Head

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P. Tomat, BEd, Cert(Toolmaking), CertPressToolmaking,  
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G. Zouev  
Secretary  
Bridie Brewster, 819 8504

## Centre for Engineering Technology: Authorised AutoCAD Training Centre

### Manager

L.J. McLaughlan, DipTT, TTrIC, Cert(Jig and Tool Draft),  
Cert(Toolmaking)

### Academic staff

G. Oliver (course co-ordinator), DipTT, COT(Mech),  
Cert(Toolmaking), F&M Trade  
H. Ramaekers, BEd, DipTT, Cert(MechDraft),  
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P. Stroude, DipTT, TechCert(Radio), RAAF quals.

### Technical Officer

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

Manager

J. Hall, BSc(Hons), PhD, ARACI

Deputy Manager

J. Flowers, 819 8379

Staff

L. Kyrtzisz, 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

**3222ECE** 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 both by the employer and a member of the Swinburne academic staff who acts as the student's industrial tutor. Satisfactory completion of each work experience period is a prerequisite for admission to the next academic stage of the course.

Entrance requirements

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

English Mathematics — 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

1st year Hours  
320

NBBM	Occupational Health and Safety
NBB08	Electrical Fundamentals
NE01	DC Principles
NE03	AC Principles
NE14	Cords, Cables & Applications
NE20	Test Equipment
NE31	Electrical Drawing Int. & Conn.
NE125	Electrical Installation
NE128	Domestic Installation Practices

2nd and 3rd year

E NE09	Single and Three Phase Circuits
E NE10	AC Machines
E* NE11	DC Machines
E* NE22	Domestic Installation
E* NE23	Non-domestic Installation — 1
E NE30	Electrical Motor Control and Protection
E NE32	Circuit Development 1
E* NE52	Transformers
E NE106	Non-domestic Installation 2
E NE125	Electrical Installations
E* NE127	Multiple Domestic Installation
E NE128	Domestic Installation Practice
E NE129	Non-domestic Installation Practice
E* 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 320

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

3rd year for continuing students only 320

TEU08	Unit 8 Electrical Wiring Theory
TEU09	Unit 9 Electrical Wiring Theory
TEU10	Unit 20 Electrical Wiring Practice

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:

Less than 50%	Eligible for P Grade
Between 50 and 75%	Eligible for B Grade
Above 75%	Eligible for A 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

### 322ECE Certificate in Basic Electronics

Entry level

There are three types of entry:

- Satisfactory completion of a Year 11 course, including passes in English, Mathematics and Science, or an approved equivalent is the normal prerequisite.
- 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 5.1 Electronic Assembly Techniques.
- 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 terminal program in its own right, especially for persons working in equipment servicing who want to gain an understanding of electronics.
- Forms a part of the core studies of the Associate Diploma of Engineering (Electronics).
- 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 **CBE1**

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 5.2

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	464
Communication Skills (Core)	72
Computer Studies in Electronics	72
Electrical/Electronic Drafting Principles	72
Electrical Industrial Control 1A	72
Mathematics 1E	72

Compulsory core subjects (**Non-Electrical/Electronic Trade Students**)

Electric Circuits and Components	36
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
Microprocessor Fundamentals	102
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 trade person 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.

Core subjects	Hours	
	Sem	Week
TE907 Basic Electric Principles'	108	6
TE908 Basic Electronics Theory'	144	8
TE909 Basic Digital Theory'	108	6
TH133 Communication Skills Core	72	4
TE532 Industrial Practices 1 from Certificate in Basic Electronics.	54	3
TE245 Mathematics 2E	90	4
TE561 Circuit Theory 2	126	7
TE571 Electronics 2	126	7
TE338 Microprocessor Fundamentals	108	6
TE470 Digital Electronics 2B	54	3
TE580 Analogue Communications 1	126	7
TE323 Electronics 3H	126	7

### Electives

#### Group A

TE141 Electronic Drafting Principles	54	3
TE235 Computer Studies 1H	54	3

#### Group B

TE437 Data Communications 1	108	6
TE319 Circuit Theory 3H	126	7
TE345 Mathematics 3E	90	5
TE438 Microprocessor Applications	144	8
TE439 Testing techniques and Instruments Electronic Personal Computer applications	126	7
TH136 Basic Supervision	72	4

#### Enrichment Subjects

TE145 Mathematics 1E	72	4
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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.
	<hr/> 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:

Semester 1		Hours
Electrical Fundamentals	CBE 1	90
Analogue Fundamentals	CBE 2	72
Analogue Applications	CBE 3	72
Digital Electronics	CBE 4	90
Wiring and Soldering Techniques	CBE 52	36
		<hr/> Total 360

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
	<hr/> Total 320

#### Semester 3

Electronics 3	72
Communications 1	72
Microprocessor Interfacing	72
Electronic Instrumentation	72
Design Projects	36
	<hr/> 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
	<hr/> 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-numeric order of subject codes.

### TEU01 Unit 1

**Fe and non ferrous metals, base units, derived units, multiples and -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 standards and regulations, cables, basic estimating and planning, circuit and plan fundamentals, electrical accessories, hand tools, power tools.

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

### TEU03 Unit 3

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

Electromagnetic induction, sinusoidal waveforms, generation of poly-phase EMF, AC generators, power supply and distribution, wiring systems, welding and brazing.

### TEU04 Prac 1

Assessment of practical components in Units 1-3.

### TEU05 Unit 5

Inductors and inductance, capacitors and capacitance, trigonometry and phasors cables, cable jointing and termination, wiring systems.

Resistance in AC circuits, inductance in AC circuits, capacitance in AC circuits, heating effects, circuit protection principles and devices, testing and fault finding of equipment and appliances, testing of installations, 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.

R, L and C in parallel AC circuits, power factor, resonance, instrument transformers for measurement and protection, chemical effects of electric current, electrolytic effects, primary and secondary cells, battery supplies, 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 One three-hour examination held in mid-June (or in November) contributing to seventy per cent of the final mark.

Mathematics 1E is a service subject for a number of certificate qualifications offered. Topics covered are: numbers and the number line, equations and formulae, relations and functions, trigonometry and applications, number systems, complex numbers, Boolean algebra.

### References

Supplied notes.

Ewen, D. and Topper, M. Mathematics for Technical Education. Englewood Cliffs, N.J., Prentice-Hall, 1974

A scientific calculator is also required.

## TE150 Electrical Industrial Control 1T

Study of component parts, full and reduced voltage starting, control of a wound rotor motor, braking, control circuit reading and design, safety.

## TE235 Computer Studies 1H

To enable the student to become competent in writing programs in BASIC or another high level language. To solve problems in the electrical/electronic areas and know how to use resident complex programs in the computer's library.

## TE245 Mathematics 2E

Five hours per week over one semester or two hours per week over two semesters, both day and evening.

Prerequisites: Mathematics 1E, or qualifications deemed equivalent by the Head of Department, Applied Science.

Assessment: 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.

Ayres, F. Theory and Problems of Differential and Integral Calculus. 2nd edn, N.Y., Schaum, 1964

Edminster, J.A. *Schaum's Outline of Theory of Problems of Electric Circuits*. In SI units, SI metric, 2nd edn, N.Y., McGraw-Hill, 1972

## TE319 Circuit Theory 3H

Topics include transfer functions, z, y and h parameters for two-port networks, coupled circuits, active filters — Butterworth, Tcheychev 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 covers: organisation 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, programming aids, diagnostics.

## TE345 Mathematics 3E

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

## 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

LEP 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 topics: bridges, application of bridges, signal generators, cathode ray tube, cathode ray oscilloscope, time domain reflectometer, 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.

## TE571 Electronics 2

A course in power supply and oscillator amplifier, including operational amplifier circuits. Bi-polar and field effect devices are covered.

## TE580 Analogue Communications

This subject contains modulation and demodulation principles, communication circuits, transmission lines and antennae.

## TE650 Electronic Control Components

Resistors, diodes, capacitors, zener diodes, transistors, thyristors, test equipment, solid state contactors.

## TE651 Electro-pneumatics

Principles, cylinders, valves, solenoids, timers, control circuit reading and design, safety.

## TE652 Generating Plant Control

Alternators, excitation, metering, circuits, protection, paralleling, uninterruptible power supply systems.

## TE653 Motor Speed Control

DC control, three-phase rotor control, pole changing, static frequency converter.

## TE656 Crane and Conveyor Control

Crane principles, motor types, directional control, speed control, braking, conveyor types, eddy current coupling, cascading, conveyor stopping devices, speed control, legal requirements, safety.

## TE663 Programmable Controllers 1

Types of control, programmable controllers block diagram scanning. Programming including timers, counters, NC contracts, data manipulation, input device scheduling, report generation safety. A more detailed syllabus available on request.

## TE664 Programmable Controllers 2

Types of control, programmable controllers block diagram scanning. Programming including timers, counters, NC contracts, data manipulation, input device scheduling, report generation safety. A more detailed syllabus is available on request.

## TH133 Communication Skills

Methods of collecting, organising, evaluating and presenting factual information. Oral presentation, report writing, letters, memos, media analysis. Core studies plus specialised options.

## TH136 Basic Supervision

The supervisor's role: problem-solving, leadership, delegation, team building techniques, disciplinary action, selecting staff, staff appraisal.

Note: Subject descriptions for new courses will be available from the E&E Technology Department on request.

## INDUSTRIAL SCIENCES COURSES

Code	Title
3500ABB	Associate Diploma of Applied Science (Laboratory Technology)
3500AHB	Associate Diploma of Applied Science (Fire Technology)
3500AYD	Associate Diploma of Applied Science (Computing & Applied Physics)
3300AHB	Advanced Certificate in Fire Technology
3300ABB	Advanced Certificate in Laboratory Technology
2200AZY	Bridgeway Technology

## 3500ABB Associate Diploma of Applied Science — Laboratory Technology

### Career potential

The Associate Diploma of Applied Science in Laboratory Technology provides specialised education and training for scientific laboratory technical support staff. It is an award that qualifies a person to work in a scientific laboratory at a senior level. The course includes a wide range of skills, techniques and processes, to ensure that graduates develop a flexible approach, are adaptable and are capable of meeting the technological and administrative demands made of them in a changing workforce.

Graduates of this course are eligible for entry into degree courses in Applied Science and, in some cases, may be granted exemptions.

### Entry requirements

Normally entry is satisfactory completion of Year 12 (VCE) or its equivalent. Students without science subjects at Year 12 level, will be required to undertake bridging subjects.

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

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

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

### Modes of study

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

Part-time: Generally four years of part-time study, comprising one afternoon and two evenings, per week for eight semesters.

Full-time: Generally one year of full-time study followed by two years of part-time study. The Associate Diploma cannot be completed by full-time study alone.

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

## Course structure

### Stage 1

TH133	Communication Skills 1
TH134	Communication Skills 2
TL001	Biology Laboratory Techniques
TL002	Chemistry Laboratory Techniques
TL003	Physics Laboratory Techniques
TL144	Quality Control Statistics
TL312	Laboratory Management
TL327	Laboratory Computing
TL347	Occupational Hygiene
TL470	Work Project
TL180	Practical Placement

### Stage 2

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

### Stream 1

Appropriate for industry, analytical chemistry and instrumentation laboratories.

TL201	Chemistry Practices 3
TL202	Chemistry Practices 4

PLUS at least 2 by two-unit sequences from:

TL309	Electron Microscopy 1
TL310	Electron Microscopy 2
TL390	Chromatographic Analysis 1
TL391	Chromatographic Analysis 2
TL465	Electrochemical Analysis 1
TL466	Electrochemical Analysis 2
TL490	Spectrophotometric Analysis 1
TL491	Spectrophotometric Analysis 2

PLUS two elective units.

#### Stream 2

Appropriate for educational institutions and museum laboratories.

**TL201** Chemistry Practices 3

**TL202** Chemistry Practices 4

*PLUS* at least one by **two-unit** sequence from:

**TL210** Laboratory Workshop Practices 1

**TL211** Laboratory Workshop Practices 2

**TL203** Physics Practices 3; and

**TL411** Computer Programming

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

*PLUS* two elective units.

#### Stream 3

Appropriate for biological laboratories.

At least one by two-unit sequence from:

**TL256** Mammalian Anatomy and Physiology 1

**TL257** Mammalian Anatomy and Physiology 2

**TL301** Biochemistry 1

**TL302** Biochemistry 2

**TL320** Invertebrate Zoology

**TL448** Vertebrate Zoology

**TL460** Microbiology 1

**TL461** Microbiology 2

*PLUS* at least one by four-unit sequence from:

**TL256** Mammalian Anatomy and Physiology 1

**TL257** Mammalian Anatomy and Physiology 2

**TL320** Invertebrate Zoology

**TL448** Vertebrate Zoology

**TL301** Biochemistry 1

**TL302** Biochemistry 2

**TL401** DNA Technology

**TL402** Immunological Techniques

**TL460** Microbiology 1

**TL461** Microbiology 2

**TL462** Microbiology 3

**TL463** Microbiology 4

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

*PLUS* two elective units.

#### Electives

Electives may be chosen in the following ways:

- (i) Units from the other specialist streams in the Associate Diploma of Applied Science in Laboratory Technology;
- (ii) Units from the other Associate Diplomas.

### 3500AHB Associate Diploma of Applied Science — Fire Technology

#### Career potential

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

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

#### Entry requirements

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

#### Modes of study

Units may be available in one or more of the three modes outlined below:

1. Classes scheduled weekly — either 2 or 3 hours per week (depending upon the unit);
2. Block-mode — classes held one day per weekend over 5 weeks;
3. Flexi-mode — **off-campus** study with occasional seminars on weekends.

**Please** note: The subject details assume Mode 1 only. Enquiries concerning units available in Modes 2 & 3 should be made to the course coordinator on telephone 819 8378.

#### Course structure

Students are required to complete a total of 26 semester units, consisting of 14 core (compulsory) units, and 12 elective units selected from the 28 specialist units available. The specialist units have been grouped into packages of 4 units (refer below) and students are required to select 2 packages of 4 units and 4 other units from the remaining units available.

#### Core units

<b>TH133</b>	Communication Skills 1
<b>TT100</b>	Fire Mechanics 1
<b>TT101</b>	Fire Mechanics 2
<b>TT110</b>	Building Structures 1
<b>TT120</b>	Fire Chemistry
<b>TT140</b>	Information Technology
<b>TT160</b>	Personnel Emergency Treatment
<b>TT210</b>	Building Structures 2
<b>TT211</b>	Detection Systems
<b>TT212</b>	Suppression Systems
<b>TT213</b>	Fire Safety Management 1
<b>TT220</b>	Principles of Fire Behaviour
<b>TT221</b>	Fire Fighting Equipment & its Application
<b>TS226</b>	Middle-management Practices 1
<b>TL180</b>	Practical Placement

#### Specialist units

##### Design

<b>TT301</b>	Detection Systems Design
<b>TT302</b>	Suppression Systems Design 1
<b>TT402</b>	Suppression Systems Design 2
<b>TT403</b>	Suppression Systems Design 3

##### Communication systems

<b>TT310</b>	Introduction to Communications Technology
<b>TT410</b>	Radio Systems
<b>TT411</b>	Fire Alarm Systems
<b>TT412</b>	Communication Centres

##### Risk management

<b>TT320</b>	Fire Investigation
<b>TT321</b>	Fire Safety Management 2
<b>TT322</b>	Hazard Management
<b>TT323</b>	Material Science 1

##### Buildings

<b>TT330</b>	Building Structures 3
<b>TT331</b>	Material Science 2
<b>TT332</b>	Building Services 1
<b>TT432</b>	Building Services 2

##### Management

<b>TH134</b>	Communication Skills (Management)
<b>TS326</b>	Middle management Practices 2
<b>TT351</b>	Fire Law 1
<b>TT451</b>	Fire Law 2

##### Rural

<b>TT360</b>	Rural Fire Behaviour
<b>TT361</b>	Agricultural & Forestry Practices in Fire Management
<b>TT460</b>	Rural Fire Prevention
<b>TT461</b>	Rural Fire Suppression

Environmental Safety	
<b>TT370</b>	<b>Environmental Safety 1</b>
<b>TT371</b>	<b>Special Hazards</b>
<b>TT372</b>	Occupational Hygiene Measurement
<b>TT470</b>	Environmental Safety 2

The course may be completed in the following ways:

- 2 years full-time;
- 4 years part-time — approximately 6 hours per week;
- a combination of full-time and part-time study.

Students studying full-time are also required to undertake relevant work experience during the course.

### 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:

- a) Fundamental principles in:
  - computer science;
  - physics;
  - mathematics;
  - electronics;
  - communication skills;
  - language and logic;
  - business management.
- b) 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

TCIOIF	Physics 1
TC111F	Mathematics 1
TT140	Information Technology
TC121F	Electronics
TH133	Communication Skills 1
TC141	Laboratory Techniques 1
TL210	Laboratory Workshop Practices 1

##### Semester 2

TC101F	Physics 1
TC111F	Mathematics 1
TC181	Structured Programming 1
TC121F	Electronics
TH134	Communication Skills 2
TS725	Introduction to Sales and Marketing
TS726	Computer Sales and Marketing

##### Semester 3

TC202F	Physics 2
TC212F	Mathematics 2
TC282	Structured Programming 2
TC271	Computer Technology 1
TC240	Digital Imaging and Photography

TC242	Laboratory Techniques 2
TC291	Language and Culture
TT160	Personnel Emergency Treatment

##### Semester 4

TC202F	Physics 2
TC212F	Mathematics 2
TC283	Structured Programming 3
TC272	Computer Technology 2
TC292	Language and Logic
TS107	Accounting for Managers
TC230	Project

### 3300AHB Advanced Certificate in Fire Technology

#### Career potential

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

#### Entry requirements

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

However, mature-age students particularly if they have experience in the industry will be considered for selection.

Students with Year 12, or higher studies in mathematics and science can gain exemption from some units.

#### Modes of study

The course can be completed in the following ways:

- \* 2 years full-time
- \* 4 years part-time
- \* a combination of full-time and part-time study
- \* a combination of on-campus and off-campus studies (Fleximode)

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

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

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

#### Course structure

##### Core units

##### Stage 1

TH133	Communication Skills
TT010	Mathematics 1
TT020	Chemistry 1
TT030	Fire Physics
TT110	Building Structures 1
TT140	Information Technology
TT160	Personnel Emergency Treatment
TT221	Fire Fighting Equip. & Its Application
TS346	Instructional Techniques

##### Stage 2

TT100	Fire Mechanics 1
TT101	Fire Mechanics 2
TT120	Fire Chemistry
TT125	Introduction to Fire Behaviour
TT211	Detection Systems
TT212	Suppression Systems
TT213	Fire Safety Management 1
TT229	Management Practices

## Specialist units

### Stream 1

Portable Fire Equipment Stream

### Stage 1

TT340 Fire Equipment Servicing 1A

TT341 Fire Equipment Servicing 1B

### Stage 2

TT210 Building Structures 2

TT342 Fire Equipment Servicing 2

TS327 Sales and Marketing

### Stream 2

Operational Fire Fighters Stream

### Stage 1

TT324 Emergency Management

TT333 Structural Fire Fighting

### Stage 2

TT343 Specialist Fire Fighting Equipment

TT371 Special Hazards — Operational Fire Fighters

TT372 Hazardous Materials

## 3300ABB Advanced Certificate in Laboratory Technology

### Career potential

The Advanced Certificate in Laboratory Technology provides appropriate education and training for scientific laboratory technical support staff. It is an award that qualifies a person to work in a scientific laboratory at a junior level.

### Entry requirements

Normal entry is satisfactory completion of Year 11, preferably with passes in Mathematics and Science subjects.

Mature-age students without Year 11, but who have relevant work experience, will be favourably considered for selection.

### Modes of study

Students will be able to complete the Advanced Certificate in the following ways:

**Part-time:** Generally four years of part-time study comprising either one afternoon and one evening, or two afternoons or two evenings per week for eight semesters.

**Full-time:** Generally one year of full-time study followed by two years of part-time study. It is not possible to complete the Advanced Certificate entirely by full-time study.

A further requirement is that all students must complete a minimum of six months equivalent full-time relevant industrial/work experience, concurrently with their enrolment, prior to the award of the Advanced Certificate.

### Course structure

#### Stage 1

TH133 Communication Skills 1

TL101 Chemistry Practices 1

TL102 Chemistry Practices 2

TL111 Physics Practices 1

TL112 Physics Practices 2

TL130 Biology Practices 1

TL131 Biology Practices 2

TL143 Laboratory Computations

TL327 Laboratory Computing

#### Stage 2

TH134 Communication Skills 2

TL144 Quality Control Statistics

TL312 Laboratory Management

TL347 Occupational Hygiene

TL470 Work Project

Elective 1

Elective 2

Elective 3

## Electives

In order to provide the most flexible and vocationally specific programs, the Advanced Certificate in Laboratory Technology includes a number of elective units. These should be chosen to ensure greatest relevance to the intended vocation of the student.

Electives may be chosen in the following ways:

- (i) Units from the list of Electives set out below;
- (ii) Units from other Advanced Certificates or Associate Diplomas;
- (iii) Units from the specialist streams in the Associate Diploma of Applied Science in Laboratory Technology.

### Elective units

TL225 Specimen Preservation 1

TL226 Specimen Preservation 2

TL227 Modelling of Biological Specimens

TL228 Moulding & Casting of Biological Specimens

TL245 Botany

TL329 Tissue Culture

TL331 Organic Chemistry

TL333 Polymer Science 1

TL334 Polymer Science 2

TL413 Ecology 1

TL414 Ecology 2

TL418 Entomology

TL445 Pharmacological Methods

TL453 Glassworking

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**, electrostatics and AC circuits, motion characteristics of servo motors, fluids, heat and thermodynamics, wave motion and sound, sensors and transducers.

**TC111F Mathematics 1**

Relations, functions, graphs, differentiation, integration, matrices, complex numbers, probability and statistical methods.

**TC121F 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 interviews/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 preservation, classification, protein synthesis, reproduction and development, ecology.

**TL002 Chemistry Laboratory Techniques**

Prerequisite: Year 12 chemistry.

Assessment — based on theory and practical work.

Laboratory safety, atomic structure, bonding and properties, volumetric analysis and acids and bases. laboratory skills.

**TL003 Physics Laboratory Techniques**

Prerequisite: Year 12 physics.

Assessment — assignments, written tests, practical work.

General safety in the laboratory, measurement and heat, hydromechanics, optics and radiation.

**TL101 Chemistry Practices 1**

Prerequisites: none.

Assessment — based on theory and practical work.

Laboratory safety, atomic structure, bonding and properties, stoichiometry, laboratory skills.

**TL102 Chemistry Practices 2**

Prerequisites: chemistry practices 1.

Assessment — based on theory and practical work.

Volumetric analysis introduction, acids and bases, electrochemistry, organic chemistry.

**TL111 Physics Practices 1**

Prerequisites: none.

Assessment — assignments, written tests, practical work.

General safety in the laboratory, units, errors and graphs, heat and temperature, hydromechanics, electricity.

**TL112 Physics Practices 2**

Prerequisite: physics practices 1.

Assessment — written tests, practical work.

Kinematics and mechanics, optics and radiation, work, power and energy.

**TL130 Biology Practices 1**

Prerequisites: none.

Assessment — based on theory and practical work.

Methods, microscopy, living matter and cells, tissues, organs and systems, collection maintenance and preservation, extension work.

**TL131 Biology Practices 2**

Prerequisites: none.

Assessment — based on theory and practical work.

Collection, maintenance and preservation, classification, reproduction, development and inheritance, evolution and speciation, ecology.

**TL143 Laboratory Computations**

Prerequisites: none.

Assessment — mastery tests on an ongoing basis, final examination.

Arithmetic, measurement, ratio, proportion and variation, equations and formulae, equation solving, graphs, introduction to statistics.

**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.

### **TL210 Laboratory Workshop Practices 1**

Prerequisite: laboratory computations.  
Assessment — practical work.  
Introduction to workshop and safety, materials and properties, use of tools and machines, introduction to technical drawing, joining techniques.

### **TL211 Laboratory Workshop Practices 2**

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

### **TL225 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, freeze-drying, spirit specimens, regulations.

### **TL226 Methods of Specimen Preservation 2**

Prerequisite: methods of specimen preservation 1.  
Assessment — written test, practical assessment.  
Objectives, safety tools and suppliers, animal anatomy drawing, bird mount, mammal mount, fish mount, finishing.

### **TL227 Modelling of Biological Specimens**

Prerequisites: chemistry practices 2, laboratory computations.  
Assessment — practical work.  
Modelmaking, building a model (scale down), building a model (scale up), finishing.

### **TL228 Moulding & Casting of Biological Specimens**

Prerequisites: chemistry practices 2, laboratory computations.  
Assessment — practical work and written tests.  
Rigid piece moulding and casting, applications of flexible mediums, combination, flexible and rigid medium.

### **TL245 Botany**

Prerequisites: Biology Practices 1 and 2.  
Assessment — Excursion participation, written reports, written tests and practical assessment.  
Historical implications, taxonomy, lower plants, fungi, plant life cycles, higher plants, plant physiological ecology, physiognomy and habitat, weed ecology, argonomic plant taxonomy.

### **TL256 Mammalian Anatomy and Physiology 1**

Prerequisites: biology practices 1, laboratory computations.  
Assessment — written and practical tests, class participation.  
Introduction to anatomy and physiology, skeletal system (bones, cartilage, joints), muscle, integument, circulatory system.

### **TL257 Mammalian Anatomy and Physiology 2**

Prerequisites: biology practices 1, laboratory computations.  
Assessment — practical and written tests, class participation.  
Respiratory system, digestive system, urinary system, nervous system, endocrine system, reproductive system.

### **TL301 Biochemistry 1**

Prerequisites: biology practices 1, chemistry practices 2, laboratory computations.  
Assessment — based on theory and practical work.  
Introduction to biochemistry, biochemical methods, polysaccharides, lipids, proteins, protein analysis, nucleic acids.

### **TL302 Biochemistry 2**

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

### **TL309 Electron Microscopy 1**

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

### **TL310 Electron Microscopy 2**

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

### **TL312 Laboratory Management**

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

### **TL320 Invertebrate Zoology**

Prerequisite: biology practices 2.  
Assessment — written tests, assignments, practical work.  
Protozoa, porifera, cnidaria, ctenophora, molluscs, arthropods, echinoderms, helminths, onychophora, chordates.

### **TL327 Laboratory Computing**

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

### **TL329 Tissue Culture**

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

### **TL331 Organic Chemistry**

Prerequisite: chemistry practices 4.  
Assessment — written tests, practical work.  
Chemical bonding, IUPAC Nomenclature, hydrocarbons-aliphatic, hydrocarbons-aromatic, alcohols, phenols and ethers, alkyl and aryl halides, carboxylic acids and their derivatives, aldehydes and ketones, amides and their derivatives, methyl orange, reactivity in substitution reactions, reactions of alcohols, p-bronitrophenol.

### **TL333 Polymer Science 1**

Prerequisite: chemistry practices 3.  
Assessment — written tests, assignments, practical work.  
Petroleum 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, thermosetting polymers-phenolic resins, polyesters and alkyd resins, epoxy resins, polyolefins, styrenic polymers, other commercial polymers.

### **TL334 Polymer Science 2**

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

### **TL347 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.

### **TL390 Chromatographic Analysis 1**

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

### **TL391 Chromatographic Analysis 2**

Prerequisite: chemistry practices 4.  
Assessment — 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.

Introduction to ecological systems, the influence of physical limiting factors on organisms, interactions, organization of populations, organization of a community, development of an ecosystem, excursion/seminar.

### 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.  
Splintmaking, glasscutting, 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 — assignments, tests, practical tests.  
The origin of micro-organisms, classification of micro-organisms, cyanobacteria, typical gram negative cell-walled bacteria, typical gram positive cell-walled bacteria, wall-less bacteria, bacteria with unusual cell walls, the fungi, the algae, the protozoa, the multicellular parasites, viruses.

### TL462 Microbiology 3

Prerequisite: microbiology 2.  
Assessment — assignments, tests, practical tests.  
Determinants of health and disease, diagnosis of infectious disease, epidemiology of infectious disease, the immune response, disorders associated with the immune system, antimicrobial drugs 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 work experience.  
Assessment — submission of satisfactory written report.  
Work project.

### 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, assignments and practical assessment.  
Flame, atomic absorption spectroscopy, furnace atomic absorption spectroscopy, flame furnace 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 organisation.

### 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.

**TS346 Instructional Techniques**

Corequisite — Communication Skills  
 adult learning, teaching/learning models, performance objectives, session planning evaluation and assessment.

**TS725 Introduction to Sales and Marketing**

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

**TS726 Computer Sales and Marketing**

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

**TT010 Mathematics 1**

Basic arithmetic, algebra and trigonometry.

**TT020 Chemistry 1**

(Corequisite — Mathematics 1)  
 Atomic structure, periodic table, elements, compounds, electron configuration, bonding, atomic mass, molecular formulae, gases, molarity stoichiometry, acids and bases.

**TT030 Fire Physics**

(Corequisite — Mathematics 1)  
 Measurement, uniform accelerated motion, hydraulics, energy and power, electricity and heat.

**TT100 Fire Mechanics 1**

Kinematics, dynamics, rotation and statics.

**TT101 Fire Mechanics 2**

Fluid mechanics, thermodynamics, electricity and magnetism.

**TT110 Building Structures 1**

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

**TT120 Fire Chemistry**

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

**TT125 Introduction to Fire Behaviour**

Prerequisite — Fire Physics, Chemistry 1  
 Combustion, ignition, extinguishment, industrial fire safety for solids, dust, liquids and gases.

**TT140 Information Technology**

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

**TT160 Personnel Emergency Treatment**

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

**TT210 Building Structures 2**

Prerequisite: Building Structures 1.  
 Victorian building regulations, building classifications and construction, floor area limitations, protection of openings and penetrations, building separation and siting, building fire safety.

**TT211 Detection Systems**

Prerequisite: Building Structures 1.  
 Detector operation, performance and applications; control and indicating equipment, certification and approval, system commissioning, maintenance, equipment testing and installation, plans and drawings.

**TT212 Suppression Systems**

Prerequisite: Building Structures 1.  
 Sprinkler types and operation, plans and symbols, pipes, water supply system types — water spray, foam, gas flooding, dry chemical; explosion suppression, commissioning and maintenance.

**TT213 Fire Safety Management 1**

Prerequisite: Building Structures 1.  
 Role of fire safety managers and fire and rescue organisations, building regulations, means of escape, controlling spread of fire and smoke in buildings, fire prevention, surveys, equipment maintenance and records, fire safety and security.

**TT220 Principles of Fire Behaviour**

Prerequisite: Fire Chemistry, Fire Mechanics 2.  
 Process of combustion, mechanics of heat transfer, fire point, burning of solids, flammability of dust, explosives, fire in enclosures, fire retardant and extinguishment.

**TT221 Fire Fighting Equipment and Its Application**

Prerequisite: Fire Mechanics 1.  
 Search and rescue, ladders, pumps, ventilation and salvage, hose, breathing apparatus, specialist appliances, portable fire extinguishers, foam, hydrants and practical fire fighting.

**TT229 Management Practices**

Prerequisite — Communication Skills, Information Technology  
 Motivation, communications, styles of leadership, teams, planning and decision making, time management, counselling and conflict resolution.

**TT301 Detection Systems Design**

Prerequisites: Information Technology, Detection Systems, Suppression Systems.  
 Detectors, standards for detection systems, estimating, valve monitoring systems, fire indicator panels, manual fire alarm systems.

**TT302 Suppression Systems Design 1**

Prerequisites: Information Technology, Detection Systems, Suppression Systems.  
 Existing water supplies, documenting water supplies, specifying water supplies.

**TT310 Introduction to Communications Technology**

Prerequisites: Fire Mechanics 2, Information Technology.  
 Telecommunications, emergency warning and evacuation systems, communication process, computer systems.

**TT320 Fire Investigation**

Prerequisites: Fire Safety Management 1, Fire Fighting Equipment & its Application, Principles of Fire Behaviour.  
 Fire scene preservation, interview techniques, electrical causes, gas appliances, insurance industry, fire facilities, arson investigation, forensic analysis, fire photography, on scene investigation.

**TT321 Fire Safety Management 2**

Prerequisites: Fire Safety Management 1, Fire Fighting Equipment & its Application, Principles of Fire Behaviour.  
 Arson, human behaviour — concept of panic, training staff, fire drills and exercises, communications in building emergencies, emergency procedures, building evacuations, bomb threat management, major installations specification, fire safety policy, management of hazardous work practices, technical specifications, fire investigation.

**TT322 Hazard Management**

Prerequisites: Fire Safety Management 1, Fire Fighting Equipment & its Application, Principles of Fire Behaviour.  
 Structure and layout of oil refineries and petroleum depots, hazards from product release, computer installations, fire fighting in and near electrical installations, fire fighting on board ships, aircraft fires, airfield firefighting.

**TT323 Material Science 1**

Prerequisites: Fire Safety Management 1, Firefighting Equipment & its Application, Principles of Fire Behaviour.  
 Fundamental properties of materials, tests for fire properties, fire properties of structural elements, structural fire resistance tests, arbitrary vs fundamental properties, lining material selection, physical/chemical properties of materials, fire retardants and smoke suppressants, intumescent.

**TT324 Emergency Management**

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

**TT327 Sales and Marketing**

Prerequisite — Communication Skills  
 Role and function of salesperson, motivation, selling concepts, selling support commitment, after-order service, terms and documentation, marketing organisation strategy and research.

**TT330 Building Structures 3**

Prerequisites: Principles of Fire Behaviour, Building Structures 2. Building fire safety, building safety during construction and demolition, building developments and trends versus fire safety, fire safety problems in high rise buildings, tunnels, bridges and buildings over highways, damage limiting construction.

**TT331 Material Science 2**

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

**TT332 Building Services 1**

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

**TT340 Fire Equipment Servicing 1A**

Classification and servicing of a range of portable fire extinguishers to required standard.

**TT341 Fire Equipment Servicing 1B**

Identification of fire hose, fire hose reel and liquid foam units and the service of these units.

**TT342 Fire Equipment Servicing 2**

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

**TT343 Specialist Fire Fighting Equipment**

Specialised appliance construction, layout, siting, safety requirements, training, maintenance, testing and operation.

**TT351 Fire Law 1**

Prerequisites: Communication Skills 1, Information Technology, Middle Management Practices 1. Limitations of law, successful laws, history of common law, Victorian law, development of the Australian legal system, parliament, 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 rural/urban and forest/urban interface.

**TT361 Agricultural & Forestry Practices in Fire Management**

Prerequisite: Principles of Fire Behaviour. Fire Fighting equipment and its application, objectives of fire management, fire buffer zones, linear fire breaks, foam and forestry management and operations.

**TT370 Environmental Safety 1**

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

**TT371 Special Hazards**

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

**TT372 Occupational Hygiene Measurement**

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

**TT402 Suppression Systems Design 2**

Prerequisite: Suppression Systems Design 1. Choosing a suppression system, sprinkler system design, variations on standard sprinklers.

**TT403 Suppression Systems Design 3**

Prerequisite: Suppression Systems Design 1. Halon systems, carbon dioxide systems, high expansion foam systems, chemical powder systems, hand extinguishers, saponification systems.

**TT410 Radio Systems**

Prerequisites: Fire Mechanics 2, Information Technology. Radio systems, video systems, mobile control units.

**TT411 Fire Alarm Systems**

Prerequisite: Communication Technology. Fire alarm systems, fire alarm systems and attached devices, fire station alerting equipment, unmanned detectors.

**TT412 Communication Centres**

Prerequisites: Fire Mechanics 1, Information Technology. Introduction to communication technology: unification, design, fire fighting equipment and procedures.

**TT432 Building Services 2**

Prerequisite: Building Services 1. Building transport services, heating, ventilation, air conditioning.

**TT451 Fire Law 2**

Prerequisite: Fire Law 1. Statutory law, statutory interpretations, delegated legislation, controlling delegated legislation, standards, history of negligence, modern negligence, rescue cases, origins of fire related law, MFB Act, CFA Act, statutory limitations to negligence, evidence.

**TT460 Rural Fire Prevention**

Prerequisites: Rural Fire Behaviour, Agricultural and Forestry Practices in Fire Management. Principles and practice of fire prevention, fire prevention legislation, fire prevention planning and management, community fire hazard mapping, environment considerations.

**TT461 Rural Fire Suppression**

Prerequisites: Rural Fire Behaviour, Agricultural and Forestry Practices in Fire Management. Fire ground organization, fire control, suppression equipment, techniques of fire suppression, personnel safety and survival, post fire administration.

**TT470 Environmental Safety 2**

Prerequisites: Environmental Safety 1. Stress types, lighting, industrial noise, heat stress, radiation effects, bioactive and infectious hazards.

**TT501 Advanced Applied Mathematics 1**

Prerequisite: Fire Mechanics 1 & 2. Exponentials, trigonometry, hyperbolics, series, vectors analytical geometry, graphing techniques, differential calculus.

**TT502 Advanced Applied Mathematics 2**

Prerequisite: Advanced Applied Maths 1. Integral calculus, complex numbers, differential equations, statistics, linear algebra.

## 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:

<b>3212EFG</b>	Fitting and Machining
<b>3212EJD</b>	Boilermaking and Structural Steel Fabrication

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

### Technician courses

#### M34EEF Mechanical

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

#### M34EFA Production

This course has a set of core subjects and a selection of specialist elective subjects.

These courses provide training in the mechanical and production fields. Several courses are available within each field, and they provide valuable training for apprentices and tradespersons who wish to further their studies.

Apprentices, who are taking a technician course concurrently with their trade training, will be required to attend evening classes in addition to daytime trade training. Tradespersons who undertake a technician course will be required, as a general rule, to attend classes on two evenings per week. Some subjects are available in the day-time for students who can arrange release from work.

The usual duration of a technician course is four years.

### Post-apprenticeship courses

#### 4200EFE Post-Apprenticeship Course in Toolmaking

Press-toolmaking is a post-apprenticeship (Fitting and Turning) course designed to provide advanced training in the area of die manufacture and design for tradespersons.

Classes are available during the day and evening.

This course involves 3 years of study, the first year being common to all Toolmaking streams and can be studied in the 3rd year of the Fitting and Turning course. The following two years include theory/practical training in Press-tool manufacture and design. A certificate is awarded on completion of the course.

### Welding courses

#### M42EPA TAFE Basic Welding Certificate Course

This course will qualify people for the welding industry where a basic welding skill only is required.

The course also provides basic instruction for progression to the TAFE Intermediate Welding Certificate Course.

#### M42EJB Electric Welding — Post-trade

The welding courses cover the syllabus prescribed by the TAFE Board to give instruction in all branches of electric arc welding.

With a pass mark of sixty-five per cent in both theory and practice, a certificate from the Ministry of Employment and Training (Technical Services Branch) for the welding of pressure vessels may be obtained by the applicant, subject to satisfactory evidence of suitable industrial experience.

Courses incorporate

Welding of ferrous and non-ferrous metals, flame cutting and gouging, all-positional welding of plate pipe, rolled and hollow steel section, use of all types of electrodes, weld testing.

For arc welding, courses are available for instruction in pressure pipe and stainless steel pressure plate to DLI 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 1.00pm to 9.00 pm and at other selected times. Further information: 819 8079

### Apprenticeship courses

#### 3212ERA/M Certificate of Engineering1 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

- The course consists of three main areas:
  - Broad Base
  - Core (prerequisites for electives)
  - Electives
- 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.
- Swinburne TAFE has devised a course that should suit most students with some flexibility in the elective area.
- Each module should take approximately 40 hours to complete.

**Module details**

**Broad Base (compulsory modules)**

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

**Core prerequisites**

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

**Possible elective streams**

**Toolmaking stream**

<b>NM02</b>	Milling 2
<b>NM21</b>	Precision Measurement
<b>NM18</b>	Grinding 2 (Cylindrical Grinding)
<b>NM51</b>	Precision Machining
<b>NM20</b>	Tool & Cutter Grinding
<b>NM21</b>	Precision Measurement
<b>NM09</b>	CNC Machining
<b>NM10</b>	CNC Turning 1
<b>NM12</b>	CNC Milling 1

**Advanced Machining stream**

<b>NM02</b>	Milling 2
<b>NM21</b>	Precision Measurement
<b>NM18</b>	Grinding 2
<b>NM51</b>	Precision Machining
<b>NM27</b>	Turning 3

**Maintenance Fluid Power**

<b>NM28</b>	Fitting Techniques 2
<b>NBB11</b>	Mechanical Components
<b>NM30</b>	Fluid Power
<b>NM22</b>	Machine Repair and Installation
<b>NM29</b>	Mechanical Power and Transmissions

Core and elective modules have been chosen from the following list of National Metals and Engineering modules.

<b>NM01</b>	Milling 1
<b>NM02</b>	Milling 2
<b>NM03</b>	Milling 3
<b>NM04</b>	Miscellaneous Machines
<b>NM05</b>	Engineering Calculations
<b>NM06</b>	CAD 1
<b>NM07</b>	Principles of Machining
<b>NM08</b>	Engineering Materials
<b>NM09</b>	CNC Machining
<b>NM10</b>	CNC Turning 1
<b>NM11</b>	CNC Turning 2
<b>NM12</b>	CNC Milling 1
<b>NM13</b>	CNC Milling 2
<b>NM14</b>	Robots
<b>NM15</b>	Fitting Techniques 1
<b>NM16</b>	Drills and Drilling Machines
<b>NM17</b>	Grinding 1
<b>NM18</b>	Grinding 2
<b>NM19</b>	Tool Sharpening — off-hand
<b>NM20</b>	Tool & Cutter Grinding
<b>NM21</b>	Precision Measurement
<b>NM22</b>	Machine Repair and Installation
<b>NM23</b>	Plant Conditioning and Monitoring
<b>NM24</b>	Turning 4
<b>NM25</b>	Turning 1
<b>NM26</b>	Turning 2
<b>NM27</b>	Turning 3
<b>NM28</b>	Fitting Techniques 2
<b>NM29</b>	Mechanical Power Transmission
<b>NM30</b>	Fluid Power
<b>NM31</b>	Pneumatics 1
<b>NM32</b>	Hydraulics 1
<b>NM33</b>	Fluid Power Control 1

<b>NM34</b>	Air Compression Distribution
<b>NM36</b>	Introduction to Heat Transfer
<b>NM37</b>	Steam Plant
<b>NM39</b>	Engines 1 — Spark Ignition
<b>NM40</b>	Engines 2 — Med Diesel
<b>NM41</b>	Engines 3 — Large Diesel
<b>NM42</b>	Water Pumping
<b>NM43</b>	Pumps — Application & Maintenance
<b>NM44</b>	Engineering Drawing Interp. 2
<b>NM45</b>	Electrical Discharge Machining
<b>NM46</b>	Press Tool 1 — Introduction
<b>NM47</b>	Press Tool 2 — Blank & Pierce
<b>NM48</b>	Press Tool 3 — Bend
<b>NM49</b>	Press Tool 4 — Draw Dies
<b>NM50</b>	Press Tool 5 — Progressive Dies
<b>NM51</b>	Precision Machining
<b>NM52</b>	Moulds & Cavity Dies — Introduction
<b>NM53</b>	Moulds & Cavity Dies 1
<b>NM54</b>	Moulds & Cavity Dies 2
<b>NM55</b>	Moulds & Cavity Dies 3
<b>NM56</b>	Moulds & Cavity Dies 4
<b>NM57</b>	Hydraulics 2
<b>NM58</b>	Hydraulics 3
<b>NM59</b>	Hydraulics 4
<b>NM60</b>	Pneumatics 2
<b>NM61</b>	Pneumatics 3
<b>NM62</b>	Pneumatics 4
<b>NM63</b>	Fluid Power Control 2
<b>NM64</b>	Press Tool — Drawing

**Certificate of Engineering/Mechanical**

**Broad Base modules**

<b>NBB01</b>	Communication skills orally, written and research skills, industrial relations, workings of unions and management.
<b>NBB02</b>	Legal requirements with regard to OH&S — Safety, housekeeping, sources of pollution.
<b>NBB04</b>	Computer applications in engineering, components of computers, keyboard skills training in spreadsheet, database and CAD.
<b>NBB05</b>	Principles of quality control, systematic procedures of quality control.
<b>NBB06</b>	Basic operations on lathe, milling machine, cut-off saws and bench work.
<b>NBB07</b>	Use of hand and power tools.
<b>NBB08</b>	Safety in electricity, fundamentals, components, lab equipment.
<b>NBB09</b>	Welding, fusion, soft solder, brazing, cutting using oxy acetylene, manual arc, gas metal arc.
<b>NBB12</b>	Interpretation of engineering drawing, orthographic, isometric, oblique. Sketching to AS1100.
<b>NBB13</b>	Basic mathematics, engineering physics, engineering physics, engineering materials.
<b>NM08</b>	Steel, heat treatment, plastics, processes of production of materials.
<b>NM15</b>	Fitting using scrapers and reamers and dowels, pins, pegs and other fabrication methods.

**Core modules (prerequisites)**

<b>NM01</b>	Basic milling operations for both vertical and horizontal milling machines including keyway cutting, indexing, form milling etc.
<b>NM05</b>	Engineering calculations including use of calculator right angle triangle problems, manipulation of algebraic expressions sine and cosine rules.
<b>NM07</b>	Advanced cutting tool geometry.
<b>NM16</b>	Types, function and use of drills and drilling machines.
<b>NM17</b>	Surface grinding flat square angled parallel grooves etc. to a high degree of accuracy.
<b>NM19</b>	Grinding of lathe cutting tools and drills using off-hand grinding methods.
<b>NM25</b>	Basic parallel turning to toleranced drawings.
<b>NM26</b>	Advanced turning of tapers parallels form tuning face plate work and use of steadies.
<b>NM44</b>	Advanced engineering drawing interpretation formal 3rd angle projection drawing, sectioning, detail drawing, assembly drawing.

### 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	Hours week
TF601	Module 1 — Theory and Practice
TF602	Module 2 — Theory and Practice
TF603	Module 3 — Theory and Practice
TF604	Module 4 — Theory and Practice
TF605	Module 5 — Theory and Practice
TF606	Module 6 — Theory and Practice
TF607	Module 7 — Related Instruction
TF608	Module 8 — Related Instruction
TF609	Module 9 — Theory and Practice
TF610	Module 10 — Theory and Practice
TF611	Module 11 — Related Instruction
TF612	Module 12 — Theory and Practice
TF613	Module 13 — Theory and Practice
TF614	Module 14 — Theory and Practice
TF615	Module 15 — Related Instruction
TF616	Module 16 — Related Instruction
TF617	Module 17 — Related Instruction
TF618	Module 18 — Related Instruction
TF619	Module 19 — Theory and Practice
TF620	Module 20 — Theory and Practice
TF621	Module 21C — General Fabrication
TF622	Module 22C — General Fabrication
TF623	Module 23C — General Fabrication
TF624	Module 24C — General Fabrication
TF650	Module 21A — Structural
TF651	Module 22A — Structural
TF652	Module 23A — Structural
TF653	Module 24A — Structural
TF654	Module 21B — Pressure Vessel
TF655	Module 22B — Pressure Vessel
TF656	Module 23B — Pressure Vessel
TF657	Module 24B — Pressure Vessel

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### 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:

- protecting the consumer against the purchase of faulty manufactured goods,
- 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:

- Satisfactory completion of Year 11 or equivalent course comprising two semesters' units of mathematics and two semesters' units of english.
- 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

18

#### Compulsory specialist stream subjects (part time study)

TM127	Statistics	1 unit
TF197A	Statistical Quality Control A	1
TF197B	Statistical Quality Control B	1
TF195	Organisation and Management for Quality A	1
TF196	Organisation and Management for Quality B	1

#### Broadening subjects

One broadenina subject must be selected

Total 24

### 3500EEB Associate Diploma in Manufacturing Engineering: Quality Technology

#### Entry standards

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

- Satisfactory completion of Year 12 or equivalent course comprising two semesters' units of mathematics and two semesters' units of english
- 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

18

## Elective specialist stream subjects

Four electives must be selected from the following specialist stream subjects.

TF297	Statistical Quality Control 11	1
TF340	Principles of Measurement	1
TF317	Dimensional Metrology	1
TF253	Computer Appreciation and Applications to Quality Control	1
TF462	Reliability and Prototype Testing	1
TF464	Product Liability and Product Recall Management	1
TF465	Quality Control Systems and their Assessment	1
TF467	Human Factors	1

## 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	1 unit
TM197A	Statistical Quality Control A	1 unit
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 3212EFG 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.

## Awarding

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

## 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	Units	
TD001	Engineering Practice 1A	1
TD002	Engineering Practice 1B	1
TD003	Engineering Practice 2A	1
TD004	Engineering Practice 2B	1
TD005	Engineering Practice 3A	1
TD006	Engineering Practice 3B	1
TD007	Engineering Processes	1
TD014	Engineering Materials 1A	1
TD015	Engineering Materials 1B	1
TD016	Engineering Drafting 1A	1
TD017	Engineering Drafting 1B	1
TD021	Engineering Principles 1B	1
<b>Sub Total</b>		<b>12</b>

Compulsory Subjects	Units	
TD024	Applied Mechanics 1A	1
TD025	Applied Mechanics 1B	1
TD026	Applied Mechanics 2A	1
TD027	Applied Mechanics 2B	1
TD023	Statics	1
<b>Sub Total</b>		<b>5</b>

## Broadening Subjects

One broadening unit must be selected.

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

TD010	Engineering Computations 1A
TD011	Engineering Computations 1B
TD012	Computer Studies
TD018	Communication Skills 1A
TD019	Communication Skills 1B
TD020	Engineering Principles 1A

### 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		Units
TD031	Mechanical Design and Drafting 1A	1
TD032	Mechanical Design and Drafting 1B	1
TD034	Mechanical Design 2A	1
TD035	Mechanical Design 2B	1
TD036	Mechanical Design 3A	1
TD037	Mechanical Design 3B	2
Sub Total		7

#### Broadening Subjects

Five broadening subjects must be selected.

5
Total <span style="border-top: 1px solid black;">36</span>

### 3500EEA Associate Diploma of Engineering (Mechanical)

#### Course structure

May be studied on a full-time or part-time basis.

In addition to the subjects studied in the Advanced Certificate (Mechanical Engineering), the following are to be undertaken:

Compulsory Subjects		Units
TD031	Mechanical Design and Drafting 1A	1
TD032	Mechanical Design and Drafting 1B	1
TD034	Mechanical Design 2A	1
TD035	Mechanical Design 2B	1
TD028	Applied Mechanics 3A	1
TD029	Applied Mechanics 3B	1
TD030	Final Project (Applied Mechanics)	1
Sub Total		7

#### Broadening Subjects

Five broadening subjects must be selected.

5
Total <span style="border-top: 1px solid black;">36</span>

### 3300EEN Advanced Certificate in Manufacturing Engineering

#### Course Structure

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

Compulsory Subjects		Units
TD039	CAD/CAM Basic	1
TD041	Robotics	1
TD040	CAD/CAM Advanced	2
Sub Total		4

#### Elective Subjects

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

TD048	Metrology 1AB	2
TD055	Numerical Control 1	2
TD056	Numerical Control 2	2
TD046	Materials Handling 1A	1
TD047	Materials Handling 1B	1
TD052	Jig and Tool Drafting 1A	1
TD053	Jig and Tool Drafting 1B	1
TD050	Fluid Power 1	1
TD051	Fluid Power 2	1
Sub Total		2
Total		24

### 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		Units
TD039	CAD/CAM Basic	1
TD041	Robotics	1
TD040	CAD/CAM Advanced	1
TD042	Production Planning and Control 1A	1
TD043	Production Planning and Control 1B	1
TD044	Production Planning and Control 2A	1
TD045	Production Planning and Control 2B	1
Sub Total		8

#### Elective Subjects

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

TD048	Metrology 1 A/B	2
TD055	Numerical Control 1	2
TD056	Numerical Control 2	2
TD046	Materials Handling 1A	1
TD047	Materials Handling 1B	1
TD052	Jig and Tool Drafting 1A	1
TD053	Jig and Tool Drafting 1B	1
TD050	Fluid Power 1	1
TD051	Fluid Power 2	1
Sub Total		4

#### Broadening Subjects

Six broadening units must be selected.

6
Total <span style="border-top: 1px solid black;">36</span>

### 4200EFE Post-apprentice Course in Toolmaking

#### Career potential

Students who have already completed an apprenticeship course will develop a higher level of ability in the theoretical and practical side of die making and developmental work which will enable them to enter more highly skilled and lucrative positions such as foreman/forewoman and leading hands in a very wide variety of manufacturing industries.

#### Prerequisites

Satisfactory completion of a Fitting and Turning apprenticeship course.

#### Course structure

The course is of three years duration and available both day and evening, i.e. one half-day or two evenings per week.

Exemptions will be offered to those students who have successfully completed the first year of a toolmaking elective through their Fitting and Turning apprenticeship. With these exemptions, the course can be reduced to two years duration.

#### Area of study

**1st stage**  
TFT01F-TFT15F level 3 (toolmaking stream)  
Fitting and Turning course.

**2nd stage**  
TF511F Press-toolmaking Theory 1  
TF512F Press-toolmaking Prac. 1

**3rd stage**  
TF513F Press-toolmaking Theory 2  
TF514F Press-toolmaking Prac. 2

**Welding courses****3222EPA Certificate in Basic Welding****Objectives**

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

**Course content**

The course content is stated as training objectives based on the Systems Approach to training. All objectives are performance objectives.

The course consists of six modules. Modules 1 to 4 are practice and modules 5 and 6 are theory.

The nominal duration of the course is 2 x 120 hour semesters.

**Entry level**

To obtain entry to this course the student must be not less than fifteen years of age on the first day of the course.

The student must also have basic written and oral English.

Course structure	Module
TW001 Manual Metal Arc Welding	1
TW002 Gas metal Arc Welding	2
TW003 Flame Cutting and Gouging	3
TW004 Flame Gas Welding	4
TW005 Practice Associated Theory	5
TW006 Additional Theory	6
TW025 Basic Welding Exam	25

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

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

**Course content**

The course is stated in training objectives based on the Systems Approach to training.

The course consists of six modules. Modules 7 to 10 are practice and modules 11 and 12 are theory.

The nominal duration of the course is 2 x 120 hour semesters.

Consistent with the Systems Approach to training this will vary with the individual ability of each student.

**Entry level**

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

**Course structure**

TW007	Manual Metal Arc Welding. Butt and Fillet welds various positions.
TW008	Gas Metal Arc — Flux Cord Arc Welding. Pipe butt — Fillet and Butt Stainless Steel.
TW009	Gas Tungsten Arc Welding. Fillet and Butt Low Carbon Steel. Flat butt Aluminium.
TW010	Allied Cutting Processes. Plasma — machine bevelling pipe plate.
TW011	Practice Associated Theory. Electric current — Electrodes — Weld Preparations — Testing filler rods.
TW012	Additional Theory. Iron and steel — production — elements. Preheating. Stainless steel — Aluminium — Copper and copper alloys.

**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**

TW013	Module 13. Manual Metal Arc Welding Horizontal fillet multi pass hydrogen controlled electrodes Vertical fillet multi pass hydrogen controlled electrodes Horizontal butt single vee hydrogen controlled electrodes Overhead butt single vee hydrogen controlled electrodes Pipe butt axis vertical Vertical fillet multipass — Cr/Ni steel
TW014	Module 14. Submerged Arc Welding Flat fillet multi pass Flat butt double welded
TW015	Module 15. Gas Metal Arc Flux cored Arc Welding Vertical fillet aluminium — GMAW Horizontal butt aluminium — FCAW Rolled section to plate — GMAW
TW016	Module 16. Gas Tungsten Arc Welding Horizontal fillet — aluminium Pipe butt axis vertical
TW017	Module 17. Prac Associated Theory Submerged arc machines — applications etc. Shielding gases — GMAW — GTAW Applications characteristics
TW018	Module 18. Additional Theory. Welding economics and costing — Cast iron types — weldability Heat Treatment Mechanical properties of materials.

**Special subject****Electric Welding**

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

TF415 Electric Welding Special

**Hobby courses****Engineering Workshop Practice**

This is an evening hobby course in basic machine shop practice for the enthusiast. It provides the opportunity to acquire sufficient skill to undertake simple design and manufacture of projects.

**Hobby Welding**

An elementary welding course designed to meet the needs of hobby welding enthusiasts. It provides the opportunity to acquire sufficient skill to proceed from simple household repairs to the design and manufacture of projects.

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 production quality control processes, control charts of 20 and 30 items, charting, item sampling inspection, operating characteristic curves, inspection levels and severity.

### TF253 Computer Appreciation and Applications to Quality Control

This subject provides an appreciation of the range of uses and applications of computers in quality control work, in the concepts of computer, BASIC, FORTRAN and COBOL programming microprocessors, computer graphics, use of computer packages in quality control.

### TF297 Statistical Quality Control 2

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

### TF317 Dimensional Metrology

Precision measuring techniques and application of principles of measurement. Length metrology (standards and gauges), lathe assessment, a to-colour and alignment telescope, surface texture roundness, squareness and parallelism, co-ordinate measurement.

### TF383 Material Cutting Technology

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

### TF385 Training Techniques

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

### TF462 Reliability and Prototype Testing

Introduces the concepts and techniques of reliability and looks at the application of basic reliability analysis techniques to technical, administration and managerial areas of quality control. Also covers aspects relating to timing in application of reliability methods and the reporting of results.

### TF463 Quality Costs and Budgeting

The economic aspects of production quality and quality control systems. Collection and analysis of quality cost data, quality cost indices, quality improvement and cost reduction, budgeting process, planning and operating the budget.

### TF464 Product Liability and Product Recall Management

Provides a general appreciation of the legal responsibilities associated with quality control and methods adopted to meet these responsibilities. Current legislation, protection procedures, Australian design rules and standards recall process, documentation systems.

### TF465 Quality Control Systems and their Assessment

The concepts and techniques of quality system audit, calibration system requirements, quality control system assessment concepts, contractor/supplier quality requirements, customer/supplier agreement of quality control assessment. AS2000, quality control system and product audits.

### TF467 Human Factors

A study of the relationship between human factors and quality control. Ergonomics, motivation programs, job design and job quality, planning for people.

### TF485 Hydraulics and Pneumatics

There are three main areas covered in these units: (i) terminology and graphic symbols, (ii) transmission mediums, and (iii) operating principles.

### TD001/0021003 Engineering Practices 1

These first three units deal with all common engineering workshop practices. Safety, marking out, hand tools, cutting fluids, lathe, milling machine, drilling machine, grinding machines.

### TD004 Engineering Practices 2B

Workshop safety. Welding practices and associated equipment. Inspection and testing of welds, methods of costing of welding.

### TD005 Engineering Practices 3A

Principles of fluid power. Components in use and symbols. Principles of flow, pressure and its measurement. Building of simple circuits and troubleshooting.

### 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. Peripheral equipment. Input and output, principle of networking. Basic programming and application packages.

### TD014 Engineering Materials 1A

The understanding of the properties, testing and uses of engineering materials; the structure and solidification of metals; mechanics of corrosion.

### TD015 Engineering Materials 1B

The heat treatment of plain carbon steels; cast iron; alloy steels. Aluminium, copper, magnesium, nickel, zinc, lead, tin and other alloys; plastics; adhesives.

### TD016 Engineering Drafting 1A

Use of office furniture and equipment; basic drafting skills; drafting practices as per Australian Standards; types of fasteners.

### TD017 Engineering Drafting 1B

Basic mechanisms and their applications, detail drawings, assembly drawings, auxiliary views, basic solid geometry.

### TD018 Communication Skills 1A

### TD019 Communication Skills 1B

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

### TD020 Engineering Principles 1A

Forces, vectors, kinematics of linear, curvilinear and circular motion, Newton's Laws, kinetics of motion.

### TD020 Engineering Principles 1B

Moments, torque, friction, equilibrium, work energy and power, momentum, machines, sound.

### TD023 Statistics

The study of mathematical and graphical methods of determining reactions, forces and conditions of equilibrium in static systems.

### TD024 Applied Mechanics 1A

### TD025 Applied Mechanics 1B

Strength of materials, basic beam and column design, springs, use of commercial steel catalogues, A S codes, C A M operation and profile.

**TD026 Applied Mechanics 2A**

**TD027 Applied Mechanics 2B**

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

**TD028 Applied Mechanics 3A**

Revision and extension of the principles of mechanics and the application of appropriate codes to the selection and design of machine elements; in particular those allied to power transmission.

**TD029 Applied Mechanics 3B**

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

**TD030 Applied Mechanics — Final Project**

This project is aimed at ensuring that all graduates have achieved the skills, knowledge and levels of understanding required to function as a T.O. or Eng. Assistant.

**TD031 Mechanical Design and Drafting 1A**

Drafting practices extended; use of bearings, their lubrication and application; belt and chain drives; brakes and clutches, functional design of mechanical components in assemblies.

**TD032 Mechanical Design and Drafting 1B**

Layout of steelwork drawings; connection methods; functional design of supports, guards, frames for mechanical equipment, platforms, ladders; corrosion protection.

**TD033 Mechanical Design and Drafting 1C**

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

**TD034 Mechanical Design 2A**

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

**TD035 Mechanical Design 2B**

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

**TD036 Mechanical Design 3A**

Extension of knowledge in the analytical design of product and general plant and the use of reference material codes and catalogues.

**TD037 Mechanical Design 3B Products and Mechanical Plant**

Further analytical design and selection of multi-element systems, manufacturing methods and design costing.

**TD039 CAD/CAM Basic**

Topics include; introduction to automation, the computer, the role of the computer in manufacturing, numerical control.

**TD040 CAD/CAM Advanced**

Extension of the topics in CAD/CAM basic in more depth and detail.

**TD041 Robotics**

Includes the following components related to industrial robotics: Description, definitions, safety of operation, work layouts, tooling and end effectors, installation costs, understanding of the robots' actuators and various types of programming.

**TD042 Production Planning and Control 1A**

The nature and purpose of production control. The organisation and the functions within the production department. Preparation of forecasts, schedules, machine loading and inventory control.

**TD043 Production Planning and Control 1B**

Production control systems, work estimating, manufacturing authorisation, preparation together with material control.

**TD044 Production Planning and Control 2A**

The production function and its relationship with organisational policies. Budgeting and control, capacity analysis, planning techniques and quality control.

**TD045 Production Planning and Control 2B**

Production layouts, materials handling systems for factory situations, Computer applications in production. Group technology.

**TD046 Materials Handling 1A**

Principles of materials handling, types of equipment. Planning and layout. Cost factors. Functions in manufacturing and warehousing. Acts and regulations.

**TD047 Materials Handling 1B**

Legal handling and storage requirement. Storage technology and costs. Mobile road handling, load measuring and power drives in handling.

**TD048 Metrology 1A**

An introduction to fine measurement using length standards, comparators, and limit gauges. The identification of errors in fine measurement.

**TD049 Metrology 1B**

The fine measurement of lengths and angles. The testing of straightness, flatness, squareness and surface texture. The use of optical projection.

**TD050 Fluid Power and Applications**

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

**TD051 Fluid Power and Applications**

The use of hydraulics. Components, symbols, control materials and design of circuits using calculations for component sizing and selection.

**TD052 Jig and Tool Drafting 1A**

Planning techniques. The principles of jig and fixture design. The design of a drill jig and drawing to Australian Standards.

**TD053 Jig and Tool Drafting 1B**

The elements of milling and turning fixtures. The design of a milling fixture and turning fixture and drawing to Australian Standards.

**TD055 Numerical Control 1**

Introduction to numerical control. The planning procedure, preparation and writing of manual part programs for a CNC lathe and machining centre.

**TD056 Numerical Control 2**

Introduction to computer assisted programming. Geometry and motion statements, post processor statements and operation system manipulation.

**TD058 Thermodynamics A**

Theory and applications related to generation and use of steam and transfer, selection of air compressors and internal combustion and combustion of fuels.

**Boilermaking**

**TF601 Module 1**

Introduction to hoisting, lifting and lowering by hand, stacking materials correctly, identification and use of electrical switches, selection and method of slinging, crane hand signals.

**TF602 Module 2**

Calculation of circumferences and diameters of circles, marking out constructions, identification and use of fire extinguishers, oxyacetylene welding and cutting. Safety precautions for confined spaces, hazardous locations and containers.

**TF603 Module 3**

Identification of rolled steel sections, proper use of hand tools. Hand straightening and levelling, press straightening, shearing, cropping and punching. Use of power hacksaw. Drilling, sharpening hand tools and drills.

**TF604 Module 4**

Flame-cutting, bevelling and piercing by hand, flame-cutting various sections and welding preparations. Straight line flame cutting machine, profile flame-cutting machine, flame-cutting processes, machines and applications.

**TF605 Module 5**

Protective clothing and accessories for electric welding. Selection of electrodes by classification, electric welding techniques and exercises. 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 bronzing.

**TF607 Module 7**

Trade drawing and related instruction. 1st and 3rd angle projection. Fundamentals of drawing practice, dimensioning welding symbols. Plane geometrical construction, parallel lines, angles. Development principles, development of various shapes.

**TF608 Module 8**

Exercises in surface development, views and projection symbols. Representation of rolled steel sections. Methods and types of dimensions. Dimension, cross section and symmetry lines. Welding symbols. Materials list.

**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 pad, butt, plate to sections.

**TF615 Module 15**

Gases for MIG and TIG welding. Arc welding techniques on MIG, TIG and submerged arc. MIG fillet and butt welds. TIG welding outside corner, submerged arc butt weld. Arc-air gouging.

**TF616 Module 16**

Development of flat and curved surfaces. exercises in the development of oblique cylinder, pipe gusset, conical sections, off-set hoppers, rectangular to round transition pierce, lobster-back bend pipe branch templates.

**TF617 Module 17**

Lift and Cranes Act 1967 and regulations, wire ropes, fibre ropes, chains. Slings and lifting loads. Calculations on basic machines.

**TF618 Module 18**

Heat treatment, heating and temperature measurement. Trade materials, properties and uses. Steels for pressure vessels and structural purposes.

**TF619 Module 19**

Testing, destructive and non-destructive. Welding practice, fillet and butt welds HV vertical and horizontal. Pipe butt weld axis horizontal. MIG fillet welding.

**TF620 Module 20**

Use of numerical control machines in the metal fabrication industry. High strength structural bolting. Fabrication of bolted splice joint.

**Alternative Modules — General Fabrication 21C-24C****TF621 Module 21C**

Marking off and laying out.

**TF622 Module 22C**

Fabricating.

**TF623 Module 23C**

Assembly.

**TF624 Module 24C**

Welding, bolting, testing and inspection of completed job. Fabrication models in the General Fabrication Stream are:

- Two flight right hand conveyor screw
- 30° set-on pressure pipe branch off-set
- Stairway and handrail
- Aggregate screen loading chute
- 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:

- Portal frame
- Conveyor bridge
- 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:

- 30° set-on pressure pipe branch
- 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.

**TW005 Module 5 (Practice Associated Theory)**

Safety when welding and cutting. Electrodes positions and classification. Welding terms. Types of welded joint. Weld defects. Flame cutting faults and remedies.

**TW006 Module 6 (Additional Theory)**

Welding processes. Power sources. Safety. Care of equipment. Codes related to welding. Types of fuel gases distortion. Weld symbols.

**Intermediate Welding Modules**

**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-horizontal fillet (GMAW) stainless steel flat butt (GMAW).

**TW009 Module 9 (Gas Tungsten Arc Welding)**

Various butt welds in steel. Flat butt weld in Aluminium.

**TW010 Module 10 (Cutting Processes)**

Plasma cutting. Flame pipe bevelling by machine. Mechanical bevelling.

**TW011 Module 11 (Prac Associated Theory)**

Welding current. Electrodes. Preparations for welding. Plasma and Laser cutting processes. Destructive and Non-destructive testing.

**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.

**Proficiency Welding Course**

**TW013 Module 13 (Manual Metal Arch Welding)**

Fillet and butt welds with Hydrogen controlled electrodes. Vertical fillet — Chrome, Nickel, Steel.

**TW014 Module 14 (Submerged Arc Welding)**

Flat fillet. Flat butt.

**TW015 Module 15 (Gas Metal An: Welding/Flux Cored Arc Welding)**

Vertical Fillet Aluminium (GMAW). Horizontal butt (FCAW). Rolled section to plate (GMAW).

**TW016 Module 16 (Gas Tungsten Arc Welding)**

Horizontal fillet Aluminium. Pipe butt Axis vertical.

**TW017 Module 17 (Practice Associated Theory)**

Submerged Arc Welding, application, twin tandem. Shielding gases. GMAW/FCAW/GTAW.

**TW018 Module 18 (Additional Theory)**

Welding economics and costing. Cast Iron — types, characteristics, weldability. Heat treatment — applications, temperature measuring devices, Mechanical properties.

**TW025 Module 25 (Basic Welding Exam)**

This test is to be taken after successful completion of modules 1 to 6 inclusive.

Theory 100 minutes

Practice 4 hours

After the successful completion of this test, application may be made for the TAFE Basic Welding Certificate.

**TW027 Module 27 (Proficiency Welding Exam)**

This test is to be taken after the successful completion of Modules 13 to 18 inclusive.

Theory 3 hours

Practice 4 hours

After the successful completion of this test, application may be made for the TAFE Proficiency Welding Statement of Attainment.

**Centre for Engineering Technology:**

Authorised AutoCAD Training Centre

The Swinburne Centre for Engineering Technology is a high technology training and development centre. Its aim is to integrate the specialist disciplines within Swinburne, specialising in developing and conducting short courses in AutoCAD and CAD/CAM.

The Centre offers onsite training, consultancy and special prototype machining projects and development and sales of CAMPAC CAM software to industry and educational institutions.

Services to industry involves:

- Training
- Consultative interaction
- Research and development projects
- Prototype development

Current offerings in short courses 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 available for automated manufacturing industry through theory and practical demonstrations.
- Diagnostics and Servicing on CNC Machines  
The course is designed to give maintenance personnel first line diagnostics/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 program is used to produce moving displays on the computer screen for high quality presentation work for sales, meetings, etc.
- Robotics  
The use and safety of robots.

## 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.

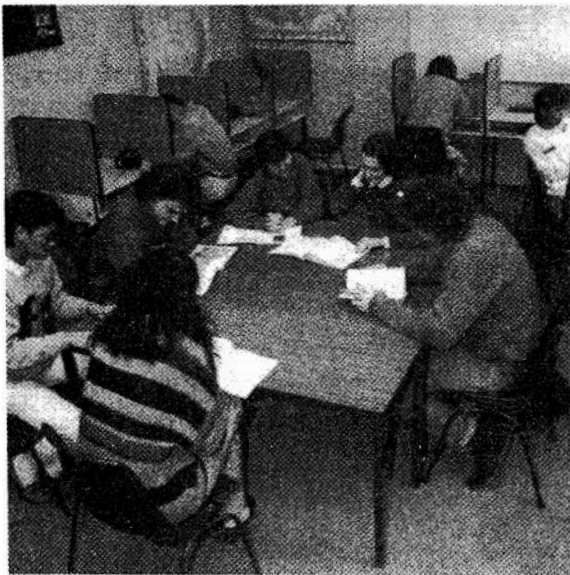
CAMPAC is a commercially available package.

## **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.

## further education and community services



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## Further Education and Community Services Division

### Head (Acting)

R. Carmichael, BA, BEd, TSTC

### Secretary

O. Chester, 819 8433

## Access Education Department

### Head (Acting)

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N. Moncrieff, BA, BEd, GradDipTESL

V. Reddaway, BA, DipEd, GradDipMulticulturalEd

M. Ridsdale, BA, BEd, GradDipTESL

M. Sutherland, BA, DipSocWork

### Secretary

S. Loughton, 819 8118

## General and Community Studies Department

### Head

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N. Backstrom, BA, MEd(Studies), TPTC, TSPTC

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S. Chakman, BA, DipEd

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N. Vallins, BA(Hons), SecTeachersDip

K. Wiltshire, BA, BEd

### Secretary

P. Hayward, 819 8370

## English Language Centre

### Director of Studies

A. Redpath, BA, DipEd, GradDipTESL

### Academic staff

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H. Lehey, BEd, RSA(TEFLA)

I. Lording, BSc, DipAppChem, DipEd, RSA(TEFLA)

### Secretary

H. Heathcock, 819 8595

## Workplace Skills Unit

### Manager

S. Naylor

### Secretary

G. Lyall, 819 8492

## COURSES OFFERED

### Access Education Department

Code	Title
4290LDJ	Volunteer Tutor Training
4290LVP	Vocational Preparation Program
2100LDO	Basic Studies Program
2100LZE	Vocationally-Oriented Evening Classes
2100LZT	Transition Program

### General and Community Studies Department

Code	Title
2200LZA	VCE
2200BZF	Arts Preparatory Program
2100LZD	Migrant English Access
3100MCB	Home Carers Trainina Course
3222KFA	Child Care Assistant"certificate Community Information Workers' Course
3500MDA	Associate Diploma of Social Science (Community Development)

## COURSE DETAILS

### Access Education Department

#### 4290LDJ Volunteer Tutor Training

Two courses of training are offered. One prepares volunteers to work on a one-to-one basis with adult students who need individual tuition in the basics of reading, writing and spelling. The second prepares volunteers to tutor mildly intellectually disabled adults in life-coping skills.

TR100	Basic Literacy
TR106	Life Skills

#### 2100LZE Vocationally-oriented Evening Classes

The course provides practical subjects for mildly intellectually disabled adults in the evening.

Subjects offered are:

TR120F	Fitting & Machining
TR121F	Literacy/Numeracy

#### 2100LZT Transition Program

Students attend for five days per week. The program encourages mildly intellectually disabled adults to develop their practical skills and to improve their levels of literacy, communication and independence, as well as offering practical work experience.

Subjects offered are:

TR112	Electrical Studies
TR113	Fitting and Machining
TR114	Home Economics
TR115	Literacy/Numeracy
TR117	Introduction to Computer
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**

<b>TR101</b>	English Workshop
<b>TR102</b>	Mathematics Workshop
<b>TR103</b>	Spelling Workshop
<b>TR107</b>	Volunteer Tutor Program (Adult Literacy)
<b>TR108</b>	Volunteer Tutor Program (Life Skills)
<b>TR145</b>	English Written Communication Skills (for the deaf)
<b>TR150</b>	Basic Mathematics for Women
<b>TR160</b>	Preparation for VCE

**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 educational facilities are available: these include library, audio-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 examination.

**Subjects**

<b>TG001F</b>	English Units 3 & 4
<b>TG002F</b>	Legal Studies
<b>TG003F</b>	Economics
<b>TG004F</b>	Accounting
<b>TG005F</b>	Physics
<b>TG006F</b>	Chemistry
<b>TG007F</b>	Biology
<b>TG008F</b>	Information Technology
<b>TG009F</b>	Media
<b>TG010F</b>	Literature
<b>TG011F</b>	Australian History
<b>TG012F</b>	Psychology
<b>TG013F</b>	Environmental Studies
<b>TG014F</b>	Political Studies
<b>TG015F</b>	Human Development in Society
<b>TG016F</b>	English Units 1 & 2
<b>TG031F</b>	Space and Number 3 & 4
<b>TG033F</b>	Reasoning & Data 3 & 4
<b>TG036F</b>	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:

<b>TH303</b>	Images of Australia through Film and Television
<b>TH306</b>	Research Skills
<b>TH307</b>	Argument & Analysis
<b>TH308</b>	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.

**2100LZD 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.

<b>TJ004</b>	English for Academic Purposes
<b>TJ005</b>	Further Listening & Speaking Practice
<b>TJ006</b>	Further Reading & Writing

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:

<b>TH310</b>	Infant and Child Development
<b>TH311</b>	Caregiving Skills
<b>TH312</b>	Children's Experiences
<b>TH313</b>	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:

<b>TH200F</b>	Australian Society — A Sociological Introduction
<b>TH201</b>	Community Development Theory and Practice 1
<b>TH202</b>	Community Development Theory and Practice 2
<b>TH203</b>	Community Development Workshop 1 — Study Skills/Return to Study
<b>TH204</b>	Community Development Workshop 2 — Information and Access
<b>TH205F</b>	Australian Economy
<b>TH206F</b>	Australian Political System — An Introduction
<b>TH207</b>	Community Development Workshop 3 — Interpersonal Skills
<b>TH208</b>	Introduction to Research
<b>TH209</b>	Research
<b>TH210</b>	Introduction to Social Policy
<b>TH211</b>	Community Development Theory and Practice 3
<b>TH212</b>	Community Development Theory and Practice 4
<b>TH213</b>	Community Development Workshop 4 — Groups
<b>TH214</b>	Community Development Workshop 5 — Societal Communication
<b>TH215</b>	Poverty and Social Security
<b>TH216F</b>	Field Work
<b>TH217F</b>	Ageing in Australian Society
<b>TH218F</b>	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.

#### English as a Second Language (ESL)

Although no longer a separate subject, a special English course conducted within VCE English guidelines will cater specifically for students whose first language is not English. Students may apply to be assessed under VCAB ESL guidelines if they have been living in Australia for less than six (6) years and their first language is not English.

#### 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 **vernment management** of the Australian economy. Management is **reflected in both micro-ec** and macro-economic policy and seeks to achieve, as far as possible, the objectives of the economy.

#### TG004F Accounting

Unit 3: Double Entry Accounting for Service Firms

This unit introduces double entry accounting procedures for recording from verifiable evidence. This system is supported by the accrual method of recognition of revenue and expense. The unit focuses on service firms: those firms which rely predominantly on the skill or expertise of personnel to satisfy client needs.

Unit 4: Double Entry Accounting for Trading Firms

This unit focuses on the further development of double entry accounting procedures through the introduction of trading firms: firms principally engaged in selling goods to customers for a profit. The unit emphasises accounting for management, the design of appropriate reports, and the alternatives available to accountants both in recording and reporting transactions.

#### TG005F Physics

Unit 3: Investigation, Sound, Electronics and Electric Power

This unit examines sound, electronics, electric power and the principles of investigation in selected contexts.

Unit 4: Motion, Gravity, Structures, Light and Matter

This unit provides an overview of physics through a study of universal gravitation, force energy relationships and an exploration of ideas of modern physics.

#### TG006F Chemistry

Unit 3: Chemistry and the Market Place

This unit adopts a global perspective by examining the large-scale industrial production of some chemicals. The work of chemists in these industries is examined. The idea that molecular structure can be modified is introduced in an investigation of surface chemistry. The investigation of quality control 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 inanimate and living systems. It pro** 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 political institutions and the core values, beliefs and principles of the society are explored. The actual operation of political systems is considered with reference to the institutional framework on which they are based.

#### Unit 4: Political Systems and Structures of Power

This unit takes a key example of public policy in Australia and examines it in detail to enhance understanding of political decision making. Attention is paid to the ways in which debate is conducted, support for various positions is mobilised and influence exerted. The implications for the role of government in the system are explored. Political change in another country is analysed in terms of its source, opposition and effect both within the country and beyond.

### TG015F Human Development in Society

#### Unit 3: People, Food and Nutrition

This unit examines the vital role of food in people's lives, its importance in physiological development and its role in the development of social and cultural patterns. The numerous influences on food choice; 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 involves the study of statistics, probability, logic and algebra (covering the use of formulas and equations relevant to statistics, probability and logic. The course includes problem-solving and independent investigative projects.

### TG036F Change & Approximation 3 & 4 Ext.

This subject extends work previously undertaken in calculus, co-ordinate geometry and algebra and includes the study of an additional area of mathematics selected from arithmetic, trigonometry, statistics or probability. The course includes problem-solving and independent investigative projects.

### TH200F Australian Society — A Sociological Introduction

Covers the structures, forces and pressures which operate within society and focus on key sociological concepts like inequalities and its emergence in race, gender and class. Assessment is based on two major research papers.

### TH201 Community Development Theory and Practice 1

Provides an overview of the historical development and key issues of community development. Explores and analyses models and theories of community development through students own experiences. Assessment: internal projects and essays.

### TH202 Community Development Theory and Practice 2

Concentrates on rights work, for instance welfare rights. How to use a rights approach to develop skills and issues of community development. Assessment: practical work and case study.

### TH203 Community Development Workshop 1 — Study Skills/Return to Study

Introduces the main theories and central issues in human communication. Assists students in developing their own communication skills. Assessment: assignments and participation.

### **TH204 Community Development Workshop 2 — Information & Access**

Examines information about individual 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 development and the construction of community profiles. Assessment: assignments and a community profile project.

### **TH205F Australian Economy — An Introduction**

Introduces students to the economic context of community development in Australia. Examines unemployment, inflation, income distribution and the role of the State in the economy. Internal project assessment.

### **TH206F The Australian Political System — An Introduction**

Covers politics, policy processes and the role of the State in Australian society and its application to community development. Assessment: internal assignments.

### **TH207 Community Development Workshop 3 — Interpersonal Skills**

Covers effective communication skills for the fulfilment of community commitments. Focuses on interpersonal communication, interviewing, problem solving and negotiation with various community development contexts. Assessment: internal assignments and case study.

### **TH208 Introduction to Research**

Provides an introduction and overview to the use of research in community development. Examines issues and concepts necessary for understanding and interpreting research and applying the principles of research. Assessment: internal assignments and research projects.

### **TH209 Research**

Develops skills and knowledge gained in Introduction to Research further. Concentrates particularly on action research. Assessment: internal assignments.

### **TH210 Introduction to Social Policy**

Provides an introduction to social policy formation processes, decisions and outcomes. Also students gain an understanding of how to implement social change within their community. Assessment: internal assignments.

### **TH211 Community Development Theory and Practice 3**

Explores the way organisations operate in terms of their relationships, objectives and power. Alternative structures are also examined. Assessment: internal assignments.

### **TH212 Community Development Theory and Practice 4**

Covers the theory and practice of socialisation within community development; an analysis of the relationship of social movements to political processes and political parties. Assessment: internal social action project and participation in class.

### **TH213 Community Development Workshop 4 — Groups**

Explores the setting up and maintenance of practical groups by committees of management, tenants groups. Assessment: internal assignments.

### **TH214 Community Development Workshop 5 — Societal Communication**

Further develops the communication skills of interpersonal and small group level to the public arena of wider society. Explores skills, knowledge techniques and strategies for enhancing community awareness and support for community development issues. Assessment: internal research brief and plan.

### **TH215 Poverty and Social Security**

Emphasis is placed on a theoretical approach to poverty and on the specific effect of poverty of those groups and services most vulnerable to its impact. Assessment: internal research assignment and written assignment.

### **TH216F Fieldwork**

Provides opportunity to apply skills and knowledge to practical situations. Tutorials are held for discussion about experiences within community development organisations.

### **TH310 Infant and Child Development**

Deals with the physical, intellectual, social and emotional development of children from 0-6 years old. It will deal with such issues as language, behaviour, the importance of play and coping with a variety of situations characteristic of early childhood with the day care setting. Practical assignments are part of this subject.

### **TH311 Caregiving Skills**

This unit is concerned with the care of the child — daily routines, nutrition, hygiene and safety. Some of the topics covered are food hygiene, cleanliness and personal hygiene, 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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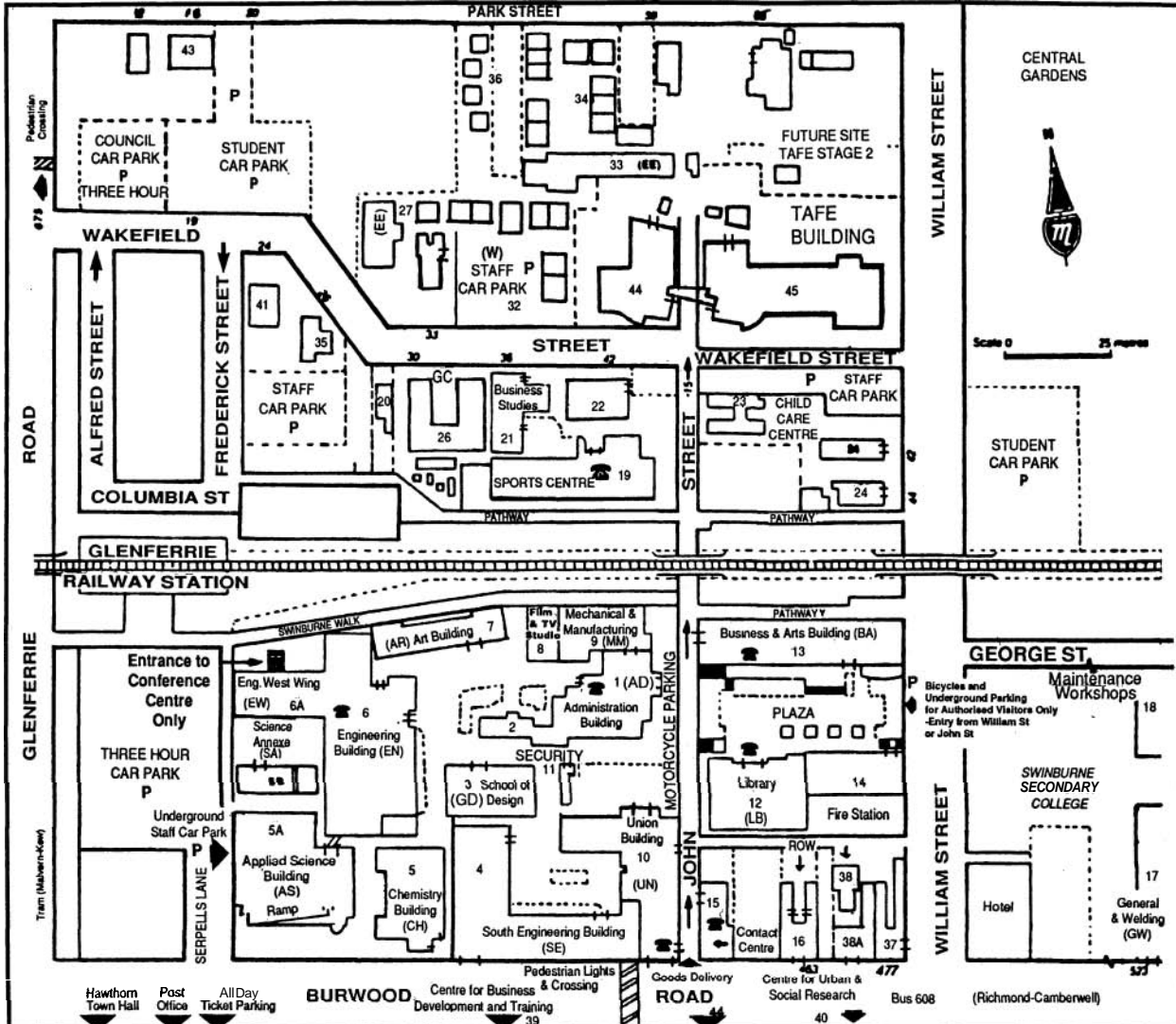
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SWINBURNE INSTITUTE OF TECHNOLOGY (SIT)  
SWINBURNE COLLEGE OF TAFE (SCT)



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