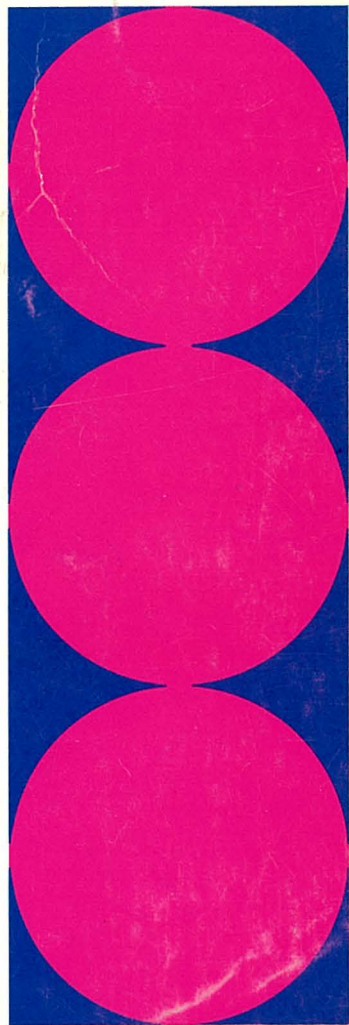
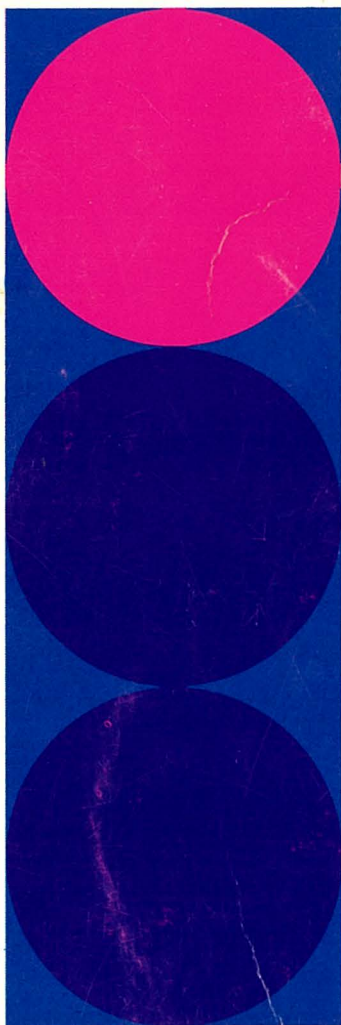


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QIT 73



HANDBOOK 1973

of the

**Queensland Institute
of Technology
BRISBANE**

The Institute is situated in
George Street, Brisbane
P.O. Box 246
BRISBANE (North Quay) 4000
Phone: 21 2411

TABLE OF CONTENTS

Page

Calendar of the Institute	5
The Council of Q.I.T.	17
The Committees of the Council	17
Management Advisory Board	17
Academic Boards	18
Staff	18
Course Entrance Requirements	23
The Education Act Amendment Act 1970 (Relevant Sections)	26
By-laws of the Queensland Institute of Technology	45
Rules of the Queensland Institute of Technology	65
Table of fees	81
Queensland Institute of Technology Union	86
Health Service	90
Library	90
Student Counselling Service	90
Financial Aid Schemes	91
Scholarships, Bursaries and Prizes	91
<i>School of Applied Science</i>	103
Department of Biology and Environmental Science	109
Associate Diploma in Science (Biology Strand)	109
Certificate in Biological Laboratory Techniques (full-time)	111
Certificate in Biological Laboratory Techniques (part-time)	112
Department of Chemistry	113
Associate Diploma in Industrial Chemistry (full-time)	113
Associate Diploma in Industrial Chemistry (part-time)	114
Associate Diploma in Applied Geology	116
Associate Diploma in Science (Chemistry Strand)	117
Certificate in Chemistry (full-time)	118
Certificate in Chemistry (part-time)	119
Department of Mathematics and Computer Science	120
Bachelor of Applied Science—Computing (full-time)	120
Associate Diploma in Mathematics (full-time)	121
Associate Diploma in Mathematics (part-time)	124
Department of Paramedical Studies	126
Bachelor of Applied Science—Medical Laboratory Technology (full-time)	126
Bachelor of Applied Science—Medical Laboratory Technology (part-time)	127
Associate Diploma in Optometry	128
Department of Physics	129
Bachelor of Applied Science—Physics	129
Associate Diploma in Diagnostic Radiography	131
Associate Diploma in Therapeutic Radiography	131

Synopses of Subjects	132
<i>Architecture Department</i>	156
Associate Diploma in Architecture	156
Bachelor of Applied Science—Architecture	157
Certificate for Architectural Technician	157
Associate Diploma in Quantity Surveying	159
Diploma in Town and Country Planning	159
Diploma in Landscape Architecture	160
Synopses of Subjects	168
<i>Building Department</i>	178
Associate Diploma in Building	178
Certificate for Building Construction Technician	178
Synopses of Subjects	181
<i>School of Business Studies</i>	188
Fellowship Diploma in Management	190
Associate Diploma in Accountancy (full-time)	191
Associate Diploma in Accountancy (part-time)	192
Diploma in Business Administration	193
Associate Diploma in Business Studies (full-time)	194
Associate Diploma in Business Studies (part-time)	195
Associate Diploma in Public Administration (full-time)	196
Associate Diploma in Public Administration (part-time)	197
Advanced Commercial Certificate (full-time)	198
Advanced Commercial Certificate (part-time)	199
Synopses of Subjects	200
<i>School of Engineering</i>	212
Department of Civil Engineering	217
Postgraduate Diploma in Environmental Engineering	217
Fellowship Diploma in Civil Engineering	218
Associate Diploma in Civil Engineering	220
Certificate in Civil Engineering (full-time)	222
Certificate in Civil Engineering (part-time)	224
Department of Electrical Engineering	227
Graduate Diploma in Automatic Control	227
Fellowship Diploma in Electrical Engineering	228
Associate Diploma in Electrical Engineering	230
Certificate in Electrical Engineering (full-time)	232
Certificate in Electrical Engineering (part-time)	234
Certificate Instrumentation and Control Technician	236
Department of Mechanical Engineering	237
Fellowship Diploma in Mechanical Engineering	238
Associate Diploma in Mechanical Engineering	240
Certificate in Mechanical Engineering (full-time)	242
Certificate in Mechanical Engineering (part-time)	244
Certificate in Industrial Metallurgy	246
Surveying Section	247
Certificate in Cartography	247
Certificate for Surveying Technician	248
Synopses of Subjects	249
Graduates	276

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
January

1	M	New Year's Day Holiday
2	T	
3	W	
4	Th	
5	F	Closing Date for Application for Enrolment in all courses by Continuing Students and New Applicants with Interstate Qualifications. Closing Date for Revaluations.
6	S	
7	S	
8	M	
9	T	Open Interview Period 11.00 a.m.-7.00 p.m.
10	W	Open Interview Period 11.00 a.m.-7.00 p.m.
11	Th	Open Interview Period 11.00 a.m.-7.00 p.m.
12	F	Closing Date for Application for Enrolment in all courses by New Applicants with Queensland Qualifications.
13	S	
14	S	
15	M	Supplementary Examinations Commence
16	T	
17	W	
18	Th	
19	F	
20	S	
21	S	
22	M	
23	T	
24	W	
25	Th	
26	F	
27	S	
28	S	
29	M	Australia Day Holiday
30	T	
31	W	

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
February

1 Th
2 F
3 S

4 S
5 M
6 T
7 W
8 Th
9 F
10 S

11 S
12 M
13 T
14 W Orientation Period
15 Th Orientation Period
16 F Orientation Period
17 S

18 S
19 M
20 T
21 W
22 Th
23 F
24 S

↓
 Alternating Classes Code—All classes that are held on alternate weeks only will be held on days designated "a" if the first class of the year was on an "a" day and on days designated "b" if the first class of the year was on a "b" day.

FIRST TERM COMMENCES

25 S
26 M b
27 T b
28 W b

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
March

1 Th b
2 F b
3 S

4 S
5 M a
6 T a
7 W a
8 Th a
9 F a
10 S

11 S
12 M b
13 T b
14 W b
15 Th b
16 F b
17 S

18 S
19 M a
20 T a
21 W a
22 Th a
23 F a Closing Date for Applications for Late Enrolment
Closing Date for Applications for Change of Enrolment
24 S

25 S
26 M b
27 T b
28 W b
29 Th b
30 F b
31 S

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY

1973

April

1 S
2 M a
3 T a
4 W a
5 Th a
6 F a
7 S

8 S
9 M b
10 T b
11 W b
12 Th b
13 F b
14 S

15 S
16 M a
17 T a
18 W a
19 Th a
20 F **Good Friday**
21 S **Easter Eve**

22 S **Easter Day**
23 M **Easter Monday**
24 T b
25 W **Anzac Day Holiday**
26 Th b
27 F b
28 S

29 S
30 M a

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
May

1 T a
2 W a
3 Th a
4 F a
5 S FIRST TERM ENDS

6 S
7 M **Labour Day Holiday—Vacation**
8 T **Vacation**
9 W **Vacation**
10 Th **Vacation**
11 F **Vacation**
12 S

13 S
14 M **Vacation** Presentation of Awards
15 T **Vacation** Presentation of Awards
16 W **Vacation** Presentation of Awards
17 Th **Vacation**
18 F **Vacation**
19 S

20 S
21 M b SECOND TERM COMMENCES
22 T b
23 W b
24 Th b
25 F b Closing Date for Payment of Second Term Fees
Closing Date for Nomination in Final Examinations
26 S

27 S
28 M a
29 T a
30 W a
31 Th a

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
June

1 F a
2 S

3 S
4 M b
5 T b
6 W b
7 Th b
8 F b
9 S

10 S
11 M **Queen's Birthday Holiday**
12 T a (Monday Classes to be held)
13 W a
14 Th a
15 F a
16 S

17 S
18 M b
19 T b
20 W b
21 Th b
22 F b
23 S

24 S
25 M a
26 T a
27 W a
28 Th a
29 F a
30 S

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
July

1 S
2 M b
3 T b
4 W b
5 Th b
6 F b
7 S

8 S
9 M a
10 T a
11 W a
12 Th a
13 F a
14 S

15 S
16 M b
17 T b
18 W b
19 Th b
20 F b
21 S

22 S
23 M a
24 T a
25 W a
26 Th a
27 F a
28 S

29 S
30 M b
31 T b

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
August

1 W b
2 Th b
3 F b
4 S SECOND TERM ENDS

5 S
6 M **Vacation**
7 T **Vacation**
8 W **Vacation**
9 Th **Vacation**
10 F **Vacation**
11 S

12 S
13 M **Vacation**
14 T **Vacation**
15 W **Vacation**—Exhibition Day Holiday
16 Th **Vacation**
17 F **Vacation**
18 S

19 S
20 M a THIRD TERM COMMENCES
21 T a
22 W a
23 Th a
24 F a Closing Date for Payment of Third Term Fees
25 S

26 S
27 M b
28 T b
29 W b
30 Th b
31 F b

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
September

1 S

2 S
3 M a
4 T a
5 W a
6 Th a
7 F a
8 S

9 S
10 M b
11 T b
12 W b
13 Th b
14 F b
15 S

16 S
17 M a
18 T a
19 W a
20 Th a
21 F a Final Annual Examination Timetable Placed on Noticeboards
22 S

23 S
24 M b
25 T b
26 W b
27 Th b
28 F b
29 S

30 S

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
October

1	M	a
2	T	a
3	W	a
4	Th	a
5	F	a
6	S	

7	S	
8	M	b
9	T	b
10	W	b
11	Th	b
12	F	b
13	S	

14	S	
15	M	a
16	T	a
17	W	a
18	Th	a
19	F	a
20	S	

21	S	
22	M	b
23	T	b
24	W	b
25	Th	b
26	F	b
27	S	

28	S	
29	M	
30	T	
31	W	

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
November

1 Th
2 F
3 S THIRD TERM ENDS

4 S
5 M ANNUAL EXAMINATIONS COMMENCE
6 T
7 W
8 Th
9 F
10 S

11 S
12 M
13 T
14 W
15 Th
16 F
17 S

18 S
19 M
20 T
21 W
22 Th
23 F
24 S

25 S
26 M
27 T ANNUAL EXAMINATIONS CEASE
28 W
29 Th
30 F

CALENDAR OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY
1973
December

1 S

2 S
3 M
4 T
5 W
6 Th
7 F
8 S

9 S
10 M
11 T
12 W
13 Th
14 F
15 S

16 S
17 M
18 T
19 W
20 Th
21 F
22 S

23 S
24 M
25 T **Christmas Day**
26 W **Boxing Day**
27 Th
28 F
29 S

30 S
31 M

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Assistant Registrar: B. S. Waters, B Com (Qld), AAUQ (Prov).

Bursar: M. A. Creyton, B Com, AASA, ACIS.

Student Counsellor: L. J. Stewart, BA, AEd(Qld), MAPsS.

SCHOOL OF APPLIED SCIENCE

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 P. T. J. Cattell, BSc, BEd(Qld).
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 I. F. Ogle, BSc(Hons), MSc(NE).

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 D. F. Welburn, BSc(Qld).

Department of Paramedical Studies

Head of Department: J. R. Saal, FAIMLT, DMT.
 Senior Lecturers: E. A. Bennett, BSc.(Hons).
 C. R. McDonald, BSc, MIBiol.
 V. N. Verney, DFC, FBOA, HD, D ORTH(London).
 A. J. Webber, MSc., DMT, FAIMT.
 Lecturers: J. D. Bevan, AQIT(Optom).
 T. N. Cassidy, BSc.
 J. F. Coulson, B.Pharm(Lond), M.Pharm(Qld), Ph.D.,
 Ph.C.
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 Y. E. Webb, BSc, DipNutDiet.

Department of Physics

Head of Department: O. J. Wordsworth, B.Sc.(Hons), M.Sc., Dip.Ed.(Qld)
 M.Sc., Ph.D.(Birm), AAIP.
 Senior Lecturers: R. E. Dunlop, B.Sc.(Hons), M.Sc.(Qld), AAIP
 J. P. McGilvray, B.Sc.(Hons), M.Sc.(Qld), AAIP,
 H. C. Rose, B.Sc.(Hons), M.Sc.(Man), M.Inst.P. AIM.
 Lecturers: B. M. Blyth, AAIP.
 J. A. Davies, B.Sc.(Hons) (City, London), AAIP, AMIEE.
 I. R. Edmonds, B.Sc.(Hons), M.Sc.(Auck), Ph.D(Warwick).
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 J. F. Whiting, B.Sc., Dip.Ed.(Qld), AAIP.
 C. F. Wong, Dip.Sc.(Hong Kong), M.Sc.(McGill), Ph.D.
 (Saskatch.)
 Radiation
 Technologist: A. R. Waller, FIMLT, AAIMT.

DEPARTMENT OF ARCHITECTURE

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 Department: E. T. Codd, BArch(Qld), A.R.A.I.A.
 Senior Lecturer: F. G. Costello, ASTC(Arch), LFRAlA, FRIBA, FRAPI.
 Lecturers: E. R. Cooper, AADip(London), ARAIA, ARIBA, AAILA.
 J. J. Donnelly, BArch(Qld), DipBdgSc(Syd), ARAIA.
 J. E. Hutchinson, BArch(Qld), ARAIA.

DEPARTMENT OF BUILDING

Head of Department: E. H. Ridler, AEd, BEd(Qld), FAIB (Chartered Builder).

SCHOOL OF BUSINESS STUDIES

Head of School: Vacant.

Department of Accountancy:

Head of Department: W. M. G. Hoskins, BCom, AAUQ, FASA, ACIS, AFAIM.

Senior Lecturers: T. F. Hackett, BA, BCom, BEd(Melb), ARMIT(Management), AASA, AFAIM, MACE, AIIA.

B. C. Wolff, BCom, AAUQ, AASA, AAIM.

Lecturers: J. R. Hoggett, BCom(Hons).

R. W. Humphreys, BCom, AASA, AAUQ, AAIM.

K. J. Moores, AQIT(Accty), AASA(Prov).

T. P. Tolhurst, BCom, AAUQ, AASA(Senior), ACIS.

J. J. Walker, BCom, AAIM.

I. W. Yeung, BEcon(Tas), AASA.

Department of Management:

Head of Department: J. C. Kable, BE, MS(Lehigh), BEcon(Qld), FAIM.

Senior Lecturers: L. C. Little, BEcon, DipPsych, MAPsS, AIPM.

A. A. McDevitt, BEcon, DipAutoComp, DiplInfm Processing

Lecturers: P. Bent, BCom(Hons).

G. L. Boxhall, BA(Hons), AAIM.

L. A. Deakin, BEcon.

W. A. Edwards, BCom(Hons), MAPsS.

P. J. Flynn, BA.

E. R. Hardman, BS(BYU), MBA(Utah).

W. B. Miller, BS, MA.

S. Reiss, BA(San Francisco State).

J. H. Shannon, BEcon.

B. J. Smith, BEcon(Hons), AAPsS.

R. W. Smyth, BA, DipEd.

English and Social Science Section:

Senior Lecturers: T. C. Dixon, BA, BEd(Hons) (Qld), LittB(UNE).

B. M. Molloy, BA, DipEd(Qld), LittB(UNE).

Lecturers: J. H. Crane, BS, BA(Hons), MA.

J. A. Davies, BA LittB(UNE).

V. T. French, BA(Qld).

P. C. Mayer, BA(Hons) (Montreal), MA(Perlim), TSTC (Melbourne).

J. S. Pinter, MA(Edinburgh).

P. J. Wrigley, BA, DipEd, BEd(Qld), MACE.

SCHOOL OF ENGINEERING

Head of School: J. W. Wilby, BE(Hons), BSc. MIEAust.

Department of Civil Engineering

Head of Department: R. F. Bange, BE(Hons), MEngSc, MIEAust, DQIT(Bus Admin), MASCE, RPEQ.

- Senior Lecturers: R. G. Black, BE, MIEAust.
 B. T. Boyce, BE, MEng, MSc, DIC, MNZIE, MICE
 T. W. Condon, BE(Hons), MIEAust.
 R. J. M. Harrison, HNDip(Bldg), BSc(CEng), MICE,
 MIEAust.
 T. L. Piggott, BE(NSW), MSc(Dublin), MIEAust, MIEI.
 B. Rigden, BSc(Eng), MICE, MIEAust, MIMunE, AMInst
 WPC(Dip).
 R. S. Taylor, BSc(Eng), MSc(MunE).
 Lecturers: G. Beer, DiplIng, MSc(Lehigh).
 D. W. Ramm, BE(Hons), LGE, MEngSc.
 A. J. Winter, ADCE, GradIEAust.

Department of Electrical Engineering

- Head of Department: G. E. Littler, BE, ME, MIEAust.
 Senior Lecturer: C. J. Chesmond, BSc(Eng), PhD, CEng, MIEE.
 R. S. L. Howe, MSc, CEng, MIEE.
 Lecturers: P. K. Boddington, MSc.
 L. Corben, BEE, DipElectEng, MIEAust.
 M. P. Moody, BE, MEngSc, MIEAust, MIREE.
 G. R. Smythe, BE, CEng, MIEAust.
 I. K. Vosper, AssocDipElectEng, GradIEAust.

Department of Mechanical Engineering

- Acting Head of
 Department: J. W. Laracy, BE(Mech) (Qld), MIEAust.
 Senior Lecturers: W. J. Dow, ASTC(Mech), MIEAust.
 M. Gottschall, BE(Adel), ME(Adel), FDBA(SAIT).
 K. T. Greenham, BE(Mech/Elect) (Qld), MIMechE, CEng,
 MIE Aust, MInstF.
 D. L. Muir, BE(Hons) (Qld), MSc(Birm), MIMechE.
 A. E. Woodroffe, BSc, CEng, MIMechE, MIProdE, MIE
 Aust.
 Lecturers: A. G. Crooks, ARMIT, AIM.
 V. C. Deeble, BSc(Htfd), MSc(Birm), DQIT (Bus Admin),
 MIEAust.
 J. M. Kelly, DipM&EEng, AssocDipMechEng(1960).
 R. K. Kirkcaldie, BE(Met) (Qld), AMAustIMM.
 M. J. F. Muurlink, Ing, MIEAust.
 C. D. Norman, BE(Qld), DipM&EEng, MIEAust, MACS.
 D. J. Nuske, DipM&EEng.
 G. Y. O'Sachy, MEngSc(N'castle), AssocDipMechEng,
 DQIT(BusAdmin), GradIEAust.

Surveying Section

- Senior Lecturer: J. T. C. Glasscock, BSurv(Qld), DQIT(T&CP), MISAust,
 MAIC, Authorised Surveyor.
 Lecturers: G. J. Andrews, BSurv(Qld), MIAAust, Authorised Sur-
 veyor.
 S. H. Pearse, BEcon(Hons) (Qld), MISAust, Authorised
 Surveyor.

COURSE ENTRANCE REQUIREMENTS

Normal Entry

To be eligible to enrol in a tertiary course, a candidate must gain in not more than two sittings of the Senior examination within the five years previous to his enrolment, the entrance requirements set out below—

- (a) a total score of not less than twenty (20) points in five subjects;
 (b) a minimum grade of three (3) points in English and a minimum grade of four (4) points in each of the remaining subjects set out for each course in Table I.

TABLE I

COURSE (see note page 25)	PRESCRIBED SUBJECTS
Associate Diploma in Applied Geology	English, Maths I, Chemistry, Physics and one another
Associate Diploma in Industrial Chemistry	English, Maths I, Chemistry, Physics and one other
Bachelor of Applied Science— Computing	English, Maths I, Maths II and two others
Associate Diploma in Mathematics	English, Maths I, Maths II and two others
Bachelor of Applied Science— Medical Laboratory Technology	English, Maths I, Chemistry, Physics and one other
Associate Diploma in Optometry	English, Maths I, Chemistry, Physics and one other
Bachelor of Applied Science— Physics	English, Maths I, Chemistry, Physics and one other
Associate Diploma in Science (Biology and Chemistry Strands)	English, Maths I, Chemistry, Physics and one other
†Associate Diploma in Diagnostic Radiography	English, Maths I, Physics and one other
†Associate Diploma in Therapeutic Radiography	English, Maths I, Physics and one other
Bachelor of Applied Science— Architecture	English, Maths I, Physics, Art or G. D. & P. and one other
Associate Diploma in Architecture	English, Maths I, Physics, Art or G. D. & P. and one other
Associate Diploma in Quantity Surveying	English, Maths I, Physics and two others
Associate Diploma in Building	English, Maths I, Chemistry, Physics and one other
Associate Diploma in Accountancy	English, Maths I and three others
Associate Diploma in Business Studies	English, Maths I and three others
Associate Diploma in Public Admin- istration	English, Maths I and three others
Fellowship Diploma in Engineering— Civil, Electrical or Mechanical	English, Maths I, Maths II, Chemistry, Physics
Associate Diploma in Engineering— Civil, Electrical or Mechanical	English, Maths I, Maths II, Chemistry, Physics
Diploma in Landscape Architecture	Postgraduate See Page 160
Diploma in Town and Country Planning	Postgraduate See Page 159
Diploma in Business Administration	Postgraduate See Page 193
Fellowship Diploma in Management	Postgraduate See Page 190
Diploma in Environmental Engineering	Postgraduate See Page 218
Graduate Diploma in Automatic Control	Postgraduate See Page 230

† Normal entry to these courses shall require a minimum score at Senior level of sixteen (16) points in four subjects including English, Mathematics I and Physics with a minimum of four (4) points per subject.

Conversion of pre 1967 Senior results to numerical grades will be made on the following basis—

Pre 1967	1967 +
A	6
B	5
C	4
P*	3
* Until January 1964 P = 4	
From January 1965 Q = 4	

N.B. Check details of courses. An employment condition is applicable to some courses.

To be eligible to enrol in a sub-tertiary course, a candidate must gain the entrance requirements set out below—

- A total score of not less than sixteen (16) points in four Junior subjects.
- A minimum grade of three (3) points in English and a minimum grade of four (4) points in each of the remaining subjects set out for each course in Table II.

TABLE II

Course	Prescribed subjects
Certificate in Chemistry	English, Maths B, Science A, Science B
Certificate in Biological Laboratory Techniques	English, Maths B, Science A, Science B
Certificate for Architectural Technician	English, Maths B, Science A, Science B
Certificate for Building Construction Technician	English, Maths B, Science B and one other
Certificate in Business Studies	English, Maths B, and two others
Advanced Commercial Certificate	English, Maths B, and two others
Certificate in Engineering — Civil, Electrical or Mechanical	English, Maths B, Science B and one other
Certificate in Cartography	English, Maths B, Science B and one other
Certificate Instrumentation and Control Technician	English, Maths B, Science B and one other
Certificate Surveying Technician	English, Maths B, Science B and one other
Certificate Industrial Metallurgy	English, Maths B, Science B and one other

Equivalence of Junior subjects passed before 1966 with Junior subjects passed in or since 1966 will be—

$$\begin{aligned} \text{Mathematics A} + \text{Mathematics B (before 1966)} &= \text{Mathematics B (1966 +)} \\ \text{Chemistry} + \text{Physics (before 1966)} &= \text{Science B (1966 +)} \end{aligned}$$

N.B. See details of courses for any special conditions of entry.

Adult Entry

An applicant may qualify for "Adult Entry" to a *tertiary* course under the following conditions—

- that the number of specifically prescribed subjects in the course in which he seeks enrolment is *not more than four*;
- that he obtain a minimum score of sixteen (16) points in four Senior subjects, including a grade of four (4) points in each of the prescribed subjects;

- (iii) that all credits claimed be obtained after the applicant has reached the age of 23 years, and according to the regulations regarding the number of sittings in the prescribed times as they apply to full-time or to part-time students.

Part-Time Senior Students

A candidate who fulfils the prescribed entrance requirements entirely by part-time study, will be allowed three sittings of the Senior examination within the five years previous to enrolment, to do so.

Provisional Entry—Applicable only to School of Engineering

A candidate lacking a sufficient grade in only one subject to qualify for entry to a part-time course in which he wishes to enrol, may be granted provisional enrolment, if he undertakes to study one requisite Senior or Junior subject concurrently with one Institute subject, nominated by the Director.

If such a candidate fails to complete normal entry requirements during the year in which he is granted provisional enrolment, his provisional enrolment will be cancelled.

Special Consideration

A candidate whose entrance qualifications do not correspond precisely with those prescribed for the course in which he wishes to enrol, but who can present documentary evidence of his academic qualifications which he believes will satisfy these requirements, may submit his qualifications to the Registrar for special consideration.

Candidates who had planned their studies for entry on pre-1972 requirements, should submit a Special Consideration Form with supporting evidence.

All applications for Special Consideration will be considered by an Admissions Committee.

Application Forms for Special Consideration are available from the Registrar's office.

Exemptions

Students transferring from other courses may obtain exemptions for some subjects and the enrolment forms provide for such applications.

Students are advised that claims may not be considered unless a certified copy of the syllabus of the subjects on which the claim is based, together with documentary evidence that the subjects detailed have been passed, is provided.

Certified translations of syllabii in foreign languages must be provided.

Handbooks from some other Institutions, and a copying machine, are available in the Q.I.T. library.

Syllabii need not be provided where the subject previously passed was in another Q.I.T. course.

Nomenclature of Courses

The names of existing tertiary level courses set out on page 23 of this handbook are accurate as at the time of publication. However, the titles of all tertiary level courses are currently being reviewed so that they conform with Australia-wide nomenclature conventions for Colleges of Advanced Education.

It is now possible for Colleges of Advanced Education such as the Queensland Institute of Technology to offer Degree courses and several of the existing courses and new courses for 1973 have been granted Degree status. Others have been submitted to the appropriate body for accreditation as Degree courses.

The names of the new courses which have been approved for introduction in 1973 i.e. the Degree courses in Applied Science, the Associate Diplomas in Diagnostic and Therapeutic Radiography and the Graduate Diploma in Automatic Control conform with the Australia-wide Standard conventions.

"EDUCATION ACT AMENDMENT ACT 1970"

The above act provides inter alia

PART VIIA—Advanced Education

Division I—Board of Advanced Education

Division III—Councils of Colleges of Advanced Education

PART VIIIA—General Provisions Relating to Advanced Education

Division II —By-laws of Councils

Division III—Employees of Board of Advanced Education,
Board of Teacher Education and
Councils of Colleges of Advanced Education.

Division V —Financial Provisions

Division VI—The Union

"Part VIIa—Advanced Education*Division I—Board of Advanced Education*

51a. Constitution of Board. (1) There shall be constituted a Board to be called the "Board of Advanced Education" which shall consist of such members as the Governor in Council from time to time prescribes by Order in Council published in the Gazette.

(2) The Board shall be a body corporate and shall have perpetual succession and a common seal which shall be judicially noticed and, subject to this Act, shall be capable in law of suing and being sued, of compounding or proving in any court of competent jurisdiction all debts or sums of money due to it and of acquiring, holding, leasing and alienating (by exchange, grant, sale, purchase, demise or otherwise) property or any interest therein and of doing and suffering all such acts and things as bodies corporate may by law do and suffer.

(3) Until the Governor in Council otherwise prescribes, the Board shall consist of—

- (i) a nominee of the Minister who shall, in his appointment, be designated and shall be chairman;
- (ii) the Director-General or his nominee;
- (iii) a senior officer of the Department nominated by the Minister;
- (iv) the Deputy Under Treasurer or his nominee;
- (v) the Chairman of the Board of Teacher Education or his nominee;
- (vi) six persons associated with advanced education, of whom at least one shall come from each of the fields of agricultural education, music education and teacher

education and at least two from the field of technological education;

- (vii) two members, not being officers of the Department, nominated by the Minister.

(4) The members of the Board, determined in accordance with this Act, shall be appointed by the Governor in Council by notification published in the Gazette and shall, where it is not otherwise provided, be appointed on the recommendation of the Minister.

(5) (a) The Chairman of the Board shall be a full-time member, appointed for a term not exceeding seven years and shall, if otherwise qualified, be eligible for re-appointment.

If the chairman, except with the approval in writing of the Minister, engages during his term of office in any paid employment outside the duties of his office, he thereupon ceases to hold office as chairman and as a member of the Board and there is a casual vacancy in his office.

(b) Subject as aforesaid, the chairman shall be appointed on and subject to such terms and conditions as to salary and otherwise as the Governor in Council thinks fit.

(6) The members of the Board shall appoint from among their number a person to be deputy chairman of the Board and such person, subject to this Act, shall be deputy chairman for such period, not exceeding the term for which he is appointed as a member, as the Board determines."

"51b. Functions and powers of the Board. (1) The functions of the Board of Advanced Education shall be—

- (a) to make reports and recommendations to the Minister, either of its own motion or at the request of the Minister, with respect to—
- (i) developments in the field of advanced education to meet the needs of the State of Queensland;
 - (ii) programs for capital and recurrent expenditure submitted by Councils of colleges of advanced education;
 - (iii) expenditure on capital projects;
 - (iv) salaries payable to the staff of colleges of advanced education and conditions of employment;
- (b) to confer and collaborate with the Commonwealth Committee on Advanced Education, the Board of Teacher Education or any other statutory body on such matters as are within the functions and powers of the Board of Advanced Education;
- (c) to appoint committees to advise on fields of advanced education concerning which no statutory body has been constituted under this Act and such other committees as it thinks fit to advise it in connexion with the perfor-

mance of its functions and the exercise of its powers under this Act;

- (d) to exercise a co-ordinating function with respect to fields of study and awards in colleges of advanced education;
- (e) to approve annual budgets and plans, specifications and acceptance of tenders for capital projects submitted by Councils of colleges of advanced education;
- (f) to approve the scale of fees to be charged by colleges of advanced education in connexion with enrolments in classes or courses or in connexion with examinations, the conferring of awards or other services;
- (g) to foster research into matters relevant to the development and improvement of advanced education by such means as it thinks fit, including the making of recommendations for the provision of scholarships, fellowships and financial assistance to institutions conducting or proposing to conduct research into any such matters;
- (h) to appoint staff as necessary to fulfil the Board's functions;
- (i) to perform any additional functions prescribed by the Governor in Council;
- (j) to furnish to the Minister as soon as practicable, but not more than three months after the thirty-first day of December in each year, a report of its work and activities during the year.

(2) The Board shall have and may exercise such powers and authorities as are incidental to the proper discharge by it of any of its functions under this Act, or as the Governor in Council from time to time prescribes by Order in Council.

(3) In the performance of its functions and the exercise of its powers under this Act, the Board shall have regard to the needs of the State and the recommendations made by Councils of colleges of advanced education and its advisory committees."

"Division III—Councils of Colleges of Advanced Education

51e. Constitution of Council. (1) The Governor in Council may, on the recommendation of the Minister, constitute a Council for a college of advanced education.

A Council may be so constituted notwithstanding that, at the date of such constitution, the college has not been established.

(2) A Council constituted as aforesaid shall be a body corporate under the name "Council of the (name of college)" and shall have perpetual succession and a common seal which shall be judicially noticed and, subject to this Act, shall be capable in law of suing and being sued, of compounding or proving in any court of competent jurisdiction all debts or sums of money due to it and of acquiring, holding, leasing and alienating (by exchange, grant, sale, purchase, demise or otherwise) property or any interest therein and of doing and

suffering all such acts and things as bodies corporate may by law do and suffer.

(3) Until the Governor in Council otherwise prescribes, a Council shall consist of—

- (i) a nominee of the Minister who shall, in his appointment, be designated and shall be chairman;
- (ii) the principal officer of the college, who shall be an *ex officio* member;
- (iii) a person nominated by the Director-General;
- (iv) not fewer than four nor more than twelve persons who are associated with or have an interest in the professions or industries for which students of the college are being prepared;
- (v) not fewer than two nor more than four staff members of the college elected by the teaching staff of the college in accordance with the by-laws;
- (vi) two enrolled students of the college elected by the student body of the college in accordance with the by-laws;
- (vii) not more than two persons nominated by the other members of the Council as soon as is practicable after such other members become members.

(4) The members of a Council, determined in accordance with this Act, shall be appointed by the Governor in Council by notification published in the Gazette and shall, where it is not otherwise provided, be appointed on the recommendation of the Minister.

(5) Notwithstanding the provisions of subsection (1) of section 56 of this Act, the term of office of a member of a Council who is nominated pursuant to paragraph (vii) of subsection (3) of this section shall, subject otherwise to this Act, expire on the same day as that on which the terms of office of the other members of the Council whose terms of office expire by effluxion of time so expire.

(6) The members of a Council shall appoint from among their number a person to be deputy chairman of the Council and such person, subject to this Act, shall be deputy chairman for such period, not exceeding the term for which he is appointed as a member, as the Council determines.

51f. Functions and powers of Council. (1) Subject to this Act, the Council of a college of advanced education shall provide courses in advanced education suitable to the needs of the community. It shall be responsible for the development, control and management of the affairs and activities of the college and at all times shall act in such manner as appears best calculated to promote the purposes of the college.

(2) Subject to this Act, the functions of a Council shall be—

- (a) to be responsible for the care and maintenance of any real or personal property under its control or management;
 - (b) to co-operate with the Board of Advanced Education and, where applicable, the Board of Teacher Education to ensure that the college provides courses or programs of study to meet the needs of the region that the college serves and of the State, and to make awards and issue certificates in accordance with the by-laws;
 - (c) to submit to the Board of Advanced Education at such times as may be required by that Board, estimates of financial needs for periods specified by that Board;
 - (d) to approve expenditure within the funds allocated in the budget approved by the Board of Advanced Education;
 - (e) to delegate to the principal officer of the college such of its powers as it considers necessary to enable the college to function efficiently;
 - (f) to appoint such committees as it considers necessary to assist it to perform its functions;
 - (g) to appoint staff as necessary in accordance with the by-laws;
 - (h) subject to the approval of plans by the Board of Advanced Education, to undertake projects included in the approved program of capital expenditure for a triennium;
 - (i) subject to the approval of the Governor in Council, to make by-laws in relation to the college in accordance with the provisions of section 62c of this Act;
 - (j) to report on any matter referred to it by the Board of Advanced Education or the Board of Teacher Education;
 - (k) to perform such other functions in relation to the college as may be required by the Board of Advanced Education.
- (3) A Council shall have and may exercise such powers and authorities as are incidental to the proper discharge by it of any of its functions under this Act, or as the Governor in Council from time to time prescribes by Order in Council.”.

“Division II—By-laws of Councils

62c. Council may make by-laws. (1) The Council of a college of advanced education may from time to time make by-laws not inconsistent with this Act or the regulations for or with respect to—

- (i) the management and conduct of the college and definition of the powers and duties of the persons employed in such college;
- (ii) the use and custody of the common seal;
- (iii) penalties not exceeding one hundred dollars for contravention of or failure to comply with Council by-laws and rules made thereunder and the recovery and enforcement of penalties;

- (iv) the discipline of employees of the college and punishment for breaches of discipline;
- (v) the discipline of students of the college and punishment for breaches of discipline including exclusion from attendance at the college;
- (vi) the election of the elected members of the Council;
- (vii) the conduct of meetings of the Council;
- (viii) the appointment of committees of the Council, and the quorum, powers and duties of any such committees;
- (ix) the manner of appointment, promotion and dismissal of employees of the Council;
- (x) the entrance standards for students of the college;
- (xi) the examinations for and conferring of awards;
- (xii) the establishment of residential colleges and halls of residence and their conduct, and the affiliation of residential colleges with the college;
- (xiii) the affiliation with the college of an educational or research establishment;
- (xiv) the investment of funds belonging to or vested in the college;
- (xv) the payment of out-of-pocket expenses to members of the Council;
- (xvi) the granting of scholarships, bursaries and prizes;
- (xvii) the scale of fees to be charged by the college in connexion with enrolments in classes or courses or in connexion with examinations, the conferring of awards or other services;
- (xviii) the Union of the college, including the powers, authorities and obligations of the Union, and membership fees;
- (xix) such other matters as may from time to time be necessary or convenient for the carrying into effect of the several provisions, objects and purposes of this Act and generally for the control, management, good government and discipline of the college.

(2) The Council may by by-law repeal, rescind, revoke, alter, vary, amend or otherwise modify any by-law or part of a by-law.

(3) A by-law may authorize the Council to make rules for the carrying into effect of all or any of the provisions and objects of the by-laws.

(4) All rules made pursuant to any by-law by the Council shall be of full force and effect on and from the day on which they are promulgated in accordance with the by-law under which they are made or on and from such later date as may be specified in the rule, and the production of a verified copy of any such rule under the common seal of the Council is sufficient evidence of

the making and authenticity of the same in all courts and before all persons acting judicially.

(5) Where no other provision is made for the recovery or enforcement of a penalty imposed by or under the authority of a by-law, such penalty may be recovered or enforced by complaint in a summary way under *The Justices Acts 1886 to 1968*.

(6) Every by-law made by the Council shall be sealed with the common seal of the Council and shall, if approved by the Board of Advanced Education, be submitted through the Board to the Minister.

The Minister shall submit every by-law to the Governor in Council.

The Governor in Council may in his discretion approve any by-law.

A by-law has no effect unless and until approved by the Governor in Council.

(7) (a) Every by-law shall—

- (i) be published in the Gazette;
- (ii) upon its publication in the Gazette, be judicially noticed;
- (iii) take effect on and from the date of its publication in the Gazette unless a later date is specified in relation to its commencement when, in such case, it shall take effect on and from that later date;
- (iv) be laid before the Legislative Assembly within fourteen sitting days after such publication if the Legislative Assembly is in session, but if not, then within fourteen sitting days after the commencement of the next session.

(b) if the Legislative Assembly passes a resolution of which notice has been given at any time within fourteen sitting days after such by-law has been laid before it disallowing the by-law or part thereof, the by-law or part thereof shall thereupon cease to have effect, but without prejudice to the validity of anything done in the meantime or to the making of a further by-law."

"Division III—Employees of the Board of Advanced Education, the Board of Teacher Education and Councils of Colleges of Advanced Education.

62d. Particular employees. (1) The Board of Advanced Education and the Board of Teacher Education shall each, as practicable after being first constituted, and thereafter whenever there is a vacancy in the position, appoint a secretary to the Board upon such terms and conditions as the Board thinks fit.

(2) (a) A Council of a college of advanced education shall, as soon as practicable after being first constituted, and thereafter whenever there is a vacancy in the position, appoint a registrar of the college.

(b) A person who, immediately prior to the first constitution of a Council of a college of advanced education, was registrar of the college may continue in the position of registrar of the college as an employee of the Council.

(c) In addition to his duties as registrar of a college, a registrar shall perform the duties of secretary to the Council.

(3) The principal officer of a college of advanced education who holds office immediately prior to the first constitution of the Council of such college may continue in that position of principal officer for a period of two years after the date of such first constitution and is eligible for reappointment.

(4) A secretary to a Board as aforesaid is an employee of that Board and a principal officer or registrar of a college as aforesaid is an employee of the Council of that college.

(5) The appointment of the executive officer of the Board of Teacher Education shall be made by the Governor in Council on the recommendation of the Minister.

The executive officer shall be appointed on and subject to such terms and conditions as to salary and otherwise as the Governor in Council thinks fit."

"62e. Employees of Board or Council generally. (1)

Subject to this Act, the Board of Advanced Education and the Board of Teacher Education may appoint and employ such employees as they consider necessary for the proper performance of their respective functions under this Act and, in relation thereto, such employees shall, subject to any applicable award of any industrial court, commission, tribunal or authority, be appointed and employed on such terms and conditions as to salary and otherwise as the Board of Advanced Education or the Board of Teacher Education, as the case may be, thinks fit.

(2) Subject to this Act, a Council of a college of advanced education may appoint and employ such employees (including teaching staff) either on a full-time or a part-time basis as the Council considers necessary for the proper performance of its functions under this Act and, in relation thereto, such employees shall, subject to any applicable award of any industrial court, commission, tribunal or authority, be appointed and employed on such terms and conditions as to salary and otherwise as are approved by the Governor in Council on the recommendation of the Minister.

(3) Subject to the provisions of section 62d of this Act, every person who, immediately prior to the first constitution of a Council of a college of advanced education, held any employment at that college shall, if he so desires, become an employee of the Council of the college on such terms and conditions as to salary and otherwise, subject to any applicable award of any industrial court, commission, tribunal or authority, as are

approved by the Governor in Council on the recommendation of the Minister, but, subject to this Act, not less favourable than those on which he held employment immediately prior to the first constitution as aforesaid.

(4) Without limiting the generality of subsection (3) of this section—

- (a) annual, sick and long service leave shall continue to accrue to a person who, pursuant to that subsection, becomes an employee of a Council of a college of advanced education on the same basis as such leave accrued to him immediately before becoming such an employee until that basis is varied or altered by any applicable award or by the Governor in Council;
- (b) for the purpose of calculating the entitlement to long service leave of a person who, pursuant to that subsection, becomes an employee of a Council of a college of advanced education, any service of that person which was, immediately before he became such an employee, required to be taken into account for the purpose of determining his entitlement to that leave shall be deemed to be service with the Council:

Provided that there shall be deducted from any long service leave to which that person becomes entitled as an employee of the Council any long service leave already taken by him in respect of any period of service referred to in this paragraph required to be so taken into account;

- (c) a person who, pursuant to that subsection, becomes an employee of a Council of a college of advanced education shall be entitled to receive as such employee any annual or sick leave accrued to him as at the date on which he became such an employee.

(5) Nothing contained in subsection (3) or subsection (4) of this section shall be construed as entitling a person who, pursuant to subsection (3) of this section, becomes an employee of a Council of a college of advanced education to claim benefits under this Act as well as under any other Act or law or provision in respect of the same period of service.

(6) Notwithstanding the provisions of section 62d of this Act or of this section, the Governor in Council on the recommendation of the Minister may, either generally or in a class of case or a particular case, determine the terms and conditions as to salary and otherwise to apply in respect of employees of the Board of Advanced Education and the Board of Teacher Education and the Board shall, in each case, be bound by and act in accordance with such determination.

(7) The provisions of the *Public Service Act 1922-1968* shall not, subject to this Act, apply to employees of the Board of Advanced Education, the Board of Teacher Education or

Councils of colleges of advanced education constituted under this Act.”

“62f. Superannuation provisions. (1) A person who, pursuant to this Act, becomes an employee of a Council of a college of advanced education, having immediately prior to the constitution of the Council held employment at that college, shall retain any rights which, at the time he becomes an employee of the Council, have accrued or are accruing to him as an officer within the meaning of the *Public Service Superannuation Act 1958-1969*, and shall continue to contribute to the Public Service Superannuation Fund and shall be entitled to receive any payment or other benefit as if he had continued to be an officer within the meaning of the said Act.

(2) In respect of a person liable to make contributions to the Public Service Superannuation Fund as referred to in subsection (1) of this section, the Council of the college of advanced education of which he becomes an employee pursuant to this Act shall pay to the Public Service Superannuation Fund such contributions and payments as would have been payable by the Crown within the meaning of the *Public Service Superannuation Act 1958-1969* if such person had remained an officer within the meaning of the said Act and had been paid salary or wages at the rate paid to him by that Council.

(3) A person, other than a person to whom subsection (1) of this section refers, who is employed in a permanent capacity by the Board of Advanced Education, the Board of Teacher Education or a Council of a college of advanced education pursuant to this Act shall, for the purposes of the provisions of the *Public Service Superannuation Act 1958-1969* being made applicable to him and unless the Governor in Council otherwise determines, be deemed to be an officer within the meaning of that Act and such person shall contribute to the Public Service Superannuation Fund and shall be entitled to receive any payment or other benefit as an officer within the meaning of that Act.

The Board or the Council by which he is employed shall pay to the Public Service Superannuation Fund such contributions and payments as would be payable by the Crown within the meaning of the said Act if he were such an officer, paid salary or wages at the rate paid to him by the Board or Council.”

“Division V—Financial Provisions

Accounts and Budget of the Board of Advanced Education, the Board of Teacher Education and Councils of Colleges of Advanced Education.

62m. Funds of Board or Council. (1) The Board of Teacher Education shall keep a bank account for a general fund.

(2) The Board of Advanced Education and a Council of a college of advanced education shall keep separate bank accounts for the following funds:—

- (a) a trust fund;
- (b) a general fund;
- (c) a capital projects fund;
- (d) any other fund approved by the Board of Advanced Education to be kept by a Council.

(3) There shall be paid into the trust fund of the Board of Advanced Education or a Council all moneys paid to the Board or Council and to be applied by the Board or Council for any specified purpose within the purview of this Act. The Board or Council shall apply the moneys from time to time standing to the credit of the trust fund to the uses or purposes for which it was paid to the Board or Council.

(4) There shall be paid into the general fund of the Board of Advanced Education, the Board of Teacher Education or a Council all moneys appropriated by Parliament in each year out of the consolidated revenue of the State for the purpose and paid to the Board or Council and all other moneys paid to the Board or Council other than moneys referred to in subsections (3) and (5) of this section and other than moneys prescribed to be paid to any other approved fund kept by the Board or Council. The Board or Council shall pay from the moneys from time to time standing to the credit of the general fund liabilities incurred by it in or in connexion with the conduct of the activities for which it is constituted.

(5) There shall be paid into the capital projects fund all moneys received by the Board of Advanced Education or a Council from the State, by way of capital grants, and all moneys raised by loan in accordance with section 62u or section 62v of this Act.

The Board or Council shall apply the moneys from time to time standing to the credit of the capital projects fund to expenditure necessarily incurred in carrying out the works or purpose for which the capital grants were received or the loans were respectively authorized.

No expenditure shall be incurred on any works or purpose to be financed from the capital projects fund until plans, specifications, estimates of cost and tenders for such works or purpose have been approved in accordance with the provisions of sections 51b (1) (e) or 51f (2) (h) of this Act as the case requires."

"62n. Books of account of Board or Council. (1) The Board of Advanced Education, the Board of Teacher Education or a Council shall accurately keep such books of account and records of its receipts and disbursements as the Auditor-

General from time to time requires and the secretary to the Board or Council shall submit to each ordinary meeting of the Board or Council a statement of receipts and disbursements in relation to the budget for all funds of the Board or Council for the period since the last preceding such meeting.

(2) As soon as practicable after the close of each financial year, the Board or Council shall lodge with the Minister a statement of receipts and disbursements for the year in respect of each fund kept by it, a statement of income and expenditure for the year and a balance sheet of its affairs as at the close of that year. In the statement of receipts and disbursements the amounts provided for in the budget shall be shown side by side with the actual amounts received and disbursed. Two copies of all financial statements shall be retained by the Board or Council and shall be made available for audit purposes.

(3) The Auditor-General or a person authorized by him in that behalf shall audit the accounts of the Board or Council and with respect to such audit and accounts shall have all the powers and authorities conferred upon the Auditor-General by the *Audit Act* 1874-1968. The Auditor-General shall report thereon and shall furnish a copy of such report to the Minister.

62p. Budget of Board or Council. (1) Before the thirty-first day of May in each year the Board of Teacher Education and the Board of Advanced Education shall adopt and a Council shall adopt and lodge with the Board of Advanced Education a budget in respect of each fund maintained wherein the Board or the Council as the case may be shall estimate as accurately as possible:—

(a) the amount to be disbursed by the Board or Council from that fund during the year ending on the thirtieth day of June in the year next following in the proper exercise by the Board or Council of its functions and powers under this Act and in giving effect to the provisions of this Act;

(b) the amount to be received by the Board or Council during the year ending on the thirtieth day of June in the year next following from all sources.

(2) A budget of the Board of Teacher Education shall be of no force or effect until it is approved by the said Board and, on approval, the budget shall be binding upon the Board.

(3) A budget of the Board of Advanced Education and of a Council shall be of no force or effect until it is approved by the Board of Advanced Education, and the Board of Advanced Education may return the budget of the Council for amendment in such a way as it thinks reasonable. The Council shall amend the budget where necessary and in any particular so that the budget shall as nearly as possible balance for the financial year, having regard to the sums the Minister has advised will be

provided as Parliamentary appropriations to the Board or Council and of any other revenues reasonably expected for the financial year.

Any ordinary disbursement of the Board or Council in the months of July and August in any year is authorized and shall be included in the budget for that year.

When the Board of Advanced Education has approved a budget of the Board or Council, such budget as approved, whether or not it has been amended pursuant to this subsection, shall be binding upon the Board or Council.

(4) If the general fund of the Board of Advanced Education, the Board of Teacher Education or a Council contains a surplus or shows a deficit at the end of a financial year, the Board or Council shall take such surplus or deficit into account in the preparation of its budget for the next succeeding financial year, a surplus to be shown as a receipt of revenue for that succeeding financial year and a deficit to be shown as a disbursement for that succeeding financial year.

62q. Observance of budget. (1) Subject to the provisions of this section, the Board of Advanced Education, the Board of Teacher Education or a Council shall confine its disbursements from its general fund throughout a financial year within the items and the amounts contained in its budget for that financial year as approved under the provisions of section 62p of this Act.

(2) If, during any financial year, it appears to the Board or Council that an extraordinary circumstance has arisen which requires that the Board or Council make a disbursement from its general fund in that financial year that was not provided for in the budget (as approved) for that financial year or that exceeds the amount estimated in respect of that disbursement in the budget (as approved) for that financial year, the Board or Council shall, before making such disbursement or excess disbursement—

- (a) by resolution approve that such disbursement or excess disbursement be made; and
- (b) obtain approval of the relevant Board for an amendment to the budget so that the budget as amended and approved will not then be exceeded in particular or in total by the disbursement."

"62r. Bequests and gifts. The Board of Advanced Education or a Council of a college of advanced education constituted under this Act may accept any gift, grant, bequest or devise made to it for the general use of the Board or Council or for any other purpose set out in the terms thereof.

Any gift, grant, bequest or devise so received shall be placed to the credit of the Trust Fund established by the Board or Council for that purpose.

62s. Investments. Any surplus moneys held by the Board of Advanced Education, the Board of Teacher Education or a Council in its general fund or trust fund or any money held upon trust by the Board or Council may be invested from time to time in any authorized trustee investment or with any authorized and approved dealer in the short term money market.

The provisions of this section shall not apply where the conditions placed upon any gift, grant, bequest or devise direct to the contrary.

62t. Fees. All fees received by the Board of Teacher Education or a Council under this Act shall be paid into the general fund and applied solely for the purposes of the Board or Council concerned.

62u. Temporary finance. (1) For the purpose of providing temporary financial accommodation to enable the Board of Advanced Education, the Board of Teacher Education or a Council to exercise and perform its functions, the Board or Council may and is hereby authorized, with the prior approval of the Governor in Council, to obtain from time to time advances—

- (a) by way of loan from the Treasurer;
- (b) by way of loan or overdraft from any bank; or
- (c) by way of loan from any other person, upon, at and subject to such security, rate of interest and other terms and conditions as the Board or Council, subject to the approval of the Governor in Council, thinks fit.

(2) Before entering into negotiations with respect to the obtaining of any advance by way of loan or overdraft from any bank or other person, the Board or Council shall obtain the sanction of the Treasurer authorizing it to enter into such negotiations and for the purpose of obtaining that sanction the Board or Council shall submit to the Treasurer such information as the Treasurer may require."

"Borrowings by the Board of Advanced Education or a Council of a College of Advanced Education.

62v. Power to borrow. (1) Subject to this Act, the Board of Advanced Education or a Council of a college of advanced education may, from time to time, borrow money—

- (a) from the Treasurer;
- (b) by the sale of debentures; or
- (c) partly in one and partly in the other of the ways specified in this subsection.

(2) Before entering into negotiations to borrow money by the sale of debentures, the Board or Council shall obtain the sanction of the Treasurer authorizing it to enter upon such negotiations and, for this purpose, shall furnish the Treasurer with such information as he requires.

(3) The Board or Council shall not borrow money pursuant to negotiations sanctioned by the Treasurer unless the authority of the Governor in Council thereto is first obtained.

Such authority, if given, shall be given by way of Order in Council.

The Order in Council shall declare the amount that may be borrowed, the purposes for which the loan is to be borrowed, the currency of the loan, the amount of interest payable thereon, the terms and conditions for the redemption of the loan, whether by yearly, half-yearly or quarterly payments or by payments into a sinking fund and such other conditions as the Governor in Council thinks proper to impose.

(4) The Board or Council shall be a local body under and within the meaning of *The Local Bodies' Loans Guarantee Acts 1923 to 1957*, the provisions whereof shall, subject to such modifications as the Governor in Council prescribes, (whether generally or in respect of a particular loan or advance), apply and extend accordingly.

62w. Procedure by Board or Council. Before proceeding to borrow money, the Board or Council shall—

- (i) pass a resolution authorizing it to borrow money at a special meeting called for that purpose;
- (ii) caused to be prepared—
 - (a) plans and specifications of the work or undertaking;
 - (b) an estimate of the cost thereof;
 - (c) a statement showing the proposed expenditure of the money to be borrowed.

62x. Application of loan moneys. All moneys borrowed by the Board or Council shall be expended for the purpose for which the Board or Council was authorized to borrow the same and not otherwise.

If any amount of a loan remains unexpended upon the completion of the purpose for which such loan was borrowed, such amount shall be applied as the Treasurer directs.

62y. Treasury loans. (1) Every loan advanced by the Treasurer under the provisions of this Act shall be liquidated by the payment to the Treasury by the Board or Council on the first days of January and July, respectively, in every year of such instalments of principal and interest at the prescribed rate as will permit the said loan to be wholly redeemed within the prescribed period of the said loan, and such sums shall continue to be payable until all the moneys advanced from time to time by the Treasurer, together with the interest accruing thereon, have been so paid.

(2) The Treasurer may at any time make any adjustment which he considers necessary to be made with respect to the period of

any loan or the calculation of interest thereon or with respect to any other matter requiring adjustment.”.

“**62z. Debentures.** (1) All debentures issued under the authority of this Act—

- (a) shall, subject to this Act, be issued in such series, at such times and places in or outside the State, and in such manner as the Board of Advanced Education or a Council of a college of advanced education thinks fit;
- (b) shall, with interest thereon, be a charge upon the revenues of the Board or Council subject to any prior debentures issued according to law;
- (c) shall bear interest at the rate and be redeemable at such date or dates and at such place or places in or outside the State as prescribed in the Order in Council referred to in subsection (3) of section 62v of this Act;
- (d) may, with the consent of the holder thereof, be paid off at any time previous to the due date thereof at not more than the amount of the principal remaining unpaid at the time in respect thereof or, with the consent of the Governor in Council, at a premium, with interest thereon to the date of payment only.

(2) Interest secured by any such debentures shall be payable at such times and at such place or places in or outside the State as prescribed in the Order in Council referred to in subsection (3) of section 62v of this Act.

(3) (a) Every debenture issued under the authority of this Act—

- (i) shall be sealed with the seal of the Board or Council and signed by the chairman and, if there be a secretary to such Board or Council, by such secretary and, when so sealed and signed, shall be taken to have been duly issued;
- (ii) shall be numbered consecutively so that no two debentures in one and the same series shall at any time bear the same number;
- (iii) shall have set forth therein the places and times at which the principal and interest are payable.

(b) A debenture issued under the authority of this Act may, at the option of the lender, have annexed thereto for every payment to grow due thereon (whether of principal or interest or principal and interest) a coupon and such debenture and coupon shall, unless the Governor in Council has otherwise prescribed in the Order in Council whereby the loan concerned was authorized, be transferable by delivery, and payment to any person in possession of such debenture or coupon of the sum named therein shall discharge the Board or Council concerned from all liability in respect of that debenture or coupon.

When a debenture or coupon is not transferable by delivery, that fact shall be expressly stated on the face thereof.

(c) In the case of a debenture issued under the authority of this Act with coupons, the holder of such a coupon, whether the same be separate from such debenture or not, shall be entitled to receive payment from the Board or Council of the sum named therein upon presentation on or after the due date for payment thereof at the place where the same is expressed to be made payable.

(d) In the case of a debenture issued under the authority of this Act without coupons, the lender or, in the event of a transfer of such debenture, the transferee for the time being, shall, subject to this paragraph, be entitled to receive payments from the Board or Council in respect of principal or interest or both in accordance with the terms and conditions of such debenture.

A transferee with respect to whom the Board or Council has not been given notice as prescribed shall not be entitled to receive, and the Board or Council shall not be liable to make to such a transferee, any payment in respect of any debenture issued without coupons except under attachment by process of law and then only to the extent of moneys due and payable to such transferee under the debenture and unpaid by the Board or Council to the lender or a prior transferee.

The entitlement of a transferee with respect to whom the Board or Council has been given notice as prescribed to receive any payment in respect of a debenture issued without coupons shall be subject to any payment which, having become due and payable under such debenture before the Board or Council was given such notice, was made by it to the lender or a prior transferee.

In this paragraph (d) the expression "notice as prescribed" means a notice in writing signed by the transferor and transferee and verified to the satisfaction of the Board or Council.

(e) A lender of money to the Board or Council may agree to accept a standard form of debenture but shall not be bound so to do."

"62aa. Illegal borrowing. (1) A person who lends money to the Board of Advanced Education, the Board of Teacher Education or a Council otherwise than in accordance with this Act or some other Act shall have no remedy or right whatsoever to recover money from the Board or Council in respect of that loan.

(2) If the Board or Council borrows any money which it is not lawfully authorized under this Act or some other Act to borrow, all the members of the Board or Council who have consented to the borrowing of such money shall be jointly and severally liable to repay the same and to pay all interest thereon to the

person from whom the same was borrowed, and the same may be recovered from such members or any of them as money lent by such person to such members or, as the case may be, member by action at the suit of the Minister in any court of competent jurisdiction.

(3) If any moneys are appropriated from any fund for the purpose of repaying any money so borrowed or paying interest thereon, the members of the Board or Council who have consented to the misappropriation of such moneys for that purpose shall be jointly and severally liable to refund the same with interest at the rate of eight dollars per centum per annum, and the same may be recovered from such members or any of them by action in any court of competent jurisdiction at the suit of the Treasurer who, on recovery of the same, shall pay the amount recovered into the fund concerned, but shall be entitled to full costs of suit, including costs as between solicitor and client."

"Division VI—The Union

62ab. The Union. (1) For each college of advanced education there shall be a Union.

(2) As from such date as the Governor in Council may appoint in that behalf and notify by Proclamation published in the Gazette, a Union shall be a body corporate under the name "(name of college) Union" and by that name shall have perpetual succession and a common seal and be capable of suing and being sued.

(3) A Union shall have such other powers and authorities and be subject to such obligations as shall have been or shall from time to time be prescribed by or under the by-laws or rules.

(4) Except in the case of emergency (of which the Council of a college shall be sole judge) the Council shall submit to the Union a draft of any proposed by-law or rule affecting the powers, authorities or obligations of the Union and shall consider any representations the Union may make thereon."

"62ac. Constitution of Union. The constitution of a Union and all amendments thereto or alterations or modifications thereof shall be submitted to the Council of the college concerned, and shall have no force or effect unless and until approved by the Council.

62ad. Composition and recognition of Union. (1) All students of a college shall be members of the Union for that college and such other persons as shall be defined for the purpose by the constitution of the Union shall be eligible for membership.

(2) The Union shall be an organized association of such students and other members for the furthering of the objects of the Union as defined by its constitution.

(3) Nothing in this Division of this Part shall be construed in such a manner that a Union shall be, or shall be regarded as being, for any purpose the servant or agent of the college for which it is the Union or of the Council of that college."

"62ae. Transitional provisions as to Unions. (1) Where at the date of the first constitution of a Council of a college of advanced education there is in existence in respect of that college a Union having in force a constitution, the provisions of that constitution in force immediately prior to the first constitution of the Council with respect to membership and meetings, including the holding, notification and conduct of meetings, with all necessary adaptations and with such modifications as the Council of the college may deem expedient shall, for the purpose of facilitating and enabling the preparation and adoption of a constitution by the Union as brought into existence pursuant to this Act, be applicable to the Union and until a constitution is first adopted after the first constitution of the Council of the college, membership of the Union shall be, and meetings shall be held, called and conducted, in accordance with those provisions so adapted and modified.

(2) In so far as the provisions referred to in subsection (1) of this section do not extend, the Council of the college may give such directions not inconsistent with this Act as it deems expedient for the purpose of facilitating and enabling the preparation and adoption of a constitution by the Union, and all things done and steps taken by or in relation to the Union in accordance with such directions shall be of full force and effect and binding on the Union and all persons."

BY-LAWS OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY

Board of Advanced Education,
Brisbane, 21st September, 1972.

HIS Excellency the Governor, acting by and with the advice of the Executive Council and in pursuance of the provisions of the *Education Act* 1964-1970, has been pleased to approve of the following By-laws made by the Council of the Queensland Institute of Technology and approved by the Board of Advanced Education.

ALAN FLETCHER,
Minister for Education and Cultural Activities.

BY-LAW No. 1

Interpretation

1. *Application of By-law.* Except where otherwise expressly provided the several provisions of this By-law shall apply to every By-law of the Institute and any Rule made thereunder.

2. *Meaning of Certain Words.* Unless the context otherwise indicates or requires—

“Academic Year” means an academic year as set out in the calendar;

“Calendar” means the calendar of the Institute in respect of any academic year;

“Chairman” means the Chairman of the Institute Council;

“Institute” means the Queensland Institute of Technology;

“Council” means the Council of the Institute constituted under the Act;

“Course” means a course of study in the Institute;

“Department” means a department of the Institute;

“Deputy Chairman” means the Deputy Chairman of the Institute Council;

“Director” means the Director of the Institute;

“Handbook” means a handbook of the Institute;

“Registrar” means the Registrar of the Institute;

“Term” means a term of the Institute as set out in the calendar.

3. *Applicant for Enrolment.* A person who has lodged an application for enrolment shall until that application has been accepted, withdrawn or rejected be bound by and observe the By-laws and Rules of the Institute as if he were an enrolled student.

4. *Reference to Authority or Officer.* Unless the context otherwise indicates or requires reference to an authority, officer or office shall be construed as reference to that authority, officer or office in and of the Institute.

5. *Method of Citation.* In a By-law, Rule, Order or other instrument of the Institute a By-law may be cited by its number or title and shall be construed as a reference to that By-law as amended from time to time.

6. *Right of Students where By-law or Rule Amended.* If while a student is proceeding to an academic award any provisions of the By-law or Rules relating to that award are repealed or amended the student shall be entitled to complete his course for and receive the award under the original provision upon such terms as to time for completing or otherwise as the Council deems reasonable in the circumstances of the case provided always that if the Council is of opinion that it would impose no hardship upon a student to complete his course under the provisions of the By-law or Rule as so amended he may be required so to do.

7. *Serving of Notices.* Any notice or other document which is authorised or required to be served on any person by any By-law or Rule may be served in any one of the following manners:—

- (a) by delivering it to that person personally;
- (b) by post.

8. *Promulgation of Rules.* A Rule made by the Council pursuant to any By-law shall be promulgated by the Registrar affixing a copy of the Rule on a notice board of the Institute and the production of a copy of any such Rule certified as a true copy by the Registrar shall be sufficient evidence of the making, authenticity and promulgation of the same for all purposes within the Institute. A copy of the Rule shall upon such affixation be forwarded by the Registrar to the Queensland Institute of Technology Union by delivering or posting it to the Queensland Institute of Technology Union or its Director of Administration.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

BY-LAW No. 2

Election of Council

1. *Introductory.*—

- (a) The staff members of the Institute and the enrolled students of the Institute to be appointed members of the Council pursuant to this Act shall be elected in accordance with this By-law.

- (b) An election of elective members (other than in respect of a casual vacancy) shall be held at a time to be fixed by the Registrar not less than two months prior to the expiry of the term of such members.

2. *Rolls.*—

- (a) The Registrar shall keep separate rolls of—
(i) the members of the teaching staff of the Institute; and
(ii) the enrolled students of the Institute.
- (b) Each roll shall contain—
(i) the full name and address of each person enrolled;
(ii) the qualification for enrolment of each such person; and
(iii) the date upon which each person qualified for enrolment.
- (c) For each election the roll of persons entitled to vote at that election shall be the roll as at 4 p.m. on the day on which nominations for that election close provided that up to the time fixed for the close of voting the Registrar may add to the roll the name of any person otherwise qualified to vote but whose name was inadvertently omitted from the roll.
- (d) The Registrar shall from time to time make any correction to a roll which may be necessary to ensure accuracy. Subject to any such correction the inclusion of a person's name on a roll shall be conclusive evidence of his right to vote at an election and the absence of a person's name shall be conclusive evidence that he has no right to vote at an election.

3. *Registrar to Conduct Election.*—

- (a) The Registrar shall be the returning officer for every election and he may appoint such presiding officers and other persons to assist him as he shall deem necessary.
- (b) The Registrar shall conduct every election in accordance with this By-law and the electoral system set out in the Schedule hereto.
- (c) Subject to this By-law and the Rules the Registrar shall have full power and authority to determine all procedural matters relating to an election.

4. *Notice of Election.* When an election is to be held the Registrar shall publish on a notice board of the Institute and by such other means if any as he may deem desirable a notice which shall—

- (a) state that an election of staff members or of enrolled students to be appointed to the Council as the case may be is to be held on a specified date;

- (b) state the number of persons of either category to be elected;
 - (c) invite nominations of qualified persons for election and specify the form in which nominations shall be made;
 - (d) fix a date and time by which nominations shall be delivered to the Registrar.
5. *Manner of Nomination.*—
- (a) A nomination of a candidate shall be made by delivering the nomination paper in the prescribed form to the Registrar at his office by the appointed time.
 - (b) A nomination paper shall be signed by the candidate and by—
 - (i) in the case of an election of members by the teaching staff two persons qualified to vote at the election;
 - (ii) in the case of an election of members by the student body two persons qualified to vote at the election.
 - (c) Only one candidate may be nominated on a nomination paper.
 - (d) After the time fixed for the closing of nominations a nomination may not be withdrawn.
6. *Result if Only Number to be Elected Nominated.* If the number of nominations received by the Registrar within the time so specified is equal to the number of persons who may be appointed the Registrar shall declare the persons nominated to be elected.
7. *Result of Insufficient Nominations.* If the number of nominations in respect of either category is fewer than the number of persons who may be appointed the Registrar shall declare the persons nominated to be elected in that category and shall notify the Council that the body concerned has failed to nominate a sufficient number of persons to be a member or members of the Council.
8. *Result if More Nominated Than to be Elected.* If the number of nominations received exceeds the number of persons who may be appointed in either category an election shall be held in accordance with the electoral system set out in the Schedule hereto.
9. *Voter not to Part with Voting Paper.* A voter shall not before or after voting permit a voting paper issued to him to be used by any other persons or part with it otherwise than by placing it in a ballot box or if he should be absent from the Institute by posting it to the Registrar.
10. *Secret Ballot.* Voting shall be by secret ballot.
11. *Times for Voting.* Ballot boxes shall be available from 8.30 a.m. to 9.00 p.m. on each day of the week excluding the

Saturday and the Sunday preceding the closing date for receipt of voting papers. Ballot boxes shall be sealed immediately prior to being set out for the receipt of voting papers and shall remain sealed until counting commences. Each candidate or one scrutineer on his behalf may be present at the sealing of the ballot boxes.

12. *Secrecy.* The Registrar or any scrutineer or other person concerned with the conduct of an election shall not in any way disclose nor aid in disclosing in what manner any voter voted.

13. *Scrutineers.* A candidate may appoint not more than two scrutineers.

14. *Election not to be Invalidated by Informalities.* An election shall not be invalidated by reason of—

- (a) inadvertent failure to send any person qualified to vote any notice or ballot paper;
- (b) failure to do any act at or by the required time;
- (c) any defect in the appointments of a person who acts as scrutineer; or
- (d) any defect of a merely formal nature.

15. *Right of Appeal.* A candidate shall have the right of appeal to the Chairman within seven days of the declaration of the poll should he feel that the conduct of the election was in any way contrary to this By-law. The Chairman shall have full power to make such enquiry as he deems necessary into the matter complained of and after such enquiry may confirm the election or annul the election and direct that a fresh election be held or give such other direction as he considers necessary. The decision of the Chairman after hearing such appeal shall be final and conclusive.

16. *Council may make Rules.* The Council may make rules for the carrying into effect of all or any of the provisions and objects of this By-law.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

Schedule

1. *Times for Preliminary Matters.* The Registrar shall allow the intervals specified hereunder between the events severally set out—

- (a) between the publication of notice of an election and the time specified for the receipt of nominations: not less than fourteen and not more than twenty-eight days;

- (b) between the time specified for the receipt of nominations and the issue of voting papers: not more than twenty-eight days; and
- (c) between the time of issuing voting papers and the time by which voting papers shall reach the returning officer: not less than fourteen and not more than twenty-eight days.

2. *Form of Voting Paper.* Every voting paper shall contain the names of the candidates in random order determined by the Registrar by lot in the presence of at least two of the candidates or their representatives and shall be initialled by the Registrar or a presiding officer.

3. *Registrar to Distribute Voting Material.* The Registrar or a presiding officer shall distribute a voting paper to each person registered on the relevant roll together with—

- (a) a notice which may be printed on the voting paper stating the number of candidates to be elected the manner in which the voter shall signify his vote and specifying a day and time by which completed voting papers must reach the Registrar;
- (b) a form of declaration (which in the case of an absent elector exercising a postal vote may be printed on the envelope in which the envelope containing the completed voting paper is forwarded to the Registrar) containing the full name of the voter his signature his address for purposes of election of Council members and such particulars of his eligibility to vote as the Registrar shall require;
- (c) such other information or material as the Registrar deems appropriate;
- (d) biographical details (not exceeding one hundred words in length in respect of any one candidate) where such details have been supplied by the candidates.

4. *Method of Marking Ballot Paper.* A voter shall mark his voting paper by placing a cross in the squares respectively opposite the names of the candidates for whom he votes. He shall not make any other mark or writing thereon.

5. *Return of Voting Papers.* A voter shall forthwith place the completed voting paper in a ballot box provided or if he is absent from the Institute return it by post to the Registrar in an envelope clearly marked to identify the contents as a voting paper in that election.

6. *Counting of Votes.* Forthwith after the time specified for the return of voting papers the Registrar shall cause the votes to be counted.

7. Informal Votes.—

- (a) A voting paper shall be rejected as being an informal vote if voting paper—
- (i) is not initialed by the Registrar or a presiding officer;
 - (ii) contains any means by which the name of the voter may be identified;
 - (iii) contains votes for more or fewer candidates than the number to be elected; or
 - (iv) has no vote indicated on it.
- (b) A voting paper shall not be informal for any reason other than a reason specified in paragraph (a) hereof but shall be given effect to according to the voter's intention so far as his intention is clear.
- (c) The Registrar's decision as to the validity or regularity of any voting paper shall be final.

8. Declaration of Elected Candidates. On completion of the counting of the votes the Registrar shall declare the names of the candidates elected.

9. Equality of Votes. In the event of an equality of votes the election shall be decided by lot conducted by the Registrar.

10. Custody of Election Material. After the end of the counting the Registrar shall fasten and seal in one packet all the ballot papers together with any other papers and documents signed or marked by a voter and a marked copy of the roll signed by the Registrar and the scrutineers and keep the packet safely for twelve months after which time it may be destroyed.

11. Recording of Result of Election. The Registrar shall prepare a statement signed by himself and countersigned by such of the scrutineers as may wish to do so containing the names of the candidates and the number in words as well as in figures of the votes received by each candidate and a declaration of the names of the candidates who have been elected and place that statement and declaration in the packet referred to in clause 10 of this Schedule.

12. Registrar to Report. The Registrar shall report the names of the persons elected to the Chairman of the Board of Advanced Education for transmission to the Minister and to the Chairman of the Council or in his absence some member of the Council nominated by him or by the Council for that purpose and shall publicly notify such names by posting a copy of the statement prepared as aforesaid upon a notice board of the Institute.

BY-LAW No. 3

The Common Seal

1. Custody of Common Seal. The Common Seal shall be and remain in the custody of the Registrar and shall not be affixed to any document except pursuant to a resolution of the Council.

2. *Use of Common Seal.* The Common Seal shall be affixed to such documents as the Council either generally or in any particular case may by resolution determine and shall be affixed by the Registrar or other person authorised by the Council and every such document to which the seal is affixed shall be signed by the Chairman or in his absence the Deputy Chairman and the Registrar or other person duly authorised by the Council for the purpose.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

BY-LAW No. 4

Meetings of Council

1. *Council to Meet.* The Council shall meet as frequently as is necessary to ensure the efficient operation of the Institute but so that not more than three months shall elapse between consecutive meetings.

2. *Chairman May Call Special Meetings.* The Chairman or in his absence the Deputy Chairman or in the absence of both the Director may call a special meeting for consideration of any urgent business.

3. *Request for Meeting.* Upon the written request of any seven members the Registrar shall convene a special meeting of the Council to be held within fourteen days after the receipt of the request. The written request shall set forth the objects for which the meeting is required.

4. *Initiation of Business by Members of Council.* Except with the permission of the meeting a member other than the Chairman or the Director shall not initiate any subject for discussion at an ordinary meeting except in pursuance of notice given at the previous ordinary meeting of the Council or conveyed by letter to the Registrar fourteen clear days before the meeting and the Registrar shall enter all such notices in a "Notice of Motion Book" to be kept by him for the purpose.

5. *Notice of and Business at Meetings.* Notice of a meeting and copy of the business papers accompanied by supporting statements in sufficient detail shall be posted or delivered by the Registrar to each member of the Council at least ten days prior to the meeting; provided that by a further notice so posted or delivered not less than three days prior to the meeting the Registrar may advise of supplementary business to be put

before the meeting. Subject to the approval of the meeting the Chairman may allow additional business to be circulated with less notice or to be tabled at the meeting.

6. *Lack of Quorum.* In the event of a quorum not being present within half an hour after the time appointed for a meeting the Chairman or in his absence the Deputy Chairman or in the absence of both the Chairman and the Deputy Chairman the members present or the majority of them or any one member if only one is present or the Registrar if no member is present may adjourn such meeting to any time not later than fourteen days from the date of such adjournment: Provided that nothing herein shall be construed to prevent the adjournment of any meeting to a later hour of the same day on which such meeting was appointed to be held.

7. *Minutes.* The minutes of any preceding meeting of the Council whether ordinary or special not previously approved as being a true record shall be circulated to members of the Council prior to the meeting at which they are to be considered. Upon being approved as correct such minutes shall be signed by the Chairman as being a true record.

8. *Adjournment.* The Council may adjourn any meeting to a later date.

9. *Rules.* The Council may make Rules—

- (a) prescribing the procedures and Rules of debate to be followed at its meetings; and
- (b) generally for carrying into effect all or any of the provisions and objects of this By-law.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

BY-LAW No. 5

Committees Appointed by the Council

1. *Council May Appoint Committees.* The Council may from time to time—

- (a) appoint committees either for general or specific purposes;
- (b) delegate to a committee power to do any act or hold any enquiry;
- (c) authorise a committee to take executive action either generally or in specific cases in relation to any matter within its scope;

(d) require a committee to advise the Council in respect of any matter or class of matters concerning the Institute.

2. *Duties and Powers of Committees.*

(a) Every committee shall after each of its meetings or as otherwise directed by the Council transmit to the Council a submission in writing or a report consisting of minutes of any of its proceedings which involve recommendations to the Council or concern matters to which it desires the attention of the Council.

(b) A recommendation or any decision of a committee shall be of no force or effect unless and until it is approved by the Council.

3. *Membership of Committees.*

(a) The Council may appoint to a committee such members of the Council or other persons as the Council may from time to time determine. A committee shall consist of not less than three members and a quorum shall consist of a majority of the members of the committee.

(b) The Chairman shall by virtue of his office be a member of each committee of the Council.

(c) A committee may co-opt such persons as it considers appropriate for the efficient conduct of its business. A co-opted member shall be entitled to vote on any matter except one involving the exercise by the committee of a power to take executive action.

4. *Chairman of a Committee.* The Council may from time to time appoint a member of a committee to be Chairman of that committee. In the absence of such appointment or in the event of the absence of the Chairman of a committee from a meeting of that committee the committee shall elect one of its members to be Chairman.

5. *Conduct of Business.* Subject to the By-laws and any direction of the Council every committee may regulate its own procedures.

6. *Recommendations to Committees.* A person or body authorised to make recommendations to the Council involving any matter within the scope of a committee may subject to any direction by the Council instead make such recommendations to that committee.

7. *Committee May Consult or Refer.* A committee may consult with or refer any matter for consideration and advice to such persons or bodies whether members of the Institute or not as it deems fit in the execution of its powers or the performance of its duties.

8. *Committee to Report to Council.* After each of its meetings every committee shall submit to the Council a full report of the proceedings.

9. *Saving of Other Powers of Council.* Nothing in this By-law shall limit the powers conferred upon the Council by the Act or any By-law or Rule and in particular and without limiting the generality of the foregoing every committee shall exercise its function and authority subject to the supreme control and direction of the Council.

10. *Rules.* The Council may make Rules for the carrying into effect of all or any of the provisions and objects of this By-law.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

BY-LAW No. 6

The Director

1. *Duties of Director.* The Director shall be the principal officer of the Institute and shall be charged with the duty of promoting the interests and furthering the development of the Institute.

2. *Powers of Director.* Under the Council and subject to the Act and the By-laws thereunder and to any resolution of the Council the Director shall—

- (a) be responsible for the academic, administrative, financial and other business of the Institute;
- (b) exercise a general supervision over all persons in the service of the Institute and over the welfare and discipline of the students of the Institute;
- (c) exercise such powers as the Council may delegate to him.

3. *Director to be Member of Committees.* The Director shall be *ex officio* a member of every board and committee within the Institute.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

BY-LAW No. 7

The Registrar

1. The Registrar shall be the chief administrative officer of the Institute.

2. *Registrar to Assist Director.* The Registrar shall assist the Director as the latter may require in the performance of his duties.

3. *Duties of Registrar.* Under the Director the Registrar shall—

- (a) be responsible for the general administration of the Institute;
 - (b) be Secretary of such sub-committee as may be determined by the Council from time to time;
 - (c) keep all such registers as may be required;
 - (d) conduct the correspondence of the Institute; and
 - (e) be responsible for the management and supervision of the examinations of the Institute.
-

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

BY-LAW No. 8

Staff

1. *Council May Appoint Staff.* The Council may—

- (a) appoint staff;
- (b) note resignations from members of the staff;
- (c) declare the employment of any member of the staff to have been abandoned by such member;
- (d) approve the grant of salary progression to any member of staff within the salary scale applicable to such member.

2. *Discipline of Members of Staff.*

- (a) The Council may take disciplinary action against any member of the staff who is guilty of a breach of discipline.
- (b) In this By-law the expression "take disciplinary action against" means fine, reprimand, suspend, transfer to other duties, dismiss or reduce in status and the expression "guilty of a breach of discipline" means guilty of neglect in the discharge of his duties or of misconduct which in either case in the reasonable opinion of the Council is detrimental to the Institute.

3. *Suspension of Staff.*

- (a) Where in his reasonable opinion such action is necessary or desirable in the interests of the Institute the Director may suspend a member of the staff and may exclude him from admission to the precincts of the Institute or to any of its buildings.

- (b) After suspending a member of the staff in accordance with subsection (a) the Director shall immediately inform the Chairman or Deputy Chairman of such action and shall submit a report on the circumstances thereof to a meeting of the Council to be held within fourteen days of such suspension.
- (c) The Council shall consider the report of the Director and shall either determine that the suspension shall be terminated or shall refer the matter for the immediate consideration of a Staff Disciplinary Advisory Committee. If the suspension of a member of the staff be terminated by the Council and he thereupon resumes his duties all salary and other emoluments which would have become payable to him if he had not been suspended shall be come immediately payable to him.
- (d) A member of staff whilst under suspension shall not receive pay or any other entitlements of his office accruing after the suspension pending determination of his case by the Council.

4. *Staff Disciplinary Advisory Committee.*

- (a) There shall be constituted from time to time as and when necessary a Staff Disciplinary Advisory Committee consisting of the following members:—
The Chairman or in his absence Deputy Chairman;
Two members of Council appointed by Council;
Two members of the staff appointed by the relevant Staff Association.
- (b) Three members of the Committee shall be a quorum.
- (c) The functions of the Committee shall be to make enquiry into and report to the Council through the Director on the existence and sufficiency of any alleged ground for disciplinary action against any member of the staff which may be referred to it by the Council the Director or when requested by the member of the staff accused of the breach of discipline.
- (d) The Committee shall—
 - (i) furnish forthwith to such member of the staff concerned particulars in writing of the alleged breach of discipline and give him a reasonable time to prepare his defence; and
 - (ii) when making enquiry into the matter which enquiry shall be held as soon as reasonably possible—
 - (a) consider such submissions material and evidence as are relevant; and
 - (b) give the member of the staff concerned reasonable opportunity to be heard and to make

such submissions and present such materials and evidence as are relevant.

(e) The Chairman shall have a primary vote only.

(f) In the case of equality of votes the member of the staff concerned shall be found not guilty.

5. A member of the staff in respect of whom the Committee has made an adverse report shall be entitled to make written and with the approval of the Council verbal representations to the Council before any decision by the Council. The Council shall meet for the purpose of hearing such representations within fourteen days of the making of the adverse report and a copy of the proceedings of the Committee shall be made available to such member of the staff prior to his making his representations.

6. A member of the staff shall be entitled to be represented by Counsel or solicitor or by such other person being willing to act as he may appoint. In the event of any such representation of a member of the staff the Chairman or Deputy Chairman may appoint to the Committee for the particular hearing a barrister or solicitor of the Supreme Court of Queensland and the Chairman for the time being of the Committee may adjourn the hearing to enable and effect such further appointment to the Committee. Such barrister or solicitor shall advise the Committee from time to time as the Committee or any member of the Committee may request but such barrister or solicitor shall not have nor exercise any vote.

7. *Rules.* The Council may make Rules for carrying into effect all or any of the provisions and objects of this By-law.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

BY-LAW No. 9

Student Discipline

1. *Application of By-law.* Except where otherwise herein expressly provided this By-law applies to all breaches of discipline as herein defined committed by a student within any boundary or the precincts of the Institute.

2. *Breach of Discipline.* A student who contravenes or fails to comply with any By-law or Rule of the Institute or any lawful order of any of its employees is guilty of a simple breach of discipline.

3. *Misconduct.* "Misconduct" means conduct on the part of a student which impairs or interferes with the freedom or ability of other persons to pursue their studies, researches, duties or lawful activities in the Institute or upon premises of the Institute or to participate in the life of the Institute or is otherwise detrimental to the proper conduct or good order of the Institute or which while or as a member of an accredited or representative body of students and whether or not occurring or taking place upon premises of the Institute is such as to prejudice or adversely affect the studies, researches or duties of any student of the Institute.

Without prejudice to the generality of the foregoing the expression includes—

- (a) disrupting or obstructing any teaching activity, examination or official meeting or proceeding of or within the Institute;
- (b) refusing to leave any building or part of a building of the Institute upon being reasonably directed by a senior officer of the Institute to leave it;
- (c) knowingly entering any place within the premises of the Institute which the student is forbidden by a senior officer of the Institute or by a statute or rule to enter;
- (d) knowingly divulging confidential information relating to any Institute matter which is clearly of a confidential nature and which he has no right to divulge;
- (e) obstructing or attempting to interfere with the lawful performance of his duties by any officer or employee of the Institute;
- (f) intentionally damaging or wrongfully dealing with any property in or upon Institute premises;
- (g) unlawfully assaulting a person on Institute premises;
- (h) failing to comply with any action taken under this By-law other than non-payment of a fine;
- (i) committing a breach of any By-law or Rule of the Institute the breach of which by that By-law or Rule is declared to be misconduct for the purposes of this By-law;
- (j) making a false representation as to a matter affecting him as a student of the Institute.

"Senior Officer of the Institute" means the Director the Registrar the Bursar the Head of a Department any member of the teaching staff; the Librarian the Manager of the Book Shop the Director of Administration of the Queensland Institute of Technology Union and any other person designated as such in writing by the Director.

"The premises of the Institute" means any land, building or improvements owned or occupied by or which are or may be in the possession or under the control or management of the Institute.

"An accredited or representative body" shall be and be deemed to be one which the Director certifies to be concerned or engaged or having been concerned or engaged in or on an educational activity of the Institute.

4. *Powers of Staff.* A member of the teaching staff a librarian in charge of the library the Bursar the Registrar or the person for the time being acting as or carrying out the duties of Bursar or Registrar may in respect of any simple breach of discipline by a student committed in a class, laboratory, library or facility or premises under his management or control suspend the student from attendance at such class or from use of such laboratory, library, facility or premises for a period not exceeding twenty-four hours as he may determine and shall forthwith advise the Head of the Department or if there be no appropriate such Head of the Department the Registrar or the person for the time being acting as Registrar of the action taken. The Head of a Department or the Registrar or person acting as Registrar as the case may be shall forthwith advise the Director. In the event that there be doubt or lack of definition as to who has such management or control of any part of parts of the Institute the Registrar or the person for the time being acting as Registrar shall be deemed to have such management or control.

5. *Powers of Heads of Departments and Persons in Charge of Facilities or Services.* Heads of Departments and persons in charge of facilities and services may in respect of any simple breach of discipline by the student committed in the department or area of the Institute under the control of the Head of Department or such person so in charge suspend the student from entering into that part of the Institute for a period not exceeding twenty-four hours. The Head of the Department or such person as aforesaid shall forthwith advise the Director of the action taken.

6. *Powers of the Director.* The Director whether following receipt of advice as referred to in the preceding sections 4 and 5 of this By-law or otherwise may after the student has been given reasonable opportunity to be heard in respect of any simple breach of discipline fine a student an amount not exceeding \$25 or alternatively or in addition may take any one or more of the following courses of action:—

- (a) Reprimand and warn the student against repetition of the simple breach of discipline;
- (b) Suspend the student for a period not exceeding one week which shall include any period of suspension imposed under sections 4 or 5 of this By-law;

- (c) Suspend the student from examinations either prior to or during the currency thereof provided that a student may not be so suspended during the currency of an examination unless the Director is of the opinion that such action is necessary to enable other candidates to concentrate or to preserve peace, order or decorum in the examination centre.

7. (a) Where any misconduct is alleged to have been committed the following provisions shall apply:—

- (i) Notice of the charge shall be stated in writing with reasonable particularity by the Director and a copy thereof together with no less than seven days' notice of the date and place of hearing shall be given to the student and to the Director of Administration Queensland Institute of Technology Union.
- (ii) The guilt or otherwise of the student shall be determined by a committee of which the Chairman and two other members shall be appointed by the Council and to which the Queensland Institute of Technology Union shall have the right to appoint up to three members but no appointment by the Queensland Institute of Technology Union shall be valid and effective unless written accreditation has been lodged with the Director before the hearing begins. Any of the committee members may be appointed for a stated or any undetermined period.
- (iii) A student shall be entitled to be represented by Counsel or solicitor or by such other person being willing to act as he may appoint. In the event of any such representation of a student the Chairman or Deputy Chairman may appoint to the committee for the particular hearing a barrister or solicitor of the Supreme Court of Queensland and the Chairman for the time being of the committee may adjourn the hearing to enable and effect such further appointment to the committee. Such barrister or solicitor shall advise the committee from time to time as the committee or any member of the committee may request but such barrister or solicitor shall not have nor exercise any vote.
- (iv) Three members of the committee shall constitute a quorum and the decision of the majority of the members taking part in the hearing shall be the decision of the committee.
- (v) The Chairman shall have a primary vote only.
- (vi) In the case of an equality of votes the student shall be found not guilty.

(b) Where a student is found guilty of misconduct the committee—

- (i) may fine him an amount not exceeding \$100, and

- (ii) may order him to pay restitution or compensation to the Institute and may assess the amount thereof, and
- (iii) may recommend to the Council that he be suspended or excluded from the Institute for a specified period or be expelled therefrom.

8. *Procedure.* Any proceedings under this By-law including an appeal shall be heard and finalised without delay. A student shall be given a reasonable opportunity of answering any allegation against him of misconduct.

The Chairman of the committee shall keep or direct to be kept a reasonably comprehensive record of the proceedings for use of the Council in the event of an appeal and a copy of such record shall be made available to the student upon request.

9. *Appeal.* A student convicted of any breach of discipline shall be entitled to have the matter reviewed by the Council but subject to the condition that within fourteen days of his conviction he gives written notice in that behalf to the Director and sets out therein the grounds of his appeal and such other relevant matters and contentions as he desires to have considered by the Council.

Unless the Council otherwise directs the matter shall be considered in the first instance by an Appeals Committee (none of whom shall have sat upon the committee referred to in section 7 hereof) of which the Chairman and two other members shall be appointed by the Council and the Queensland Institute of Technology Union shall have the right to appoint three members but any appointment by the Queensland Institute of Technology Union shall not be valid and effective unless written accreditation has been lodged with the Director before the hearing begins and the provisions of section 7 hereof *mutatis mutandis* shall apply to such committee. The review shall be decided upon a consideration of the record kept pursuant to section 8 hereof (or in the case of a simple breach of discipline of a report of the Director) and of any notice given by the student as abovementioned unless the Council or the committee (as the case may be) considers that there should be further enquiry and in that event further evidence may be heard.

The student shall have the same rights in relation to the taking of this evidence as he had in relation to the evidence taken at the hearing and any written submission by him in relation thereto shall be taken into consideration provided that such submission is given to the Director within fourteen days from the conclusion of such evidence.

The Appeals Committee shall report to the Council which may confirm or set aside a conviction and may confirm, set aside or vary in whole or in part any fine and any order for restitution or compensation and where the conviction has been confirmed it may order that the student be suspended or

excluded from the Institute for a specified period or be expelled therefrom.

10. *Interim Order of Suspension.* In circumstances where the Director considers that the good order or discipline of the Institute so requires he may order that a student charged with misconduct shall be suspended from such Institute activities as the Director shall determine pending the determination of the charge. Provided that a student shall not be so suspended during the currency of any examination unless the Director is of opinion that such action is necessary to enable other candidates to concentrate or to preserve peace, order or decorum in the examination centre.

The institution of an appeal shall not operate so as to stay or suspend any such order made by the Director unless the Director otherwise directs.

11. *Enforcement of Sentences.* The imposition of any fine and any order made under or pursuant to this By-law shall become operative immediately it is pronounced and a record of all such fines and orders shall be kept by the Registrar.

A student in respect of whom there is operative an order of suspension or exclusion or expulsion shall be a trespasser if he enters upon the premises of the Institute or any part thereof in breach of such order and shall as such be liable to the due processes of the law; and he may be lawfully removed therefrom by any person or persons so authorised by the Director who may lawfully use any reasonable force to effect such removal.

So long as a fine imposed on him or any compensation or restitution ordered to be paid by him remains unpaid a student may by order of the Director be suspended from such Institute activities as he may determine.

12. In the absence of the Director his powers, functions and discretions under this By-law may be exercised by such person and for such period as the Council may determine.

13. The committee referred to in section 7 hereof and the Appeals Committee referred to in section 9 hereof shall make enquiry in such manner as it deems appropriate to the circumstances of the case; and shall proceed in all respects according to the justice of the case and decide the issue according to equity and good conscience without being bound by legal technicalities or the laws of evidence: Provided always that the student shall be given reasonable notice of the matters alleged against him and a reasonable opportunity to answer them.

No proceeding of such committee or Appeals Committee shall be rendered invalid by reason of any informality in its proceedings or in the absence of any member from a meeting provided that a quorum is otherwise present.

14. *Effect of Suspension of Student.* Unless the context otherwise indicates or requires or the Director in any particular case otherwise directs any student who is suspended or excluded by any By-law or Rule or under the authority of any By-law or Rule—

- (a) shall not thereby become entitled to be repaid any fees paid by him or to be relieved of the payment of any fees already payable by him; and
- (b) while the suspension or exclusion continues shall not attend at the Institute or at any premises where the Institute is offering lectures, tutorials or training or use any of the facilities of the Institute or take any part in any student activities or be entitled to sit for any examination or re-enrol for any course or subject:

Provided that the Director shall grant to any student charged with misconduct reasonable access to such Institute premises and facilities as in the opinion of the Director is reasonably necessary to enable the student to prepare his defence.

15. *Rules.* The Council may make Rules for the carrying into effect of all or any of the provisions and objects of this By-law.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the tenth day of August, 1972.

THE QUEENSLAND INSTITUTE OF TECHNOLOGY RULES OF 1966

Department of Education
7th September, 1966

Pursuant to the powers conferred upon me by Section 35 of "The Education Act of 1964" and all other powers thereunto me enabling, *I hereby make* the following Rules applicable to the Queensland Institute of Technology, Brisbane.

J. C. A. Pizzey,
Minister for Education

These Rules are divided into Parts as follows:—

Part I	Preliminary	Rules	1 to 4
Part II	Enrolment Procedure		5 " 16
Part III	Fees		17 " 21
Part IV	Administration		22 " 45
Part V	Examinations		46 " 52
Part VI	Discipline		53 " 58
Part VII	Penalties for Breach of Discipline		59 and 60
Part VIII	Library		61 to 67
Part IX	Conduct at Examinations		68 " 80
Part X	Property Damage		81

Part I—Preliminary

Title

1. These Rules may be cited as "The Queensland Institute of Technology Rules of 1966" and shall come into force on the date of publication thereof in the Government Gazette.

2. In these Rules and in any By-laws made pursuant to these Rules unless the context otherwise requires the following terms shall have the meanings respectively assigned to them that is to say:

- "By-laws" — By-laws made by the Principal or by Heads of Departments and approved by the Institute;
- "Calendar" — The Calendar of the Institute in respect of any academic year;
- "Council" — The Council of the Queensland Institute of Technology Union;
- "Course" — A Course of study in the Institute;
- "Department" — A Department of the Institute;
- "Handbook" — The Handbook of the Institute;
- "Institute" — The Queensland Institute of Technology established under "The Education Act of 1964";

- "Prescribed" — Prescribed by the Institute;
 "Principal" — The Principal of the Institute;
 "Registrar" — The Registrar of the Institute;
 "Student" — A person registered and enrolled at the Institute;
 "Term" — A term of the Institute as set out in the Calendar;

3. In these Rules and By-laws every word of the masculine gender shall be construed as including the feminine gender and every word in the singular number shall be construed as including the plural number and every word in the plural number shall be construed as including the singular number.

4. Any notice or other document authorised or required by these Rules to be given or sent shall be deemed to have been duly given or sent if signed by the party giving or sending it and forwarded by prepaid post addressed to the party to whom it is to be given or sent at his last known address or place of business and any such notice or document shall be deemed to have been duly given or sent on the day on which it would have been delivered in the ordinary course of post.

Part II—Enrolment Procedure

5. A person shall in the first year in which he seeks to pursue any course at the Institute make application to the Registrar for registration on the Application for Registration and Enrolment Form provided for such purpose, and shall lodge such Form fully and correctly completed according to the requirements thereof, not later than the closing date prescribed. With such Application for Registration and Enrolment Form such person shall produce, for verification, documentary evidence of passes in pre-requisite examinations.

5(a). A person shall in the year in which he seeks provisional enrolment in a part time course make application to the Registrar on an Application for Provisional enrolment form provided for such purpose and shall lodge such form fully and correctly completed according to the requirements thereof, not later than the closing date prescribed. With such Application for Provisional enrolment form such person shall produce, for verification, documentary evidence of passes in pre-requisite examinations.

6. The documentary evidence produced for verification may be the original documents, photostat copies thereof or in the case of Junior and Senior examinations results, a certificate by the Headmaster or Deputy Headmaster of the school or college from which the student was nominated for the examination in question, or such other evidence as the Technical Education Advisory Council may require.

7. A person seeking special concessions or exemptions in

regard to course or subject requirements shall list such claims on the Application for Registration and Enrolment Form and attach documentary evidence in relation to such claims. Where he deems it necessary, the Head of Department may require such applicant to attend for interview.

8. A prospective student may procure the necessary Application for Registration and Enrolment Form from the Institute Office.

9. Closing dates relating to registration and enrolments or to enrolments are as set out in the Handbook and Calendar.

- 9(a). (i) Application for enrolment as an external or correspondence student made within one month after the commencement of the Institute academic year may be accepted for a limited course of study only.
- (ii) When an Application for enrolment as an external or correspondence student is accepted after the close of the First term, such student shall not be eligible to sit for the annual examinations of that year.
- (iii) Application for enrolment as an external or correspondence student after 30th June shall not be accepted.
- (iv) The maximum number of subjects any external or correspondence student may be permitted to study in any one year shall be four (4). Engineering Mathematics I will be regarded as two (2) subjects.

10. Application for Registration and Enrolment Forms will be provided for continuing students prior to the midsummer vacation of any academic year.

11. Students who are continuing their studies with any Department shall lodge the required Application for Registration and Enrolment Forms with the Registrar not later than the closing date prescribed. A student involved in supplementary examinations shall lodge Application for Registration and Enrolment Forms on the assumption that he will be successful, such forms to be lodged not later than the closing date prescribed.

12. The Registrar shall notify an applicant for registration and enrolment or enrolment of the acceptance or otherwise of his application and an acceptance shall be accompanied by a fee payment slip indicating the amount of fee payable.

13. Applications for registration and enrolment lodged after the prescribed date may be rejected and if accepted may be subject to a late lodgement fee of Four Dollars (\$4.). Acceptance or otherwise will be determined by, amongst other things, existing class commitments and capacity to establish additional

class groups. An enrolment will not be accepted after the fifth week of the first term without the approval of the Principal.

14. Where employment is obtained by a person after the closing date for registration and enrolment, and the conditions of such employment require such person to enrol in a prescribed course, such person shall obtain a letter from his employer to this effect whereupon the late lodgement fee may be waived.

15. A student who desires or it is necessary by Course Structure to alter his enrolment for second or third terms shall notify the Registrar in writing at least five weeks prior to the commencement of the particular term.

16. The Calendar shall provide information upon the following—

- (i) the date appointed for interviews which have been granted upon applications by continuing students, and students transferring from old to new courses.
- (ii) the period appointed for open interviews between the hours of 11 a.m. and 7 p.m. for new enrolments in Professional courses, and
- (iii) the period appointed for open interviews between the hours of 11 a.m. and 7 p.m. for new enrolments in Certificate courses.

A Student may, during the progress of his studies, make an application to the Principal for interview.

Part III—Fees

17. Fees shall be determined on a basis of three terms per year in accordance with the Table of fees set out in Appendix A to these Rules.

18. All fees shall be payable in advance and a student shall not be admitted to classes until the prescribed fee has been paid by him. A late payment fee of Two Dollars (\$2.) shall be payable by a student who pays his fees after the prescribed date.

19. Payment of fees may be made by cheque, postal order, or money order payable to Principal, Queensland Institute of Technology, Brisbane at P.O. Brisbane (North Quay) sent through the post to the Registrar, or paid in person at the Institute office. In all cases the fee payment slip must be presented. The receipt issued upon payment of fees shall be produced to the lecturer of each class group first attended in the term.

20. When the responsibility for payment of a student's fees is accepted by his employer, the student shall pay the prescribed fees to the Institute and then seek re-imburement from his employer.

20(a). Where a student is the holder of a recognised scholarship, and the Institute has been advised accordingly, a claim for payment of the fees shall be made direct on the authority

providing such scholarship, and the student shall be issued with a letter of entry to class.

21. (i) A General Purpose fee shall be payable by each student with his first term tuition fee, or in cases where no tuition fee is payable, upon notification of acceptance of his enrolment.

The General Purpose fee shall be as follows:—

- (i) full-time students twelve Dollars (\$12.00)
 - (ii) part-time students five Dollars (\$5.00)
- (ii) All money received as General Purpose fees shall be paid to the Queensland Institute of Technology Union and payment of such General Purpose fee shall entitle a student to membership of such Union.

Part IV—Administration

22. A student is required to inform himself of and to comply with all Institute requirements, and to notify the Registrar in writing of any change of his address. The Institute shall be under no responsibility if official communications fail to reach a student who has not notified his change of address.

23. A first year day student enrolling for the first time shall attend the orientation programme, and first year evening students shall attend such parts of such programme as are prescribed by the Registrar.

24. The timetable for the year shall be determined in accordance with the Calendar and late enrolment shall be subject to such timetable. Class groups shall also be determined and a late enrolment accepted will be subject to student's ability to attend classes where a vacancy exists.

25. A student shall be allocated to a class group by the Head of the Department concerned who may provide where the timetable permits instruction on a particular evening to suit individual needs. The period of instruction, class group and lecture room shall be posted on Institute notice boards for the orientation period. A student shall familiarize himself with the information so provided.

26. Subject to these Rules an application for registration shall be deemed to be accepted by the Institute on the date upon which it is approved by the appropriate Head of Department. Notice of such acceptance shall be forwarded by post to the student concerned. Consequent upon such acceptance a person shall be deemed to be a student of the Institute as from the date on which his application was lodged.

27. An application for registration and enrolment or for enrolment may be rejected by the Head of a Department on the ground that the subjects selected by the applicant are not suitable because of timetable arrangements or non-compliance

with these Rules or because in his opinion such applicant has selected more subjects than his capacity or circumstances enable him to study adequately. Notice of such rejection shall be forwarded by post to the applicant.

28. A person whose registration has been rejected shall have a right of appeal to the Director-General of Education whose decision thereon shall be final and binding. An appeal shall be made in the form of a letter setting out the nature and grounds of such appeal and shall be lodged with the Director-General of Education within a period of two (2) weeks from the date of receipt by the person of the notification of rejection.

29. Credit shall not be given to a student within a course of study for a subject taken by him outside such course unless prior approval to study such subject had been granted in writing by the Principal.

30. In all courses studied on a unit basis, a student shall not without the prior approval of the Principal be permitted to study concurrently subjects from more than two (2) consecutive years of such course. A student shall have completed or be studying all subjects of a year before attempting the subjects of the next year.

31. The following restrictions upon subjects taken and hours of attendance in part-time courses are applied:—

(i) Certificate courses—a student shall not be permitted to take subjects with a time content of more than nine (9) hours lectures per week, nor to attend classes on more than three (3) nights per week.

(ii) Diploma courses—a student shall not be permitted to take subjects with a time content of more than twelve (12) hours lectures per week, nor to attend classes on more than four (4) nights per week.

32. (i) If a student is granted day time release from his employment for attendance at classes, then in any such case for the purpose of this Rule, a half day attendance shall be equivalent to a one (1) night attendance.

(ii) The Principal may, in his discretion, determine an increase in the permissible hourly content of study and consequent nightly attendance in any week.

33. If a student has previously enrolled for a subject but has not passed or has not been given credit for a pass in such subject, the Principal may, in his discretion, exempt such student from such of the requirements of that subject as he deems fit.

34. (i) A student who in any subject fails to attend eighty per centum (80%) of the total instruction may be deemed by the Principal ineligible to sit for the annual examination concerned.

(ii) On the payment of the prescribed term fee by an external or correspondence student, that term's

instruction papers shall be issued to such student, the issue of further papers being dependent upon at least an eighty per centum (80%) return of satisfactorily completed test answers for the previous term.

- (iii) An external or correspondence student who fails to complete satisfactorily and return at least eighty per centum (80%) of the test answers required for First and Second terms by the end of August, may be deemed by the Principal ineligible to sit for the Annual examination in that subject, with final acceptance of examination nomination being dependent upon enrolment and a regular return of test answers for the Third term.

35. Completion by a student of all practical work or assignment work required in any subject to the satisfaction of the Principal shall be a pre-requisite to his being eligible to sit for examination in that subject.

36. Written notice by the Registrar of the ineligibility of a student to sit for an examination shall be posted to the student. The written notice shall specify a date as the last date on which an appeal to the Principal by the student against such decision of ineligibility may be lodged by him with the Registrar, and shall not be effective unless it specifies a date at least two weeks later than the date on which it was posted as the last date on which an appeal may be lodged by the student. Where finality cannot be reached in the matter of such appeal prior to the date of examination, the student shall be allowed to sit for such examination pending the outcome of the appeal.

37. Students are required to comply with By Laws laid down by Heads of Departments in relation to dress and safety measures whilst engaged in work in laboratories or workshops.

38. Course structure may be changed at any time upon the recommendation of the Technical Education Advisory Council and with the approval of the Minister for Education. A student's enrolment in any course or subject shall be deemed to be made subject to these Rules and to any addition or amendment made thereto. If a student considers that any such addition or amendment will cause special hardship to him, the Principal may on the student's representation make such special provision in the matter as he considers reasonable in the circumstances.

39. In part-time courses a student who has failed in a particular subject at two (2) annual examinations shall be restricted to enrolment in such subject only in the next academic year. Payment of third term fees shall be taken as a declaration of intention to sit for the examination. A subsequent exclusion on the basis of unsatisfactory attendance or failure to take the examination shall then be counted as the equivalent of a failure in the subject.

41. The Principal may cancel any subject of a course where the number of applicants therefor is fewer than eight (8). In the case of elective subjects prescribed in any course, the Principal may restrict the provision of any of such elective subjects in the light of enrolment numbers.

42. (i) A person who has not registered as a student may apply to study individual subjects and may be admitted to classes provided that vacancies exist and provided further that prior approval in writing by the Principal has been obtained by him. Such person shall conform to the conditions covering the course comprising such subjects and shall pay the specified fee for each individual subject taken.

(ii) Such person shall be subject to the provisions of Parts VI and VII of these Rules.

43. A student attending a course shall provide himself with such books, instruments, and other equipment as from time to time may be directed by the Head of the Department concerned.

44. The right to retain a copy of any drawings, models, designs, plans and specifications, essays, assignments, or other work submitted by a student as part of his course is reserved to the Institute.

45. A student may register in only one course in any given year.

Part V—Examinations

46. Examinations to be known as the Annual Examinations shall be held each year and a candidate required to pass an examination in any subject shall sit for the Annual Examinations in that subject. The responsibility for nomination by a student of the Institute in a Junior or a Senior subject or subjects shall rest with the student personally. Provision shall be made for the conduct of Supplementary Examinations in all full-time courses and Deferred Examinations in all courses. A Supplementary Examination shall mean an examination given to a candidate who has in the same academic year sat for and failed to pass the Annual Examination in that subject. A Deferred Examination means an examination given to a candidate who has, through circumstances beyond his control, been unable to present himself in the same academic year for the Annual Examination in that subject.

47. If the Principal is satisfied that a candidate was unable, by reason of illness or other circumstances beyond his control, to sit for an Annual Examination prescribed in his case, the Principal may allow the candidate to sit for a Deferred Examination on such conditions as the Principal may determine. An application for such Deferred Examination shall be supported by evidence of

the grounds on which it is made and shall be lodged with the Registrar before the prescribed date set down in the Calendar.

48. The papers submitted by a candidate in any subject shall be revalued on request lodged by him with the Registrar and on payment of the prescribed fee of Two Dollars (\$2.) per paper with a maximum of \$4.00 per subject not later than the date prescribed in the Calendar. If, on revaluation, a pass in place of a failure, or a higher grade of pass, is awarded to the candidate, the fee so paid shall be refunded.

49. In Annual Examinations and Deferred Examinations a pass in each subject may be graded and credited as 'Honours', 'Credit' 'Pass' or 'Pass conceded' whereas in supplementary examinations when a candidate is successful a 'Pass' only shall be granted.

50. A candidate for any examination shall lodge an examination entry in the prescribed form with the Registrar not later than the closing date prescribed in the Calendar for entry for the examination.

51. The Registrar shall prescribe the form for examination entries, and shall prescribe closing dates for entry for the various examinations conducted by the Institute.

52. (i) A preliminary timetable for Annual Examinations shall be prepared and posted on the notice boards of the Institute not later than 31st August of each year. A student shall notify the Registrar in writing within two (2) weeks from 31st August of any clashes in subjects for which he has nominated. The final timetable shall be posted on such notice boards not later than 30th September of each year.

(ii) The timetable for Supplementary Examinations in January shall be prepared and mailed to students who have nominated therefor as well as being posted on the notice boards of the Institute.

Part VI—Discipline

53. (i) A student enrolled at the Institute shall be required to observe these Rules and the By Laws made by the Principal or Heads of Departments in order to maintain the property of the Institute and to ensure the safety of individuals and the orderly conduct of courses of instruction at the Institute.

(ii) Failure of such student to observe any of such Rules or By Laws shall be regarded as a breach of discipline and shall render such student liable to penalties set forth in this Part of these Rules.

54. A Student shall at all times maintain a high standard of behaviour within the precincts of the Institute and shall not

indulge in any acts which may result in damage to Institute property or unduly interfere with the comfort or convenience of any person lawfully entitled to be within the precincts of the Institute.

55. A student shall not organise or attend any gathering of fellow students or other members of the community at large within the Institute grounds unless such gathering has been previously authorised by the Council and approved by the Principal.

56. A student shall not bring alcoholic beverages within the precincts of the Institute or consume alcoholic beverages whilst on Institute premises unless prior approval has been obtained from the Principal.

57. A student shall not be permitted to park a vehicle within the grounds of the Institute unless such student has previously made application for a parking permit and this permit has been granted. The privilege of parking within the grounds shall be subject to such conditions as may be imposed at the time the permit is issued to the applicant. An application for permission to park a vehicle within the grounds of the Institute shall be made on a form prescribed and available at the Institute office.

58. A student shall at all times be subject to these Rules if he is—

- (i) present within the precincts of the Institute whether in order to attend organised classes of instruction or for other purposes and whether during the official hours for which the Institute is open for tuition purposes or outside such hours or during week-ends, public holidays or vacation periods; or
- (ii) present at any class of instruction or social or sporting function organised by the Institute or the Queensland Institute of Technology Union whether this be within or outside the precincts of the Institute. At such times the student shall maintain a high standard of behaviour and shall refrain from any action which will be detrimental to the good repute of the Institute.

Part VII—Penalties for Breach of Discipline

59. Any act or conduct of a student at the Institute is a breach of discipline if—

- (i) it involves a breach of these Rules;
- (ii) it involves a breach of By Laws made in order to maintain the property of the Institute and to ensure the safety of individuals and the orderly conduct of courses of instruction at the Institute; or
- (iii) it involves disobedience to a reasonable direction by a member of the teaching staff of the Institute.

60. For any breach of discipline committed by him (hereinafter in this part of these Rules referred to simply as "breach") a student shall be subject to one or more of the following penalties:—

A. Breaches within the premises of the Institute or during classes of instruction.

- (1) (i) *Exclusion from a class of instruction for the remainder of the period allocated to that class.* This penalty may be imposed by any member of the teaching staff if the breach occurs during the period for which he is responsible for tuition and the maintenance of student discipline. All such breaches and the penalties imposed must be reported by such member to the Head of the Department concerned who may increase the penalty where such action is warranted and to the extent permitted by these Rules.
- (ii) *Exclusion from all classes of instruction for the remainder of the day.* This penalty may be imposed by the Head of the Department concerned, for any breach reported by a member of the teaching staff as having occurred during a class of instruction conducted by his Department.
- (2) *Exclusion from all classes of instruction for a period of one week.* This penalty may be imposed by the Principal for a serious breach. Where this penalty is imposed, the Principal shall forthwith forward a report thereon to the Director-General of Education and shall notify the parents or guardian of the student concerned of the circumstances of the breach and of the penalty imposed.
- (3) *Suspension of the student.* This penalty may be imposed by the Principal for a very serious breach. Where suspension is imposed a report on the circumstances shall be forwarded forthwith by the Principal to the Minister for Education through the Director-General of Education. The Minister shall determine the duration of suspension or may order expulsion but in such circumstances the student shall have the right of approach to the Minister in the company of his parent or guardian to explain his view of the circumstances of the breach.

B. Breaches within the grounds of the Institute or breaches regarding general student behaviour.

- (1) The Principal may at his discretion refer minor matters of student discipline to the Council for consideration. Where the student objects to being dealt with by the Council he may elect to be dealt with directly by the Principal. The Council on a breach so referred may:—
 - (i) reprimand and warn the student against repetition of the breach; or

- (ii) exclude the student from the use of student facilities including the canteen, community building and sporting facilities and from participation in the activities of its affiliated bodies for a maximum period of one (1) week.
- (2) Where a breach is dealt with by the Council a report on the circumstances of the breach and of the penalties imposed shall be forwarded forthwith by the Council to the Principal. Where the breach is considered to be of a more serious nature the Council may refer the matter back to the Principal with a recommendation for further action. In any such case the student shall have the right of appeal to the Principal against the penalty imposed upon him by the Council.
- (3) Where the Principal elects to deal with the breach himself or where the student elects to be dealt with by the Principal the student may be subject to any one or more of the following penalties:—
- (i) The Principal may severely reprimand and warn the student that further similar breaches will incur more severe penalties;
 - (ii) The Principal may exclude the student from the use of student facilities including the canteen, community building and sporting facilities and from participation in the activities of affiliated bodies of the Queensland Institute of Technology Union for a maximum period of two (2) weeks;
 - (iii) For a serious breach the Principal may exclude the student from admission to the precincts of the Institute for a maximum period of one (1) week. Where any penalty is imposed which involves exclusion from the precincts of the Institute the Principal shall forthwith report on the circumstances of the breach and of the penalties imposed to the Director-General of Education and the penalty imposed shall be subject to appeal by such student to the Director-General of Education whose decision thereon shall be final and binding.
 - (iv) For a very serious breach the Principal may suspend the student and thereupon forward a report on the circumstances thereof to the Minister for Education through the Director-General of Education. The Minister shall determine the duration of the suspension or may order expulsion but in such circumstances the student shall have the right of approach to the Minister in the company of his parent or guardian and to explain his view of the circumstances of the breach.

- (v) For a breach by a student in the parking of a vehicle where the student has been issued with a parking permit the Principal may revoke the permit for a specified period or for the remainder of the academic year. For a breach by a student not possessing a parking permit in the parking of a vehicle, the Principal may arrange for the vehicle to be removed from the grounds of the Institute and the student shall be required to pay the cost of such removal before being admitted to any class of instruction conducted by the Institute.

C. Breaches involved in the use of the Library.

- (1) A breach of these Rules in regard to the use of the Library or of a By Law for the protection of the property of the Institute or the orderly conduct of the affairs of the Library shall be dealt with by the Principal.
- (2) Where a breach involves the loss or damage of books or other publications which are held in the Library or are on loan to a student or the failure of a student to return books or other publications on loan to him, the Principal may require such student to pay the cost of all necessary repairs to or the replacement of such book or publication. In addition the student may be excluded from all classes of instruction at the Institute until such time as payment has been made.
- (3) Where a breach within the Library premises does not involve loss or damage to books, publications or property, the Principal may exclude the student concerned from the use of the Library or Library sources for a period not exceeding two (2) weeks.

Part VIII—Library

61. Unless the Principal otherwise directs, books and publications may be used in the Library and borrowed therefrom by—

- (i) members of the Institute teaching staff;
- (ii) officers of the Institute administrative staff if authorised by the Registrar; and
- (iii) bona fide students pursuing regular courses of the Institute.

62. Subject to these Rules, the hours during which the Library shall be open and other matters concerning the use of the Library shall be as determined by the Principal.

63. A book or publication borrowed from the Library shall be returned thereto within the time prescribed for its return. A book or publication borrowed may be recalled before the end of the period prescribed.

64. Heads of Departments may arrange for block removal of books or publications for Departmental use, such books or publications shall be marked off in the name of the Head of the Department concerned and he shall be responsible for their safe keeping and return within the prescribed time.

65. A book or publication borrowed shall be returned to the Library at least one week before the beginning of the Annual Examination period.

66. A person shall not remove a book or publication from the Library except in accordance with the appropriate borrowing procedures prescribed by the Librarian.

67. A person shall not deal with a book or publication in the Library so as to make it less readily available than it ordinarily would be to other persons who may seek to use such book or publication.

Part IX—Conduct at Examinations

68. A person other than a candidate or a supervisor may not enter an examination room, except with the permission of a supervisor, during an examination period or within thirty (30) minutes immediately before or after such examination period.

69. A candidate may not enter or leave an examination room before he is given permission to do so by a supervisor.

70. A person whether a candidate or not, who is given permission to enter or leave an examination room shall comply with all conditions on which such permission is given.

71. Except where an examination is declared an 'open book' examination a candidate shall not bring into an examination room any writing paper or blotting paper, or any thing, which whether by writing, printing, or other marks on it or otherwise, conveys information concerning or otherwise has reference to any subject or is such that it may reasonably give rise to suspicion that it is capable of conveying information or of having reference to any subject or that it was intended by the candidate to do so. It is immaterial that the subject is not a subject to which the examination relates.

72. A candidate shall not during an examination period communicate by word or otherwise with any other person except a supervisor or assist any other person to communicate with another person or willingly receive a communication from any person other than a supervisor.

73. A candidate shall not cheat in an examination or do any thing calculated to assist him to cheat in an examination. A person whether a candidate or not shall not do any thing intended or calculated to assist any other person sitting for the examination so as to defeat the purpose of the examination.

74. A supervisor may require a candidate to show by such

means as a supervisor may specify and as are appropriate to the circumstances, that he has not in his possession any such thing as is specified in Rule 71 of these Rules, or that otherwise he is not committing or has not committed a breach of Rules 71, 72 or 73 of these Rules and the candidate shall comply with any such requirement.

75. A candidate shall bring into the examination room the means of identification as are prescribed in his case and shall produce or keep them displayed in accordance with any notice displayed in the examination room or by the directions on an examination book, or of a supervisor.

76. A candidate for an examination shall upon entering an examination room proceed without delay to his allotted place and shall not leave such place except with the permission of or by the direction of a supervisor. A supervisor may at any time direct a candidate to leave his place and to occupy another place specified by the supervisor, and a candidate shall without delay comply with any such direction.

77. A candidate shall comply with all directions to candidates set forth on a writing book or other examination materials supplied to him, and shall without delay comply with directions given to him by a supervisor. A supervisor need not give a reason for any direction or requirement given or made to a candidate.

78. If in the opinion of a supervisor a candidate's behaviour, dress, or appearance is such as to disturb or distract any other candidate or is otherwise improper, the supervisor may direct him to leave the examination room, and if the candidate does not forthwith comply with such direction the permission given to him to be on the premises of which the examination room is a part shall be deemed to be withdrawn and he may be dealt with accordingly.

79. If a candidate commits a breach of these Rules he shall, if he is a student of the Institute, be guilty of a breach of discipline and be liable accordingly. If he is not a student of the Institute, his examination may be cancelled by the Principal after such inquiry as he deems appropriate.

80. A candidate who commits a breach of a Rule contained in this Part of these Rules shall be liable in addition to any other penalty to have his examination cancelled, and in particular a candidate offending against Rule 73 of this Part of these Rules shall be liable to the following penalties:—

For a first offence:—

- (a) denial of credit for the subject concerned, or
- (b) denial of credit for all subjects taken in the same academic year.

For a further offence:—

- (a) exclusion from the Institute for a period, or
- (b) permanent exclusion from the Institute.

Part X—Property Damage

81. A person who damages any property or equipment the property of the Minister for Education of Queensland which has been placed under the management and control of the Institute, shall if so required to do by the Principal, make good such damages and in default of so doing may in addition to any other liability thereby incurred by him be liable to be dealt with for a serious breach of discipline as provided by Part VI of these Rules.

APPENDIX A TABLE OF FEES

(Fees listed are for each of three terms)

Late Enrolment fee	\$4.00 (Details, Rule 13)
Late Payment fee	\$2.00 (Details, Rule 18)

Post Graduate/Diplomate Courses

Diploma in Business Administration	\$4.50 per hour per
Diploma in Town and Country Planning	week per term
Diploma in Landscape Architecture	
Fellowship Diploma in Management	
Post Graduate Diploma in Environmental Engineering	
Graduate Diploma in Automatic Control	
A General Purpose fee of \$5.00 is payable 1st term each year	

Degree, Fellowship Diploma and Associate Diploma Courses

(i) Full Time

School of Applied Science

Associate Diploma in Applied Geology	\$48.00 per term
Associate Diploma in Industrial Chemistry	\$48.00 per term
Bachelor of Applied Science—Computing	\$48.00 per term
Associate Diploma in Mathematics	\$48.00 per term
Bachelor of Applied Science— Medical Laboratory Technology	\$48.00 per term
Associate Diploma in Optometry	\$48.00 per term
Bachelor of Applied Science—Physics	\$48.00 per term
Associate Diploma in Science	\$48.00 per term

Architecture Department

Bachelor of Applied Science—Architecture	\$48.00 per term
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School of Business Studies

Associate Diploma in Accountancy	\$48.00 per term
Associate Diploma in Business Studies	\$48.00 per term
Associate Diploma in Public Administration	\$48.00 per term

School of Engineering

Fellowship Diploma in Civil, Electrical or Mechanical Engineering	\$48.00 per term
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(ii) Part Time

School of Applied Science

Associate Diploma in Industrial Chemistry	All part-time courses
Associate Diploma in Mathematics	
Bachelor of Applied Science— Medical Laboratory Technology	attract a fee of—
Bachelor of Applied Science—Physics	
Associate Diploma in Science	
Associate Diploma in Diagnostic Radiography	

Associate Diploma in Therapeutic Radiography

Architecture Department

Associate Diploma in Architecture	\$4.50 per hour per
Associate Diploma in Quantity Surveying	week per term

Building Department

Associate Diploma in Building	maximum
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School of Business Studies

	\$36.00 per term
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Associate Diploma in Accountancy

Associate Diploma in Business Studies

Associate Diploma in Public Administration

School of Engineering

Associate Diploma in Civil, Electrical or Mechanical Engineering

A General Purpose fee of \$5.00 is payable 1st term each year.

For a registered student, who is a bona fide apprentice or cadet who produces each term a certificate from his employer that he is in receipt of not more than the State basic wage for males, the maximum fee payable in a DIPLOMA course shall be Eighteen Dollars (\$18.00) per term.

A registered student who is a junior officer of the State Public Service may be admitted on payment of one half of the prescribed fee for the subject or course provided that he produces each term a certificate from the Head of the Department to which he is attached to the effect that—

- (a) he is in receipt of salary of not more than the age twenty-one (21) rate for the class of officer concerned, and
- (b) the course of study is approved by the Head of the Department to which the student is attached.

Certificate Courses(i) *Full Time-Part Time*

In each of these courses no fee is payable for the two years of full time study. For the remaining year or years of study the fees are as follows.

School of Applied Science

Certificate in Biological Laboratory Techniques	The fee in all courses is—
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Certificate in Chemistry

Architecture Department

Certificate for Architectural Technician	\$3.00 per hour per week per term
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School of Business Studies

Advanced Commercial Certificate

School of Engineering

maximum

Certificate in Civil, Electrical or Mechanical Engineering

\$24.00 per term

A General Purpose fee of \$12.00 is payable 1st term each year
F/T and \$5.00 1st term each year P/T

(ii) *Part Time*

School of Applied Science

Certificate in Biological Laboratory Techniques The fee in all courses is—

Certificate in Chemistry

Building Department

Certificate for Building Construction Technician \$3.00 per hour per week per term

School of Business Studies

Advanced Commercial Certificate

School of Engineering

Certificate in Cartography maximum \$24.00 per term

Certificate in Civil, Electrical or Mechanical Engineering

Certificate in Industrial Metallurgy

Certificate for Instrumentation and Control Technician

Certificate Surveying Technician

A General Purpose fee of \$5.00 is payable 1st term each year.

For a registered student who is a bona fide apprentice or cadet who produces each term a certificate from his employer that he is in receipt of not more than the State basic wage for males, the maximum fee payable in a CERTIFICATE course shall be Twelve Dollars (\$12.00) per term.

A registered student who is a junior officer of the State Public Service may be admitted on payment of one half of the prescribed fee for the subject or course provided that he produces each term a certificate from the Head of the Department to which he is attached to the effect that—

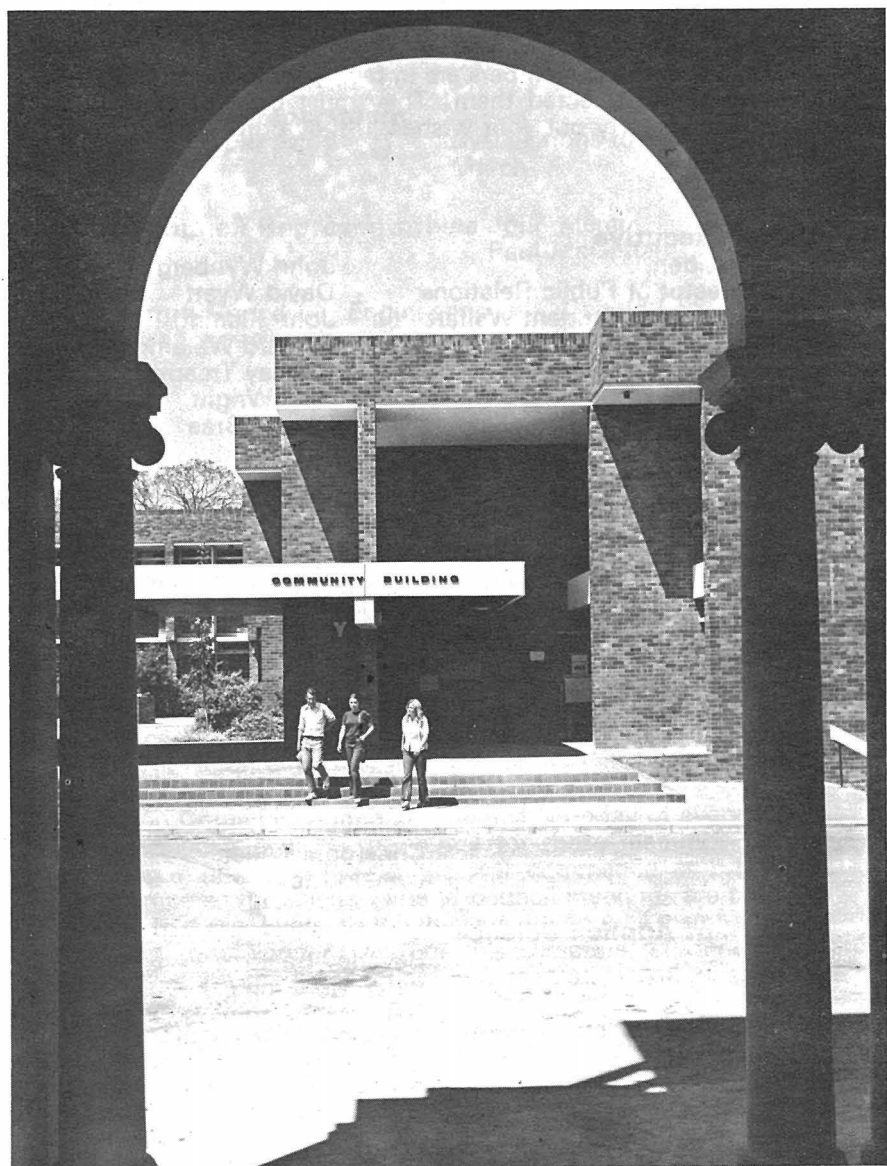
- (a) he is in receipt of salary of not more than the age twenty-one (21) rate for the class of officer concerned, and
- (b) the course of study is approved by the Head of the Department to which the student is attached.

Refunds of Fees

Upon written application a student, who cancels his enrolment during a term shall be entitled to a refund of tuition fees paid for that term, on the following basis—

- (i) No attendance at classes—full tuition fee refunded.
- (ii) One (1) to three (3) attendances—half tuition fee refunded.

Student Aid



QUEENSLAND INSTITUTE OF TECHNOLOGY UNION**Your Student Representatives**

Below is a list of all members who will be currently representing you on the various Boards, committees and departments on the Q.I.T. campus.

Make sure these members are in fact, your representatives—that's why you elected them! They must be subject to your recall and to carry out your wishes. If they don't come to you, go to them.

Union Executive

President	John Wynberg
Director of Public Relations	David Wyatt
Director of Student Welfare	John Klemm
Director of Administration	Richard Walding
Director of Finance	Bradley Treadwell
Director of Cultural Activities	Alan Wright
Director of Sport	Dennis Bree

Departmental Representatives**School of Engineering**

David Batten
 Donald Lee
 Darryl Wright
 Geoffrey Joyner
 Kevin Blunt
 James Holcombe
 David Nolan
 John Tymukas
 Graham McBryde
 Malcolm Jacobs
 Colin Lythall
 Christopher Allen
 Donald McVey

School of Applied Science

Beverley Beard
 Peter Montgomery
 Garth Monz
 Catherine McNaught
 Steve Ellis
 Richard Purser
 Adrian Bulcock
 Paul Thompson

School of Business Studies

Mike Rourke
 Trevor Watters
 Otto Lechner
 Rod. Walters
 Bruce Hill
 Bevan Williamson
 David Blackett

**Architecture Department
 Building Department**

By-elections to be held in
 March

Q.I.T. Council Representatives John Klemm
 Paul McGahan**Academic Board
 Representatives**

Engineering	Donald Lee
	Stuart Wallace
Business Studies	Roderick Walters
	Bryan Smith
Applied Science	Catherine McNaught
	Garth Monz.

**The aims of the Queensland Institute of
 Technology Union**

The basic aim of the Union is to involve its members in all activities which are dictated by campus life, to represent its members on the various boards and committees and to provide services and facilities to its members.

Elections

The Union elections will be held on the 17th September, 1973 – 21st. September, 1973. Nominations will be called for and accepted from the 3rd. September, 1973 – 14th September, 1973. All Union members are urged to vote at these elections.

Council Meetings

Union Council will meet on the first Monday of every month in the academic year. The venue for these meetings will be meeting room 1 and meetings will commence at 5.15 p.m. All members who wish to attend council meetings are cordially invited to do so. Even though they are not council members, they may ask questions of any of the Directors, student representatives or academic board representatives, in a specially allocated period.

General Meetings and the Annual General Meeting

There will be five general meetings held throughout the academic year. Two will be held in first term, two will be held in second term and the remaining meeting to be run in conjunction with the Annual General Meeting to be held on Wednesday

3rd. October, 1973 at 1 p.m. in the Dining Room. A ratification for the benefit of part time students, of the Annual General Meeting will be held at 5.15 p.m. in the Dining Room on the same day. At general meetings and the annual general meeting, all members have equal voting rights.

Union Facilities and Services

Since the Union has a major say in the day to day operations of the Community Building and provides large grants to subsidise Clubs and activities, the facilities available to you as members are both beneficial and varied.

These include:

The stereo, billiard, ping pong facilities in the basement of the Community Building

A variety of discounts published in the form of a discount list available at Union office.

The machinery to borrow books from the library.

Bank and Insurance Services

Union office (1st. floor Community Building) which is staffed full time to provide continuity of service to all students.

General Information

For all enquiries about Union activities, services, clubs and societies and complaints ring our Hot Line on 21 3522 during office hours.

We may not be able to answer your questions immediately but leave your problem with us and we will ring back. REMEMBER 21-3522.

You may, if more convenient, call at our office which is of course on the 1st. Floor of the Community Building.

Newspapers and Newsheets

The Union newspaper is produced under the title of UNIT. This provides general information plus a wide range of topics normally carried by student newspapers. As a member of the Union, you are free to contribute any articles, poems etc. to your newspaper. We only ask that you include your name and that the article is of some literary merit. Use UNIT to put your viewpoints across, especially if you have gained no satisfaction from your Union representative.

A.U.S.

The Q.I.T.U. is a member of the Australian Union of Students. The benefits A.U.S. offers are available to you as members. These include:

Greatly reduced holiday travel schemes

Greatly reduced medical benefits schemes

A large scale Cultural Activity programme.

Because of the size of A.U.S. (over 170,000 members), as a body the Q.I.T.U. receives much helpful support from political lobbying on education, scholarships and general campus activities.

Since A.U.S. employs trained graduates, we receive extensively researched material on current education trends and policies and programmes. It supplies us on demand, any material which will assist us with a local problem. We urge you to make use of these A.U.S. services and benefits.

Clubs and Societies

Since the formation of the Union, there has been a gradual increase in the number of Clubs and Societies. These are listed below:

- Alpine Ski Club
- Applied Science Students Association
- Athletics Club
- Bible Study Group
- Bushwalking Club
- Business Studies Association
- Chess Club
- Christian Fellowship Association
- Engineering Students Association
- Film Club
- Fishing Club
- Football Clubs – Rugby League
Rugby Union
- Gliding Club
- Golf Club
- Motor Club
- Optometry Students Association
- Rowing Club
- Squash Club
- Tennis Club
- Underwater Club
- Volley Ball Club

It is evident there is a wide range of clubs, most of which are subsidised by the Union and each club provides a completely different service to the student community. Any enquiries regarding these clubs may be made at Union Office.

With the continuing support of student participation in all activities organised by these clubs and societies, it will be possible to expand their sphere of influence and in so doing, provide an even greater service to the student community.

HEALTH SERVICE

A Part-time Health Service has been established on campus and is located on the western side of "Old" Government House in Rooms 111 and 112.

A Nursing Sister is in attendance from 10.00 a.m. to 2.30 p.m. on Monday, Tuesday, Thursday and Friday, and from 3.00 p.m. to 7.00 p.m. on Wednesday.

The Service is on telephone extension 326 and this number should be called in all cases of emergency.

To facilitate treatment in a crisis, sufferers of recurring conditions (Asthma, Diabetes, etc.) are requested to make themselves known to the Nursing Sister—*All Records are of course Strictly Confidential.*

Appointments may be made for consultations with a Doctor who will be in attendance on Monday, Wednesday and Friday.

LIBRARY

The Institute Library was first established in 1966. Since then it has been housed in temporary quarters in two locations. It now occupies the first floor of G Block and the first floor of F Block. Entrance and exit to both sections are through G Block only.

The Library serves the information needs of students and staff and supports all courses with its collection. The size and range of the collection is rapidly increasing and at present there are approximately 30,000 books and 1500 periodical titles as well as a small collection of other material such as maps, pamphlets, standards.

Each year the Library publishes a Guide which gives details of its borrowing system, hours of opening and a brief introduction to the use of its catalogue and classification. Copies of the Guide are available on request at the Library Enquiries Counter.

STUDENT COUNSELLING SERVICE

The services of a Student Counsellor are available at the Institute throughout the year.

His duties include the provision of counselling for students and their parents as follows:—

- (a) students who are enrolled at the Institute, who seek assistance with educational, vocational or personal problems.

A full-time student attending the Institute may call for interview during term without appointment.

- (b) students intending to enrol in tertiary or sub-tertiary courses. The majority of these students call for interview during the long vacation though some students call during the May and August vacations.

Appointments with the Student Counsellor may be made by 'phoning 21.2411 Ext. 383.

FINANCIAL AID SCHEMES (Summary)

Numerous cadetships, fellowships and scholarships are available to students who are attending or who will attend the Queensland Institute of Technology.

All fellowships, some cadetships and scholarships involve a "bond" i.e. the cadet or scholarship holder enters into an agreement to work for the department or organisation which is providing the financial aid, usually for a period one year longer than the number of years of training.

All fellowships but only some cadetships and scholarships involve full time courses of study.

Fellowships apply to tertiary courses; cadetships and scholarships may apply to tertiary or certificate courses.

Most cadetships involve working on a salary for a government or semi-government department during the day and attending evening part-time courses of study. In some cases, time off on full pay for a specified number of hours per week to attend day classes, is permitted.

Information on financial aid schemes is published in the daily press, usually between May and December.

Brochures, leaflets and application forms regarding the schemes are sent to all secondary schools in Queensland.

Extensive information about the various cadetships, fellowships and scholarships for which Institute students may apply is published in a booklet available upon request to the Registrar.

The following summary sets out the nature of the cadetships, fellowships and scholarships for which students of the Institute may apply at the various levels of education.

FINANCIAL AID SCHEMES AVAILABLE TO STUDENTS AT VARIOUS LEVELS OF EDUCATION

Students who have completed one or more years of a tertiary course at the Q.I.T.

- (a) Brisbane City Council Fellowships.
Full-time studies. Bonded.
- (b) Commonwealth Advanced Education Scholarships.
Full-time or part-time studies. Not bonded.

- (c) Commonwealth Public Service Cadetships.
Full-time studies. Bonded.
- (d) International Optical Corporation Bursaries.
Full-time studies. Not bonded.
- (e) Mount Isa Mines Holdings Limited Scholarships and Bursaries.
Full-time studies. Not bonded.
- (f) Regional Electricity Board Cadetships.
Full-time studies. Bonded.
- (g) State Public Service Cadetships.
Part-time studies. Not bonded.
- (h) State Public Service Scholarships.
Full-time studies. Bonded.
- (i) The Castlemaine Perkins Scholarship.
Full-time studies. May be bonded.
- (j) Northern Electric Authority of Queensland Cadetships.
Full-time studies. Bonded.
- (k) The Rotary Club of Brisbane Bursaries.
Full-time studies. Not bonded.
- (l) Teacher Scholarships.
Full-time studies. Bonded.

Senior students who qualify to enter a tertiary course at the Q.I.T.

- (a) Australian Optometrical Association Scholarships.
Full-time studies. Not bonded.
- (b) Brisbane City Council Cadetships.
Part-time studies. Not bonded.
- (c) Brisbane City Council Fellowships.
Full-time studies. Bonded.
- (d) Commonwealth Advanced Education Scholarships.
Full-time or part-time studies. Not bonded.
- (e) Fraser Edmiston Scholarship.
Full-time studies. Not bonded.
- (f) Queensland Government Railways Fellowships.
Full-time studies. Bonded.
- (g) Queensland Government Railways Cadetships.
Part-time studies. Not bonded.
- (h) Northern Electric Authority of Queensland Cadetships.
Full-time studies. Bonded.
- (i) Regional Electricity Board Cadetships.
Full-time studies. Bonded.
- (j) Southern Electric Authority of Queensland Fellowship Cadetships.
Full-time studies. Bonded.
One year as apprentice (Cadet engineers) before commencing full-time studies.
- (k) Southern Electric Authority of Queensland Cadetships.
Full-time studies. Bonded.

- (l) State Public Service Cadetships.
Part-time studies. Not bonded.
- (m) State Public Service Scholarships.
Full-time studies. Bonded.
- (n) Teacher Scholarships.
Full-time studies. Bonded.

Q.I.T. students who have completed the two full-time years of a certificate course.

- (a) Brisbane City Council Cadetships.
Part-time studies. Not bonded.
- (b) Commonwealth Public Service Traineeships.
Part-time studies. Not bonded.
- (c) Commonwealth Technical Scholarships. Not bonded.
- (d) State Public Service Cadetships.
Part-time studies. Not bonded.

Q.I.T. students who have completed one year full-time or two years part-time of an approved certificate course.

- (a) Brisbane City Council Cadetships.
Part-time studies. Not bonded.
- (b) Commonwealth Public Service Traineeships.
Part-time studies. Not bonded.
- (c) Commonwealth Technical Scholarships. Not bonded.
- (d) State Public Service Cadetships.
Part-time studies. Not bonded.

Junior students who have qualified to enter a certificate course at Q.I.T.

- (a) Brisbane City Council Cadetships.
Part-time studies. Not bonded.
- (b) Commonwealth Public Service Traineeships.
Part-time studies. Not bonded.
- (c) Commonwealth Technical Scholarships. Not bonded.
- (d) Queensland Government Railway Cadetships.
Part-time studies. Bonded.
- (e) State Public Service Cadetships.
Part-time studies. Not bonded.

Persons who have completed a recognised form of technical training, either by means of an indentured apprenticeship or otherwise.

Post-Apprenticeship Scholarship Scheme.

Commonwealth Development Bank Post-Apprenticeship Scholarships.

General

Services Canteen Trust Fund.

Full-time studies. Not bonded.

Student Allowances—Certificate students only.

INTERNATIONAL OPTICAL CORPORATION BURSARIES

- (i) A bursary shall be awarded to a student who has completed successfully the first year of the Optometry Course leading to the Associate Diploma of Optometry, provided that the student intends to proceed with the remainder of the course. The student must not hold a scholarship or bursary other than a Commonwealth Scholarship, and he will be assured of long vacation employment by International Optical Corporation.
- (ii) A bursary shall be awarded to a student completing successfully the second year of the Optometry Course, and intending to proceed with the remainder of the course. The student must not hold a scholarship or bursary other than a Commonwealth Scholarship, and he will be assured of long vacation employment by International Optical Corporation.

Applications for Bursaries should be addressed to:

The Secretary,
Australian Optometrical Association,
(Queensland Division),
P.O. Box 59,
St. Lucia, 4067.

**AUSTRALIAN OPTOMETRICAL ASSOCIATION
SCHOLARSHIPS**

One intra-state scholarship is offered annually and normally is tenable for the duration of the Optometry course, but its tenure shall, at all times, be subject to the holder maintaining a standard of conduct and progress acceptable to the Queensland Institute of Technology. The yearly allowances are \$250 in the first year and \$450 in each subsequent year.

Applicants must be residents of Queensland and have been resident in Australia or the Territories of New Guinea for a period of no less than five years. Age must not be over twenty-one (21) years at date of application. Scholarship holders will be expected to hold also a Commonwealth Scholarship and they will not be under any bond or obligation but it is expected they

will practise Optometry in Australia. Applications for the scholarship should be addressed to—

The Secretary,
Australian Optometrical Association,
(Queensland Division),
P.O. Box 59,
St. Lucia, 4067.

The Australian Optometrical Association also offers two interstate scholarships for students resident in States and Territories other than Queensland, New South Wales and Victoria. These scholarships help cover the cost of studying Optometry at the Queensland Institute of Technology, the University of New South Wales or the University of Melbourne.

In the first year each scholarship provides \$300 and in each subsequent year \$700.

Applications for these scholarships should be made to the Federal Secretariat, Australian Optometrical Association, Suite 4, 609 St. Kilda Road, Melbourne, 3004.

CASTLEMAINE PERKINS SCHOLARSHIP IN INDUSTRIAL CHEMISTRY

This scholarship will be awarded annually for the period of one academic year.

Any male student who is eligible to complete the Third Year syllabus of the Full Time Course leading to the Associate Diploma in Industrial Chemistry is eligible to make application for this scholarship.

Such application must be submitted on or before the 15th January of each year.

Particulars regarding the nature of this scholarship and the necessary application forms can be obtained from Castlemaine Perkins Limited.

FRASER EDMISTON SCHOLARSHIP

One scholarship is offered annually and normally is tenable for the duration of the Optometry course, but its tenure shall, at all times, be subject to the holder maintaining a standard of conduct and progress acceptable to the Queensland Institute of Technology. The scholarship shall be valued at \$450.

Applicants must be residents of Queensland and have been resident in Australia or the Territories of New Guinea for a period of no less than two years. Age must not be over twenty-one (21) years at date of application. Scholarship holders will be expected to hold also a Commonwealth Scholarship. Applications for the

scholarship should be lodged at the following address no later than 16th January of each year.

The Secretary,
Australian Optometrical Association,
(Queensland Division),
P.O. Box 59
St. Lucia, 4067.

THE ROTARY CLUB OF BRISBANE BURSARIES

The bursaries are intended to meet the provision of fees and/or books for the 1973 Academic Year. There will be four bursaries awarded, each of the value of \$100. The following terms of eligibility will apply.

- (1) The applicant will have completed one or more years of full-time study and will have enrolled in a further full-time year of a Tertiary Course at the Queensland Institute of Technology, Brisbane.
- (2) He or she will not be in receipt of financial aid towards the cost of a course, from any Scholarship, Fellowship, Cadetship or Bursary.

The award of the Bursaries will be made to four students selected by a Committee.

Application forms for the Bursaries will be available on or before the 8th March, each year, at the Queensland Institute of Technology and at the Rotary Club of Brisbane office.

PRIZES

The following Prize Awards will be available to students of the Queensland Institute of Technology.

SCHOOL OF APPLIED SCIENCE

Allergan Prize

Donated by Allergan Pharmaceuticals Pty. Ltd. and awarded to the final year Optometry student gaining most distinction in the subject "Contact Lens Studies".

Australian Institute of Medical Technologists Prize

Awarded to a student displaying qualities of initiative and leadership who attains a high level of proficiency throughout the Course leading to the Bachelor of Applied Science—Medical Laboratory Technology.

G. H. Barker Prize

Awarded for meritorious work in the 1st Year of the Associate Diploma Course in Science.

Chas. Sankey Fraser Memorial Prize

Awarded to the student gaining the greatest distinction in the final year examinations of the Optometry Course.

J. L. Forsyth Prize

Donated by Provincial Traders Pty. Limited and awarded to the student who has shown the greatest proficiency in the subjects of the fifth and sixth years of the part-time course for the Associate Diploma in Industrial Chemistry at the Queensland Institute of Technology.

M. D. Innis Prize

Donated by Dr. M. D. Innis and awarded to the student gaining the highest pass with distinction in the subject "Haematology".

James Vincent Duhig Prize

Donated by the Australian Institute of Medical Technologists and awarded to the student gaining the highest pass with distinction in the subject "Histotechnology".

I. M. and M. J. Mackerras Prize

Donated by the Australian Institute of Medical Technologists and awarded to the student gaining the highest pass with distinction in the subject "Medical Parasitology".

Noel Middleton Gutteridge Prize

Donated by Dr. N. M. Gutteridge and awarded to the student obtaining with distinction the highest pass over the fifth and sixth years of the course leading to the Bachelor of Applied Science—Medical Laboratory Technology.

Phillips Electrical Prize

Awarded to the most outstanding student in the Third Year of the Bachelor of Applied Science course—Physics.

Rochedale Hatchery Prize

The student who receives this prize will be chosen by his overall performance in the subject "Genetics".

Royal Australian Chemical Institute Prizes

Awarded to

- (i) The student showing, at the first attempt, the greatest proficiency in the Second Year of the Full Time Course leading to the Associate Diploma in Industrial Chemistry.

- (ii) The student showing the greatest proficiency in subjects of the Third and Fourth Years of the Part Time Course leading to the Associate Diploma in Industrial Chemistry.

Royal College of Pathologists of Australia Prize

Awarded to the student who obtains the highest pass in the subject Microbiology II in the Bachelor of Applied Science course—Medical Laboratory Technology.

DEPARTMENT OF ARCHITECTURE

A. B. Yeates Prize

Awarded to the student with the best overall results in the second year of the Diploma in Town and Country Planning course.

Architecture, Building, Engineering Journal Prize

Awarded to the student showing the greatest proficiency in the Second Year of the Associate Diploma Course in Architecture.

Australian Planning Institute Prize

A prize for the best graduate in "Design" at the conclusion of the Diploma Course in Town and Country Planning.

Board of Architects Prizes

These awards are for the best results at the Annual Examinations by students in each year of the Associate Diploma Course in Architecture.

British Thornton Ltd. Prize

Awarded for the best overall results for the Certificate Course for Architectural Technicians.

Historic Building Prize

Awarded by the National Trust of Queensland for a prepared drawing of an historic building. Students in the Second Year of the Associate Diploma in Architecture are eligible for the award.

James Hardie Prize

Awarded to the student with the best examination results in the Fourth Year of the Associate Diploma or Diploma Course in Architecture.

Clay Brick Industry Award

This award is made by The Australian Clay Products Association, Queensland Branch, with the object of fostering the use of clay bricks in Architectural Design. The award is a prize of five hundred dollars (\$500) made available to enable a student to visit capital cities in Australia, to study the use of clay bricks, as a building material, and subsequently to submit a report on the Study Tour, to the Brick Manufacturers of the Association through the Queensland Institute of Technology.

For this purpose the report shall be made in triplicate, one copy for the Association, one copy for the Q.I.T. library and one copy to be retained by the student.

The amount of the award will be an initial grant of three hundred dollars (\$300) and a further payment of two hundred dollars (\$200) on receipt of a satisfactory report on the Study Tour.

The award shall be made to the student of the fifth year of the Associate Diploma Course in Architecture.

For the purposes of the Award, a special major Design problem will be set during the year, embodying the use of clay brick as a major material.

These designs will be judged by a panel consisting of the design staff for that subject together with the Head of the Department of Architecture.

The Award will be made to the design placed first by the examining panel.

The winner of the award will be required to submit to the Head of the Department, within 6 weeks of the announcement of the award, a statement of the programme he intends to follow for study under the award.

Selected drawings from the designs submitted will be made available to the Association for exhibition purposes.

The Robb and Brown Limited Prize

This prize will be awarded to the student showing greatest advancement in the Sixth Year of the Associate Diploma Course in Architecture.

DEPARTMENT OF BUILDING

Australian Institute of Building, Queensland Chapter Prize

An award of \$50.00 made to the student of the Associate Diploma in Building with the best academic achievement in the third or successive years of the course, who is also a student member of the Australian Institute of Building.

James Hardie Prize

Awarded to the student in attendance at the Course leading to the Associate Diploma or Diploma in Building who obtained the best results at the Annual Examinations, for the whole course.

Queensland Master Builders' Association Prize

Awarded to the student attending the Certificate Course for Building Construction Technician who, in sitting for all final year subjects in the same year and for the first time, obtains the highest aggregate marks in such subjects.

SCHOOL OF BUSINESS STUDIES

Australian Institute of Management Bursary and Prizes

A Medallion, Bursary and two Prizes to be awarded to students in attendance at the Course leading to the Associate Diploma in Business Studies, for meritorious performance in the course.

Australian Society of Accountants Prize

Awarded to the student enrolled at the QIT, Brisbane, in the course leading to the Associate Diploma in Accountancy, who, taking the subject Accounting I for the first time, has obtained the highest pass in that subject at the Annual Examinations.

Institute of Chartered Accountants Prize

Awarded to the student enrolled at the Q.I.T. Brisbane. in the course leading to the Associate Diploma in Accountancy. who, taking the subject Accounting II for the first time, has obtained the highest pass in that subject at the Annual Examinations.

International Computers Australia Pty. Limited Prize

Awarded to the student obtaining the best pass at the Annual Examinations in the subject "Data Processing".

SCHOOL OF ENGINEERING

Australian Institute of Cartographers (Q'ld. Division) Prize

Awarded to students obtaining the best pass in each year of the Certificate Course in Cartography.

Australian Telecommunications Development Association Prize

Awarded to a student on the basis of his performance in the Certificate Course in Electrical Engineering-Electronics and Communications Technician.

Civil Engineering Contractors Prize

Awarded to the student obtaining the highest achievement in the final year of the Fellowship Diploma Course in Civil Engineering.

A prize is also awarded to the student obtaining the highest achievement in the final year of the Associate Diploma Course in Civil Engineering.

G. H. Barker Prize

Awarded to the student obtaining the best results in the subject English Expression I of the Fellowship Diploma Course in Engineering.

Board of Professional Engineers of Queensland Prizes

Awarded for the best overall results for Third Year Students of each of the Fellowship Diploma Courses in Civil, Electrical and Mechanical Engineering.

Institute of Draughtsmen Australia (Q'ld. Branch) Prize

Awarded to the student member of the abovementioned Institute obtaining the best results at the Annual Examinations. Students in attendance at the Queensland Institute of Technology can become eligible for this award.

James Hardie Prize

Awarded to the student obtaining the best pass in the Final Year of the Associate Diploma and 1960 Diploma Course in Civil Engineering. A prize is also awarded to the student with the best aggregate marks in the subjects: Building Construction Concrete Technology and Design and Fluid Mechanics of the Third Year Fellowship Diploma Course in Civil Engineering.

Jasco Pty. Limited Prize

Awarded to a student for meritorious work in the Course leading to the Certificate in Engineering—Design Office Technician.

Main Roads Department Prizes

Officers of the Main Roads Department in attendance at the Queensland Institute of Technology can become eligible for prizes awarded by their Department, such prizes being for the best passes in the following Courses:

- Associate Diploma Course in Civil Engineering
- Certificate Courses in Civil Engineering
 - Design Office Technician
 - Laboratory Technician
 - Construction Technician
- Certificate Course in Cartography and
- Certificate Course for Surveying Technician

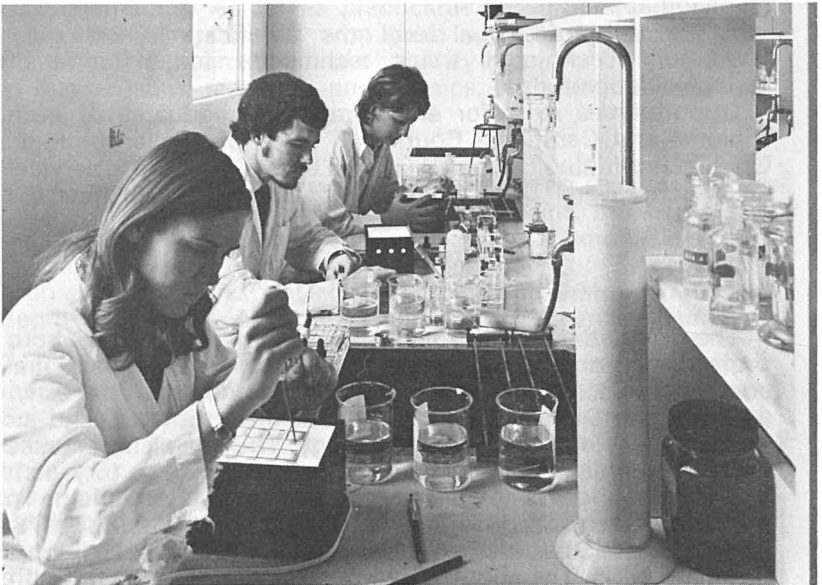
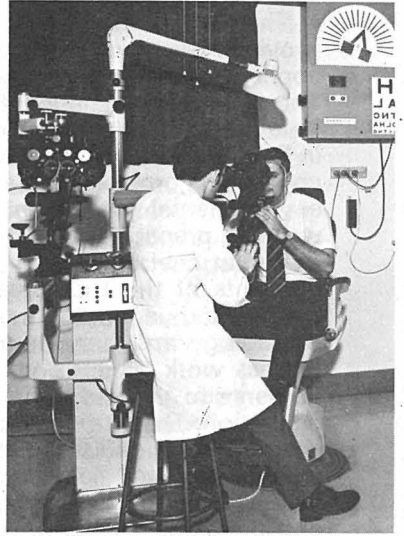
Pillar Naco Pty. Limited Prize

Awarded to the student who obtains the highest pass in the subject Design and Analysis for Production F in the final year of the Fellowship Diploma Course in Mechanical Engineering.

A. B. Yeates Prizes

To be awarded to the student, who in the Certificate Course for Surveying Technicians obtained the best aggregate marks in the final three years of the course. A prize is also awarded to the student, who in the Certificate Course in Cartography, was the most improved student in the third year of the course.

School of Applied Science



SCHOOL OF APPLIED SCIENCE**DEPARTMENT OF BIOLOGY AND ENVIRONMENTAL SCIENCE**

The Department of Biology and Environmental Science provides broadly based courses in the biological sciences and applied ecology at both professional and sub-professional levels. The Diploma in Science, Biology Strand is the only integrated multidisciplinary biology course available at the tertiary level in Brisbane and affords a well balanced preparation for eventual entry into professional areas of resource management and environmental protection. The course is also well suited for students preparing to be secondary school teachers for whom it offers an environmentally oriented science course. Traditional elements of the Biological Sciences such as the diversity of plants and animals, their genetics, population dynamics, physiology and behaviour are covered. Emphasis is given to project work which combines such elements and introduces students to the use of computers and a wide range of instrumentation. The interdependence of organisms and environment is emphasised and forms the subject of analytical studies, both in laboratory and field situations.

The Department cooperates with the School of Engineering and the Departments of Architecture and Building in the provision of service courses, and participates in joint studies involving applied research.

At the subprofessional level, the Certificate in Biological Laboratory Techniques trains technicians for a range of biological laboratories.

Opportunities exist for employment of graduates of both Diploma and Certificate Courses in fields of applied biology. Graduates with the Diploma may also enter the teaching service, for which several Department of Education Scholarships are available.

DEPARTMENT OF CHEMISTRY

The Department of Chemistry offers courses at both professional and sub-professional levels. The professional courses lead to an Associate Diploma in Industrial Chemistry, an Associate Diploma in Science (Chemistry Strand), and an Associate Diploma in Applied Geology. The chemistry courses are offered on either a day (3 years) or evening basis (6 years), and it is confidently expected that the Associate Diploma in Industrial Chemistry will receive degree status during 1973. The Associate Diploma in Applied Geology is offered only on a day-time basis. The sub-professional course leads to a Certifi-

cate in Chemistry, and may be taken either as a day or evening programme. In addition, the Department provides lectures in chemistry as service subjects which form portions of other courses which are conducted by other departments. The Associate Diploma in Industrial Chemistry is fully recognised for corporate membership of the Royal Australian Chemical Institute and suitable students are eligible for entry to certain postgraduate schools in Australian universities.

The Department is presently one of the largest of its kind in Australia and new concepts in the teaching of applied chemistry have been recently introduced. Students entering the course have the opportunity to elect to study selected aspects of chemical engineering and chemical technology in their final year. At a later date, it is planned to introduce fourth-year post graduate electives with specific application to particular industries.

The course for the Associate Diploma in Industrial Chemistry provides a sound knowledge of the theoretical and practical principles of applied chemistry, and, although the course affords a particularly good training for those who may enter industry, the basic aim is to furnish sound instruction in all aspects of chemistry, which may have vocational applications. All topics have a large fundamental content, although, as far as possible, examples and problems are taken from industrial experience. Students receive extensive training in well serviced laboratories, which are equipped with modern chemical instrumentation. As far as practicable, lectures are given by those members of staff who have specialist knowledge in the topic. The main stream of chemistry is supported by studies in mathematics, statistics, and physics, with elective subjects in the Earth or Life Sciences.

The Associate Diploma in Science has been designed essentially to train people for the teaching profession. It provides young teachers with a sound insight into the theoretical principles of modern chemistry without undue emphasis on the practical aspects of industrial application. Support subjects such as mathematics, physics and biology are studied in further depth than in the Associate Diploma in Industrial Chemistry.

The Associate Diploma in Applied Geology provides theoretical and practical training in most aspects of Earth Science. Emphasis is placed on an understanding of field and exploration techniques, but the course also offers intensive training in other aspects of geology. The support subjects in the first year of the course are mathematics, physics, and chemistry; these are studied at the Associate Diploma in Science level. In later years the support subjects are more specifically those required by a practising geologist.

The sub-professional course which leads to a Certificate in Chemistry provides students with an extensive training in chemical methodology without undue emphasis on the more complex theoretical principles underlying the subject. The support subjects are more broadly based than at the Diploma level, and suitable electives are provided. This course is provided essentially for the training of technicians; the important group of people which provide support for the fully trained professional graduate technologists.

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

In recent years the application of mathematics to the solution of practical problems has expanded in an unprecedented manner. A major cause has been the development of high speed automatic computing facilities. The increasing availability of such machines has not merely revolutionised the approach to traditional studies in the theoretical sciences but has facilitated the application of mathematical techniques in areas hitherto considered to be largely non mathematical in nature. In consequence there is currently a need for courses in mathematics and computing to service the requirements of industry, commerce and the teaching profession. To meet these varied requirements the departments offers two degree level courses:

- (i) the Associate Diploma in Mathematics,
- (ii) the Bachelor of Applied Science – Computing.

The Associate Diploma in Mathematics course attempts to satisfy a number of specific requirements in the fields mentioned. In particular it aims to cater for the needs of those interested in industrial and commercial applications of mathematics, of those desiring a traditional treatment of mathematical techniques used in science and engineering and of Education Department 'Teacher Scholarship Holders'.

The course in computing which leads to the award of 'Bachelor of Applied Science' provides background skills in mathematics, statistics and accounting systems together with a thorough grounding in the elements of computing machinery, software and the use of computers in administration, business, planning and so on.

The department has direct access to the Institute computer, an I.C.L. 1902A, via remote terminals sited in the departmental precincts. In addition, the Computer Centre provides service bureau facilities as required. Supporting equipment within the department includes card punching machines, programmable desk calculators and electronic calculators. Hence practical training complementary to theoretical considerations in lectures

is readily carried out and forms an integral part of the curriculum.

Currently the Associate Diploma in Mathematics course may be followed by both day-time and evening students. Although the computing course will be offered only to day-time students in 1973 it is anticipated that in 1974 the computing course will also be available to evening students. For those who merely wish to supplement their present knowledge of mathematics and computing, individual units may be taken in the various courses provided that the necessary prerequisites have been fulfilled and quotas are not exceeded.

In its service role, the department is active over a very wide area. Close contact is maintained with parent department(s) so that appropriate emphases may be laid on both syllabi and teaching methods.

In addition to the pedagogical aspects of the department's work, research and consultative work is carried out by departmental staff. This activity promotes liaison with industry and commerce and assists staff in keeping abreast with modern developments in their specialities.

DEPARTMENT OF PARAMEDICAL STUDIES

The department offers two courses at the professional level—a Bachelor of Applied Science course—Medical Laboratory Technology and an Associate Diploma in Optometry. Although no courses are offered at the subprofessional level, several such courses are under consideration at present.

The Bachelor of Applied Science—Medical Laboratory Technology provides the academic and technical background necessary for the performance of a wide variety of chemical, microscopical, and microbiological tests employed by pathology services which aid physicians and surgeons to detect, diagnose, and treat disease.

The Diploma in Optometry is concerned with visual science and of the care of vision. The student is trained in the diagnosis of visual defects, which may be corrected by visual aids including contact lenses or orthoptics. He learns to recognise abnormal ocular conditions that require medical treatment.

Completion of the course provides the academic qualification that enables registration to practise as an optometrist in all States and Territories of Australia.

Within the professions of Medical Laboratory Technology and Optometry, there are expanding opportunities for employment in a diversity of professional areas of employment.

The laboratories are well equipped with a wide range of modern specialised equipment as well as basic teaching aids. The optometry clinic serves as an out patient clinic for optometrical work of a major Brisbane hospital, thus providing an adequate number of patients for the clinical training of students.

The department provides a service to the departments of Biology and Chemistry in offering subjects in Bio-chemistry, Microbiology, and Physiology.

DEPARTMENT OF PHYSICS

A course leading to professional qualification in Physics is offered within this department. This is the Bachelor of Applied Science course—Physics, which has been designed for the dual purpose of providing scientists for industry and physicists for the teaching profession.

Graduates will have received the basic training to work as applied physicists in industry or as practically oriented high school teachers of physics. The course is recognised by the Australian Institute of Physics as satisfying their educational requirements for graduate membership of the Australian Institute of Physics. This gives full professional recognition to graduates.

Both intending technologists and teachers complete a basic three year physics course which tends to emphasize the practical ramifications of the subject. A limited number of elective topics are also included in the course. Those graduates intending to enter the teaching profession complete a post graduate Diploma in Education at the University of Queensland.

Staff research programmes in applied fields of physics have been initiated, with particular emphasis on isotope physics, radiation biophysics, vacuum physics, acoustics and the physics of materials and it is anticipated that students will increasingly be engaged in associated projects in their final year.

The Physics Department is also responsible for the teaching of Physics as a service subject to other Departmental Courses within the Institute. Fellowship Diploma Students in Engineering, Associate Diploma students in Engineering and Industrial Chemistry and Degree students in Medical Laboratory Technology all complete one or two years of tertiary physics during their courses, the syllabuses being designed to give these students both a sufficient background for their professional requirements and an appreciation of the scope of modern physics. Courses in optics for Optometry students are conducted at the tertiary level, and a sub-tertiary course in Certificate Physics for trainee technicians is also provided.

In 1973, the Department will be introducing the first year of Diploma Courses in Diagnostic Radiography and Therapeutic Radiography. These courses have been designed to satisfy the requirements of the Conjoint Board of the College of Radiologists of Australasia and the Australasian Institute of Radiography, and consequently will qualify the graduate to work as a radiographer in Australia and New Zealand.

DEPARTMENT OF BIOLOGY AND ENVIRONMENTAL SCIENCE

ASSOCIATE DIPLOMA COURSE IN SCIENCE

Three years day time study:

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (Sc.)

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 23-25) for subject entry standards and conditions.)

NOTE: Selection of subjects to be studied from second year onwards shall be determined in consultation with Head of Department.

BIOLOGY STRAND

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
PHA101 Physics IS	4
PHA104 Experimental Physics I	3
CHA190 Chemistry I	7
MAA159 Mathematics I	5
BEA101 Biology 1	7
LSA103 English Expression	2
<i>Second Year</i>	
MAA157 Statistics	2
BEA401 Biology II	16
PSA414 Biological Chemistry	3
CHA435 Inorganic Chemistry II	1
ESA110 Earth Science I <i>OR</i> equivalent elective	4
<i>Third Year</i>	
BEA701 Biology III and Ecology	22
PSA452 Microbiology I <i>OR</i> equivalent elective	4

ASSOCIATE DIPLOMA COURSE IN SCIENCE BIOLOGY STRAND**Evening Course**

	<i>First Year—1974</i>	
CHA190	Chemistry I	6
BEA101	Biology 1	6
	<i>Second Year—1973</i>	
PHA101	Physics IS	3
PHA104	Experimental Physics I	3
MAA159	Mathematics I	4
LSA103	English Expression	1

Conduct of the third and subsequent years of this course on an evening basis will depend upon the number of enrolments received. Rule 41 of the Queensland Institute of Technology Rules of 1966 refers.

CERTIFICATE COURSE IN BIOLOGICAL LABORATORY TECHNIQUES**Day/Evening Course**

This course requires day-time attendance at the Institute for twenty-eight hours per week for two years and one year evening attendance for approximately nine hours per week. At the completion of the first two years the student will receive a Progress Certificate and on completion of the evening portion of the course a Certificate in Biological Laboratory Techniques.

Entrance requirements: Junior—English, Maths B, Science A and Science B. (See pp 23-25 for subject entry standards and conditions).

Day-Time

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
CHC102	Analytical Chemistry I	5
LSC 101	English	3
CHC130	Inorganic Chemistry	2
MAC151	Mathematics Ii	4
BEC101	Biology	9
CHC154	Organic Chemistry I	5
	<i>Second Year</i>	
BEC419	Biological Instrumentation	4
PSC451	Microbiology	4
MAC451	Mathematics and Statistics	4
PHC450	Certificate Physics	4
CHC450	Biological Chemistry	4
	<i>Elective:</i>	
PSC430	Physiology or	
BEC441	Plant Physiology	4
	Evening	
	<i>Third Year</i>	
PSC406	Biochemistry	3
BEC691	Biological Techniques B	3
	<i>Elective:</i>	
BEC692	Biological Techniques C or	
BEC693	Biological Techniques D	3

CERTIFICATE COURSE IN BIOLOGICAL LABORATORY TECHNIQUES**Evening**

This course requires evening attendance for approximately nine hours per week for five years. Students are restricted to attendance for three evenings per week. On completion the student receives a Certificate in Biological Laboratory Techniques.

Entrance Requirements: Junior—English, Maths B, Science A and Science B. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
CHC102	Analytical Chemistry I	3
LSC101	English	1½
CHC130	Inorganic Chemistry	1½
MAC151	Mathematics I	3
	<i>Second Year</i>	
BEC101	Biology	6
CHC154	Organic Chemistry I	3
	<i>Third Year</i>	
MAC451	Mathematics and Statistics	3
PHC450	Certificate Physics	3
	Elective:	
*PSC430	Physiology or	
BEC441	Plant Physiology	3
	<i>Fourth Year</i>	
PSC451	Microbiology	3
CHC450	Biological Chemistry	3
*BEC491	Biological Instrumentation	3
	<i>Fifth Year</i>	
PSC406	Biochemistry	3
BEC691	Biological Techniques B	3
	Elective:	
BEC692	Biological Techniques C or	
BEC693	Biological Techniques D	3

* Students who have completed the subject BEC491 Biological Instrumentation prior to 1972 will study PSC430 Physiology in the fourth year of the course.

DEPARTMENT OF CHEMISTRY

ASSOCIATE DIPLOMA COURSE IN INDUSTRIAL CHEMISTRY

Day-Time Course

This course requires day-time attendance at the Institute for approximately twenty-seven hours per week. Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (InChem). The graduates will have completed the academic requirements for admission as graduate members of the Royal Australian Chemical Institute.

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year—Chemistry I</i>	
CHA101 Analytical Chemistry I	3
CHA132 Inorganic Chemistry I	1
CHA150 Organic Chemistry I	4
CHA170 Physical Chemistry I	4
MAA151 Mathematics IA	4
MAA155 Mathematics IB	2
PHA120 Physics IB	7
BEA102 Elective: one of Biology or	
ESA128 Geology	4
<i>Second Year—Chemistry II</i>	
CHA401 Analytical Chemistry II	4
CHA432 Inorganic Chemistry II	1
CHA450 Organic Chemistry II	5
CHA470 Physical Chemistry II	5
MEA224 Drawing	2
MNA424 Introduction to Business	1
LSA103 English Expression	2
MAA455 Mathematics II (Statistics)	3
PSA405 Elective: <i>ONE</i> of Biochemistry or	
ESA434 Mineralogy	3
<i>Third Year—Chemistry III</i>	
CHA730 Inorganic Chemistry III	3
CHA750 Organic Chemistry III	6
CHA770 Physical Chemistry III	6
<i>AND EITHER</i>	
CHA720 Chemical Technology III or	
CHA700 Analytical Chemistry III	6
ESA716 Elective: one of Economic Geology or	
PSA750 Microbiology	3

ASSOCIATE DIPLOMA COURSE IN INDUSTRIAL CHEMISTRY

Evening Course

This course is of six years duration with attendance of four evenings per week or three evenings and one half day per week in the first year, and three evenings and one half day per week in subsequent years. From second year onward one subject will be offered only in the day and will be alternated with another from year to year. All students are limited to a maximum of three evenings per week from second year. Completion of the course entitles the graduate to an Associate Diploma and the use of AQIT (IndChem). Graduates will have completed the academic requirements for admission as Graduate Members of the Royal Australian Chemical Institute.

Before a student is allowed to enter the fourth and subsequent years the student must be employed in an approved capacity in an approved laboratory.

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year—Chemistry IA</i>	
CHA101 Analytical Chemistry I	3
CHA151 Organic Chem. IA (half year)	3
CHA171 Physical Chem. IA (half year)	3
MAA151 Mathematics IA	3
PHA121 Physics IC	3
<i>Second Year—Chemistry IB</i>	
CHA132 Inorganic Chemistry I	1
CHA152 Organic Chem. IB (half year)	3
CHA172 Physical Chem. IB (half year)	3
MAA155 Mathematics IB	2
PHA122 Physics ID	3
Elective:	
BEA102 Biology or	
ESA128 Geology	3
<i>Third Year—Chemistry IIA</i>	
CHA401 Analytical Chemistry II	4
CHA432 Inorganic Chemistry II	1
CHA451 Organic Chemistry IIA	1
CHA471 Physical Chemistry IIA	1
MEA224 Drawing	2
MNA424 Introduction to Business	1
MAA455 Mathematics II (Statistics)	2
<i>Fourth Year—Chemistry IIB</i>	
CHA452 Organic Chemistry IIB	4
CHA472 Physical Chemistry IIB	4
LSA101 English Expression I	1
Elective:	
PSA405 Biochemistry or	
ESA434 Mineralogy	3

Associate Diploma Course in Industrial Chemistry—continued

<i>Subject</i>	<i>Hours per week</i>
<i>Fifth Year—Chemistry IIIA</i>	
CHA731 Inorganic Chemistry IIIA	1
CHA751 Organic Chemistry IIIA	3
CHA771 Physical Chemistry IIIA	3
<i>AND EITHER</i>	
CHA701 Analytical Chemistry IIIA or	
CHA721 Chemical Technology IIIA	3
Elective:	
ESA716 Economic Geology or	
PSA750 Microbiology	3
<i>Sixth Year—Chemistry IIIB</i>	
CHA732 Inorganic Chemistry IIIB	2
CHA752 Organic Chemistry IIIB	3
CHA772 Physical Chemistry IIIB	3
<i>AND EITHER</i>	
CHA702 Analytical Chemistry IIIB or	
CHA722 Chemical Technology IIIB	3

ASSOCIATE DIPLOMA COURSE IN APPLIED GEOLOGY

Three years day-time study.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (App. Geol.).

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics, and one other subject. Senior Geology is not a pre-requisite. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
PHA101	Physics IS
PHA104	Experimental Physics I
CHA190	Chemistry I
MAA159	Mathematics I
ESA101	Earth Science I
LSA103	English Expression
ESA122	Field Excursions I
<i>Second Year</i>	
ESA404	Earth Science II
ESA424	Field Excursions II
ESA453	Property Evaluation for Geologists
	2
CHA496	Chemistry for Geologists
MAA157	Statistics
ESA454	Law for Geologists
	4
	2
	2
	($\frac{1}{2}$ year)
<i>Third Year</i>	
ESA707	Earth Science III
ESA726	Field Excursions III
ESA755	Administration for Geologists
	3
ESA756	Economic Analysis for Geologists
	3
	3
	($\frac{1}{2}$ year)

ASSOCIATE DIPLOMA COURSE IN SCIENCE

Three years day-time study.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (Sc.)

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

NOTE: Selection of subjects to be studied from second year onwards shall be determined in consultation with Head of Department.

CHEMISTRY STRAND

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
PHA101 Physics IS	4
PHA104 Experimental Physics I	3
CHA190 Chemistry I	7
MAA159 Mathematics I	5
* BEA101 Biology I or ESA101 Earth Science I	7
LSA103 English Expression	2
*With the permission of the Head of School and subject to School conditions of subsequent course structure, candidates will be permitted to take Earth Science I as an alternative to Biology I.	
<i>Second Year</i>	
MAA157 Statistics	2
CHA490 Chemistry II	8
CHA401 Analytical Chemistry II	4
<i>THREE of</i>	
ESA110 Earth Science IA	4
PHA405 Physics IIC	4
MAA451 Mathematics II	4
BEA321 Local Biology	4
PSA405 Biochemistry	4
<i>Third Year</i>	
CHA705 Chemistry III	17
CHA700 Analytical Chemistry III or	6
CHA720 Chemical Technology III	6
<i>ONE of</i>	
ESA413 Earth Science IB	4
PSA750 Microbiology	4
The electives to be offered third year Chemistry students may vary from year to year depending on enrolments, timetabling etc. Students should therefore consult with the Head of the Chemistry Department when deciding their elective subjects.	

Evening Course

<i>First Year—1974</i>	
CHA190 Chemistry I	6
BEA101 Biology I	6
<i>Second Year—1973</i>	
PHA101 Physics IS	3
PHA104 Experimental Physics I	3
MAA159 Mathematics I	4
LSA103 English Expression	1

Conduct of the third and subsequent years of this course on an evening basis will depend upon the number of enrolments received. Rule 41 of the Queensland Institute of Technology Rules of 1966 refers.

CERTIFICATE COURSE IN CHEMISTRY

Day/Evening Course

This course requires day-time attendance at the Institute for twenty-eight hours per week for two years and one year evening attendance for approximately nine hours per week. At the completion of the first two years the student will receive a Progress Certificate and on completion of the evening portion of the course a Certificate in Chemistry.

Entrance requirements: Junior—English, Maths B, Science A and Science B. (See pp. 23-25 for subject entry standards and conditions.)

Day-Time

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
CHC102 Analytical Chemistry I	6
LSC101 English	3
CHC130 Inorganic Chemistry	2
MAC151 Mathematics II	4
CHC170 Physical Chemistry I	5
CHC154 Organic Chemistry I	5
<i>Second Year</i>	
CHC404 Analytical Chemistry II	7
CHC458 Organic Chemistry II	4
CHC483 Physical and Inorganic Chemistry II	4
PHC450 Certificate Physics	4
MAC451 Mathematics and Statistics	4
Elective:	
BEC302 Biology or	
ESC131 Geology	5

Evening

<i>Third Year</i>	
CHC762 Organic Chemistry III	3
CHC784 Physical and Inorganic Chemistry III	3
Elective:	
PSC451 Microbiology or	
ESC437 Mineralogy	3

CERTIFICATE COURSE IN CHEMISTRY

Evening Course

This course requires evening attendance for approximately nine hours per week for five years. Students are restricted to attendance for three evenings per week. On completion the student receives a Certificate in Chemistry.

Entrance Requirements: Junior—English, Maths B, Science A, and Science B. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
CHC102 Analytical Chemistry I	3
LSC101 English	1½
CHC130 Inorganic Chemistry	1½
MAC151 Mathematics II	3
<i>Second Year</i>	
CHC154 Organic Chemistry I	3
CHC170 Physical Chemistry I	3
Tutorials	2
<i>Third Year</i>	
PHC450 Certificate Physics	3
MAC451 Mathematics and Statistics	3
CHC404 Analytical Chemistry II	3
<i>Fourth Year</i>	
CHC458 Organic Chemistry II	3
CHC483 Physical and Inorganic Chem. II	3
Elective:	
BEC302 Biology or	3
ESC131 Geology	
<i>Fifth Year</i>	
CHC762 Organic Chemistry III	3
CHC784 Physical and Inorganic Chem. III	3
Elective:	
PSC451 Microbiology or	3
ESC437 Mineralogy	

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

BACHELOR OF APPLIED SCIENCE—COMPUTING

The course entails three (3) years day-time study.

Students who successfully complete the requirements of the course will be awarded the degree of Bachelor of Applied Science and will be entitled to append the letters B.App.Sc. to their names.

Applicants admitted to the first year of the course will have attained a satisfactory standard of sub-tertiary education. Standard requirements in respect of results in the Senior Public Examination are as follows:

- (i) a total score of not less than twenty (20) points in the following subjects: English, Mathematics I, Mathematics II and two others,
- (ii) a minimum of three (3) points for English and a minimum of four (4) points for each of the remaining subjects,
- (iii) the points referred to in (i) and (ii) must be gained in not more than two sittings of the examination within the five years previous to the application for enrolment.

Further details concerning entry requirements and conditions are given on pp. 23-25 of this handbook.

Course Structure

<i>Subject</i>	<i>First Year</i>	<i>Hours per Week</i>
MAB351	Introduction to Computing	4
MAB353	Introduction to Computer Hardware ¹	4 ($\frac{1}{2}$ year)
MAB354	Computers and Programming	4 ($\frac{1}{2}$ year)
MAB355	Basic Mathematics	4
MAB357	Applied Statistical Methods	4
ACB111	Accounting Information Systems	4
LSB101	English Expression I	1

¹ Because of the nature of the material included in this subject, previous study of the subject 'Senior Physics' would constitute part of the desirable background of students entering the course.

<i>Second Year</i>		
MAB651	Switching Theory	4 ($\frac{1}{2}$ year)
MAB652	Computer Organisation I	4 ($\frac{1}{2}$ year)
MAB653	Data Structures	4 ($\frac{1}{2}$ year)
MAB654	Programming Languages	4 ($\frac{1}{2}$ year)
MAB655	Numerical Analysis I	4
MAB657	Operations Research I	4
MNB410	Information Systems I	4
LSB102	English Expression II	1

<i>Third Year</i>		
<i>Core Subjects</i>		
MAB951	Systems Programming	4
MAB953	Computer Organisation II	4 ($\frac{1}{2}$ year)
MAB954	Compiler Construction	4 ($\frac{1}{2}$ year)
MNB710	Information Systems II	4

<i>Elective Subjects²</i>		
(a) MAB955	Mathematical Methods	4 ($\frac{1}{2}$ year)
MAB956	Numerical Analysis II	4 ($\frac{1}{2}$ year)
(b) MAB957	Operations Research II	4
(c) MNB712	Management	4 ($\frac{1}{2}$ year)
MNB711	Marketing	4 ($\frac{1}{2}$ year)

In addition to the formal lecture/tutorial hours outlined above, the departmental computing and statistics laboratories will be available to students for up to five (5) hours per week to enable required project work to be carried out.

² Two of the three elective groupings denoted by (a), (b) and (c) must be chosen

ASSOCIATE DIPLOMA COURSE IN MATHEMATICS

Day-Time Course

The course entails three (3) years day-time study.

Students who successfully complete the requirements of the course will be awarded the Associate Diploma in Mathematics and will be entitled to append the letters A.Q.I.T. (Math) to their names.

Applicants admitted to the first year of the course will have attained a satisfactory standard of sub-tertiary education. Standard requirements in respect of results in the Senior Public Examination are as follows:—

- (i) a total score of not less than twenty (20) points in the following subjects: English, Mathematics I, Mathematics II and two others,
- (ii) a minimum of three (3) points for English and a minimum of four (4) points for each of the remaining subjects,
- (iii) the points referred to in (i) and (ii) must be gained in not more than two sittings of the examination within the five (5) years previous to the application for enrolment.

Further details concerning entry requirements and conditions are given on pp. 23-25 of this handbook.

Course Structure

First Year

<i>Subject</i>		<i>Hours per Week</i>
MAA301	Calculus and Analysis	4
MAA305	Introduction to Computing	4
MAA307	Mathematical Statistics I	4
MAA309	Modern and Linear Algebra	4
LSA101	English Expression I	1

An elective¹ subject chosen from among the first year subjects offered by this Institute. (from 3 to 7)

Second Year

<i>Core Subjects</i>		
MAA601	Multivariable Calculus Part 1A	3 ($\frac{1}{2}$ year)
MAA602	Multivariable Calculus Part 1B	3 ($\frac{1}{2}$ year)
MAA603	Complex Variables	4 ($\frac{1}{2}$ year)
MAA609	Applied Linear Algebra	4 ($\frac{1}{2}$ year)
MAA617	Differential Equations	4 ($\frac{1}{2}$ year)
LSA102	English Expression II	1

¹In certain circumstances the choice of elective may be specified by the Head of Department. The electives offered will be those for which suitable time-tabling arrangements can be made. Students intending to enter the teaching profession should consult the Head of Department concerning their choice of elective as this may affect their eligibility to enter particular teacher training courses on completion of their studies at the Institute.

<i>Subject</i>	<i>Hours per Week</i>
	<i>Option A¹</i> (Industrial Strand)
MAA607	Mathematical Statistics II 4 ($\frac{1}{2}$ year)
MAA605	Computers and Programming 4 ($\frac{1}{2}$ year)
MAA611	Multivariable Calculus Part II 2 ($\frac{1}{2}$ year)
MAA613	Numerical Analysis I 4
	<i>Option B¹</i> (Central Strand)
MAA607	Mathematical Statistics II 4 ($\frac{1}{2}$ year)
MAA611	Multivariable Calculus Part II 2 ($\frac{1}{2}$ year)
MAA613	Numerical Analysis I 4
MAA635	Classical Theoretical Mechanics 4 ($\frac{1}{2}$ year)
	<i>Option C¹</i> (Teaching Strand)
MAA635	Classical Theoretical Mechanics 4 ($\frac{1}{2}$ year)
	Electives ² chosen from first year subjects offered by this Institute (from 7-11)

Third Year

	<i>Option A¹</i> (Industrial Strand)
MAA907	Mathematical Statistics III 4 ($\frac{1}{2}$ year)
MAA908	Mathematical Statistics IV 4 ($\frac{1}{2}$ year)
MAA909	Algebraic Structures with Applications 4 ($\frac{1}{2}$ year)
MAA913	Numerical Analysis II 4 ($\frac{1}{2}$ year)
MAA915	Mathematics with Technological Application 4
MAA627	Operations Research I 4
	<i>Option B¹</i> (Central Strand)
MAA901	Analysis 4 ($\frac{1}{2}$ year)
MAA935	Introductory Advanced Dynamics 4 ($\frac{1}{2}$ year)

A choice of subjects with a total teaching time of 12 hrs per week for one year must be made from the following:—

MAA907	Mathematical Statistics III 4 ($\frac{1}{2}$ year)
MAA908	Mathematical Statistics IV 4 ($\frac{1}{2}$ year)
MAA909	Algebraic Structures with Applications 4 ($\frac{1}{2}$ year)
MAA921	Methods of Mathematical Physics I 4 ($\frac{1}{2}$ year)
MAA922	Methods of Mathematical Physics II 4 ($\frac{1}{2}$ year)
MAA931	Elasticity 4 ($\frac{1}{2}$ year)
MAA933	Theoretical Electromagnetism 4 ($\frac{1}{2}$ year)
MAA934	Applied Electromagnetism 4 ($\frac{1}{2}$ year)
MAA937	Fluid Dynamics 4 ($\frac{1}{2}$ year)

¹The options are merely suggested groupings of subjects which it is felt would best enable students to achieve the objectives of the course. However the needs of individual students may well cut across these arbitrary divisions. In such circumstances students should negotiate with the Head of Department concerning the choice of subjects appropriate to their particular requirements.

²In certain circumstances the choice of elective may be specified by the Head of Department. The electives offered will be those for which suitable time-tabling arrangements can be made. Students intending to enter the teaching profession should consult the Head of Department concerning their choice of elective as this may affect their eligibility to enter particular teacher training courses on completion of their studies at the Institute.

<i>Subject</i>	<i>Hours per Week</i>
	<i>Option C¹ (Teaching Strand)</i>
MAA925	6
	Topics in Mathematics
	A choice of subjects with a total teaching time which averages 6 hours per week for one year must be made from the following:—
MAA909	4 ($\frac{1}{2}$ year)
MAA921	4 ($\frac{1}{2}$ year)
MAA922	4 ($\frac{1}{2}$ year)
MAA933	4 ($\frac{1}{2}$ year)
MAA934	4 ($\frac{1}{2}$ year)
MAA935	4 ($\frac{1}{2}$ year)
MAA937	4 ($\frac{1}{2}$ year)
MAA605	4 ($\frac{1}{2}$ year)
MAA607	4 ($\frac{1}{2}$ year)
	Electives ² chosen from second year subjects offered by this Institute
	4-8

In addition to the formal lecture/tutorial hours outlined above, the departmental computing and statistics laboratories will be available to students for up to five (5) hours per week to enable required project work to be carried out.

¹The options are merely suggested groupings of subjects which it is felt would best enable students to achieve the objectives of the course. However the needs of individual students may well cut across these arbitrary divisions. In such circumstances students should negotiate with the Head of Department concerning the choice of subjects appropriate to their particular requirements.

²In certain circumstances the choice of elective may be specified by the Head of Department. The electives offered will be those for which suitable time-tabling arrangements can be made. Students intending to enter the teaching profession should consult the Head of Department concerning their choice of elective as this may affect their eligibility to enter particular teacher training courses on completion of their studies at the Institute.

ASSOCIATE DIPLOMA COURSE IN MATHEMATICS

Evening Course

This course entails six (6) years evening study. Students may be required to attend lectures on up to a maximum of four (4) evenings per week. Some subjects may be offered during the day in cases where significant numbers of students are free to attend.

Students who successfully complete the requirements of the course will be awarded the Associate Diploma in Mathematics and will be entitled to append the letters A.Q.I.T. (Math) to their names.

Applicants admitted to the first year of the course will have attained a satisfactory standard of sub-tertiary education. Standard requirements in respect of results in the Senior Public Examination are as follows:

- (i) a total score of not less than twenty (20) points in the following subjects: English, Mathematics I, Mathematics II and two others,
- (ii) a minimum of three (3) points for English and a minimum of four (4) points in each of the remaining subjects,
- (iii) the points referred to in (i) and (ii) above must be gained in not more than two sittings of the examination within the five years previous to the application for enrolment.

Further details concerning entry requirements and conditions are given on pp. 23-25 of this handbook.

Course Structure

<i>Subject</i>		<i>Hours per Week</i>
	<i>First Year</i>	
MAA301	Calculus and Analysis	3
MAA309	Modern and Linear Algebra	3
	An elective ¹ chosen from among the first year subjects offered by this Institute	3-6
	<i>Second Year</i>	
MAA305	Introduction to Computing	3
MAA307	Mathematical Statistics I	3
LSA101	English Expression I	1
	<i>Third Year</i>	
MAA601	Multivariable Calculus Part IA	3 ($\frac{1}{2}$ year)
MAA602	Multivariable Calculus Part IB	3 ($\frac{1}{2}$ year)
MAA603	Complex Variables	3 ($\frac{1}{2}$ year)
MAA617	Differential Equations	3 ($\frac{1}{2}$ year)
	<i>EITHER:</i>	
MAA605	Computers and Programming	3 ($\frac{1}{2}$ year)
	<i>OR:</i>	
MAA635	Classical Theoretical Mechanics	3 ($\frac{1}{2}$ year)
	<i>Fourth Year</i>	
MAA607	Mathematical Statistics II	3 ($\frac{1}{2}$ year)
MAA609	Applied Linear Algebra	3 ($\frac{1}{2}$ year)
MAA611	Multivariable Calculus Part II	2 ($\frac{1}{2}$ year)
MAA613	Numerical Analysis I	3

<i>Subject</i>		<i>Hours per week</i>
	<i>Fifth Year</i>	
	<i>Option A²</i>	
MAA907	Mathematical Statistics III	3 ($\frac{1}{2}$ year)
MAA909	Algebraic Structures with Applications	3 ($\frac{1}{2}$ year)
MAA915	Mathematics with Technological Applications	3

¹In certain circumstances the choice of elective may be specified by the Head of Department. The electives offered will be those for which suitable time-tabling arrangements can be made. Students intending to enter the teaching profession should consult the Head of Department concerning their choice of elective as this may affect their eligibility to enter particular teacher training courses on completion of their studies at the Institute.

²The options are merely suggested groupings of subjects which it is felt would best enable students to achieve the objectives of the course. However the needs of individual students may well cut across these arbitrary divisions. In such circumstances students should negotiate with the Head of Department concerning the choice of subjects appropriate to their particular requirements.

<i>Subject</i>		<i>Hours per Week</i>
	<i>Sixth Year</i>	
	<i>Option A¹</i>	
MAA627	Operations Research I	3
MAA908	Mathematical Statistics IV	3 ($\frac{1}{2}$ year)
MAA913	Numerical Analysis II	3 ($\frac{1}{2}$ year)

Fifth and Sixth Years

Option B¹

The fifth and sixth year of the course in this option will consist of eight (8) half year subjects taken at the rate of four (4) of these subjects per year.

The choice of subjects should be made in consultation with the Head of Department.

The subjects are as follows:—

MAA901	Analysis	3 ($\frac{1}{2}$ year)
MAA907	Mathematical Statistics III	3 ($\frac{1}{2}$ year)
MAA908	Mathematics Statistics IV	3 ($\frac{1}{2}$ year)
MAA909	Algebraic Structures with Applications	3 ($\frac{1}{2}$ year)
MAA921	Methods of Mathematical Physics I	3 ($\frac{1}{2}$ year)
MAA922	Methods of Mathematical Physics II	3 ($\frac{1}{2}$ year)
MAA931	Elasticity	3 ($\frac{1}{2}$ year)
MAA933	Theoretical Electromagnetism	3 ($\frac{1}{2}$ year)
MAA934	Applied Electromagnetism	3 ($\frac{1}{2}$ year)
MAA935	Introductory Advanced Dynamics	3 ($\frac{1}{2}$ year)
MAA937	Fluid Dynamics	3 ($\frac{1}{2}$ year)

In addition to the formal lecture/tutorial hours outlined above, the departmental computing and statistics laboratories will be available to students for up to five (5) hours per week to enable required project work to be carried out.

¹The options are merely suggested groupings of subjects which it is felt would best enable students to achieve the objectives of the course. However, the needs of individual students may well cut across these arbitrary divisions. In such circumstances students should negotiate with the Head of Department concerning the choice of subjects appropriate to their particular requirements.

DEPARTMENT OF PARAMEDICAL STUDIES

BACHELOR OF APPLIED SCIENCE—MEDICAL LABORATORY
TECHNOLOGY

Day-Time Course

This course requires day-time attendance at the Institute for thirty-two hours per week. Students who successfully complete the requirements of the course will be awarded the degree of Bachelor of Applied Science and will be entitled to append the letters B.App.Sc. to their names. Graduates of the course will have completed the academic requirements for admission as an Associate member of the Australian Institute of Medical Technologists.

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
CHA101 Analytical Chemistry I	4
BEA101 Biology I	6
CHA132 Inorganic Chemistry I	1
MAA153 Mathematics IA	4
CHA155 Organic Chemistry I	5
CHA175 Physical Chemistry	5
PHA120 Physics IB	7
<i>Second Year</i>	
PSA413 Biological Chemistry	6
PSA427 General Anatomy	3
CHA435 Inorganic Chemistry II	1
PSA440 Laboratory Technology	3
PSA452 Microbiology I	3
PSA435 Human Physiology	4
MAA157 Statistics	2
LSA103 English Expression	2
PSA446 Medical Laboratory Technology I	8
<i>Third Year</i>	
PSA718 Clinical Biochemistry	5
PSA722 Haematology	5
PSA737 Immunology	5
PSA753 Microbiology II	5
PSA775 Parasitology	4
PSA790 Histotechnology	4
PSA747 Medical Laboratory Technology II	4

BACHELOR OF APPLIED SCIENCE—MEDICAL LABORATORY TECHNOLOGY

Evening Course

This course is of six years duration with attendance of four evenings per week or three evenings and one half day per week in the first year, and three evenings and one half day per week in subsequent years. From second year onward one subject will be offered only in the day and will be alternated with another from year to year. All students are limited to a maximum of three evenings per week from second year. Students who successfully complete the requirements of the course will be awarded the degree of Bachelor of Applied Science and will be entitled to append the letters B.App.Sc. to their names. Graduates will have completed the academic requirements for admission as Associate Members of the Australian Institute of Medical Technologists.

Before a student is allowed to enter the fourth and subsequent years the student must be employed in an approved capacity in an approved laboratory.

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 15-17 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
CHA101 Analytical Chemistry I	3
MAA153 Mathematics IA	3
CHA156 Organic Chem. IA (half year)	3
CHA176 Physical Chem. IA (half year)	3
PHA121 Physics IC	3
<i>Second Year</i>	
BEA101 Biology I	5
CHA132 Inorganic Chemistry I	1
CHA157 Organic Chem. IB (half year)	3
CHA177 Physical Chem. IB (half year)	3
PHA122 Physics ID	3
<i>Third Year</i>	
PSA427 General Anatomy	3
PSA414 Biological Chemistry A	3
PSA435 Human Physiology	4
LSA101 English Expression I	1
	1
<i>Fourth Year</i>	
PSA415 Biological Chemistry B	3
MAA157 Statistics	2
CHA435 Inorganic Chemistry II	1
PSA440 Laboratory Technology	3
PSA452 Microbiology I	3
<i>Fifth Year</i>	
PSA718 Clinical Biochemistry	4
PSA790 Histotechnology	3
PSA753 Microbiology II	4
	Project Work
<i>Sixth Year</i>	
PSA722 Haematology	4
PSA775 Parasitology	3
PSA737 Immunology	4
	Project Work

ASSOCIATE DIPLOMA COURSE IN OPTOMETRY

Three (3) years day-time.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT(Optom).

A holder of this Associate Diploma will have satisfied all the examination requirements of the Board of Optometrical Registration, Queensland and may apply for registration to practise as an optometrist in Queensland, the Australian capital territories and all States of Australia.

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
PHA140	Optics	7
BEA101	Biology I	6
PSA129	General Psychology	2
PSA427	General Anatomy	3
PSA167	Ophthalmic Dispensing I	6
LSA103	English Expression	2
	<i>Second Year</i>	
PSA465	Ocular Anatomy and Physiology	2
PSA435	Human Physiology	5
PSA428	General Pathology	1
PSA468	Ophthalmic Dispensing II	3
PSA402	Applied Visual Science I	5
PSA419	Clinical Optometry I	8
PSA425	Fundamentals of Visual Science	3
	<i>Third Year</i>	
PSA703	Applied Visual Science II	4
PSA720	Clinical Optometry II	15
PSA723	Contact Lens Studies	2
PSA766	Ocular Pathology	2
MNA424	Introduction to Business	1
	Assigned Optometry	8

DEPARTMENT OF PHYSICS**BACHELOR OF APPLIED SCIENCE**

Three (3) years day-time study.

Students who successfully complete the requirements of the course will be awarded the degree of Bachelor of Applied Science and will be entitled to append the letters B.App.Sc. to their names.

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

NOTE: Selection of subjects to be studied from second year onwards shall be determined in consultation with Head of Department.

<i>Subject</i>	PHYSICS	<i>Hours per week</i>
	<i>First Year</i>	
PHA101	Physics IS	4
PHA104	Experimental Physics I	3
CHA190	Chemistry I	7
MAA159	Mathematics I	5
*BEA101	Biology I or ESA101 Earth Science I	7
LSA103	English Expression	2
	*With the permission of the Head of School and subject to School conditions of subsequent course structure, candidates will be permitted to take Earth Science I as an alternative to Biology I.	
	<i>Second Year</i>	
PHA401	Physics IIA	3
PHA402	Physics IIB	3
PHA404	Experimental Physics II	5
MAA157	Statistics	2
MAA459	Mathematics IIP	6
MEA270	Workshop Technology	3
	<i>ONE</i> elective from Third year	4
	To be decided in consultation with the Head of Department.	
	<i>Third Year</i>	
PHA701	Physics IIIA	3
PHA702	Physics IIIB	3
PHA703	Physics IIIC	3
PHA704	Experimental Physics III	9
MAA759	Mathematics IIIP	1
	<i>TWO of</i>	
PHA710	Radiation Physics	4
ESA110	Earth Science IA	4
PHA711	Electronics	4
MAA305	Introduction to Computing	4

The electives to be offered Third Year Physics Students may vary from year to year depending on enrolments, timetabling etc. Students should therefore consult with the Head of the Physics Department when deciding their elective subjects.

Evening Course

First Year—1974

CHA190	Chemistry I	6
BEA101	Biology I	6

Bachelor of Applied Science—Physics—continued

		<i>Second Year—1973</i>	
PHA101	Physics IS		3
PHA104	Experimental Physics I		3
MAA159	Mathematics I		4
LSA103	English Expression		1

Conduct of the third and subsequent years of this course on an evening basis will depend upon the number of enrolments received. Rule 41 of the Queensland Institute of Technology Rules of 1966 refers.

ASSOCIATE DIPLOMA COURSE IN DIAGNOSTIC RADIOGRAPHY

This course involves three (3) years evening study and some day release periods. Formal course work will be available mainly at the Q.I.T., and all students will have to complete specified practical work within an approved Department or Practice under the supervision of a qualified Radiographer or Radiologist. Subject entrance requirements: Senior—English, Mathematics I, Physics and one other subject (see pp. 23-25 for subject entry standards and conditions.)

In addition, enrolling students must be trainees who have been accepted for employment within an approved Department or Practice.

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
PHD101	Hospital Practice & Care of Patient	1½
PHD102	Physics for Radiographers	3
PSD401	Anatomy and Physiology	4
PHD103	Radiographic Technique A	1½

Second and Third Year will be notified in the 1974 Handbook.

ASSOCIATE DIPLOMA COURSE IN THERAPEUTIC RADIOGRAPHY

This course involves three (3) years evening study, and some day release periods. Formal course work will be available mainly at the Q.I.T., and all students will have to complete specified practical work within an approved Department or Practice under the supervision of a qualified Radiographer or Radiologist. Subject entrance requirements: Senior—English, Mathematics I and Physics and one other subject (see pp. 23-25 for subject entry standards and conditions.)

In addition, enrolling students must be trainees who have been accepted for employment within an approved Department or Practice.

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
PHD101	Hospital Practice & Care of Patient	1½
PHD102	Physics for Radiographers	3
PSD401	Anatomy and Physiology	4
PHD104	Principles of Pathology	1
PHD105	Preliminary Radiotherapeutic Practice	½

Second and Third Year will be notified in the 1974 Handbook.

SYNOPSIS OF SUBJECTS

- ACB111 *Accounting Information Systems*
An introduction to financial information systems and measurement in accounting. Introduction to accounting information systems. The process of financial measurement. Tools and techniques of the financial data processing systems. Financial data processing. Accounting for business organisations. Utilization of accounting reports.
- ESA755 *Administration for Geologists*
Organization and management; mineral industries studies, company structure.
- MAA909 *Algebraic Structures with Applications*
Sets and functions; Boolean algebra; monoids; groups acting on a set; rings and ideals; commutative rings; finite fields; modules.
- MAA901 *Analysis*
Measure and integration theory; introduction to functional analysis.
- CHA101 *Analytical Chemistry I*
A course in the theoretical and practical principles of chemical analyses including qualitative semi-micro analyses, and titrimetric and gravimetric techniques leading to the determination of simple substances.
- CHC102 *Analytical Chemistry I*
A course in the basic principles of analytical chemistry including a study of the behaviour of common substances in solution, an introduction to the principles of qualitative analysis and practice in the fundamental techniques of titrimetric analysis and gravimetric analysis.
- CHA401 *Analytical Chemistry II*
(Prerequisites: CHA101, CHA132, CHA170).
A continuing course in the theoretical and practical principles of classical analytical methods using gravimetric and titrimetric techniques leading to the determination of more complex materials, together with the analytical techniques of chromatography (including gas chromatography), solvent extraction and uv-visible spectrophotometry.
- CHC404 *Analytical Chemistry II*
A continuing course giving practice in qualitative analysis, including an introduction to semi-micro qualitative analysis, and further practice in the basic techniques of volumetric and gravimetric analysis. Introduction to industrial analytical techniques.
- CHA700 *Analytical Chemistry III*
(Prerequisite: CHA401)
A combination of CHA701 and CHA702.
- CHA701 *Analytical Chemistry IIIA*
(Prerequisite: CHA401)
A course in modern methods of chemical analysis covering flame, x-ray and electrical excitation spectroscopy; uv-visible spectrophotometry and infrared spectrophotometry; fluorimetry; light scattering methods; thermal analysis and electroanalytical techniques. The laboratory program includes the application of modern methods to the analysis of complex materials and commercial products.
- CHA702 *Analytical Chemistry IIIB*
(Prerequisite: CHA401).
A course in the principles and techniques of nuclear and radio-chemistry; spectroscopic techniques of NMR, NQR, ESR, ORD and

fluorescence; mass spectrometry; an introduction to the application of computers to chemistry and a study of air pollution control methods.

- CHA100 *Analytical & Inorganic Chemistry I*
A combination of CHA101 and CHA132.
- CHA400 *Analytical & Inorganic Chemistry II*
A combination of CHA401 and CHA432.
- PSD401 *Anatomy and Physiology*
A course for radiography students providing an integrated programme of anatomy and functional activities of the human organism. The course emphasises those aspects of importance to radiographic practice and an associated laboratory programme of physiological experiments is included.
- MAA934 *Applied Electromagnetism*
Maxwell's equations; wave guide structures; antenna theory.
- MAA609 *Applied Linear Algebra*
Finite dimensional vector spaces; polynomials; matrices; quadratic forms on a real vector space; Euclidean and unitary spaces; functions of a matrix.
- MAB357 *Applied Statistical Methods*
A course designed as an introduction to statistical problem solving. The theory of probability and probability distributions, the collection and representation of data. Significance tests based on the normal, t, F and chi squared distributions. Simple and multiple linear regression. Correlation. Randomisation and design of experiments. Quality control.
- PSA402 *Applied Visual Science I*
The investigation of vision, uncorrected and corrected. The objective and subjective methods of refraction and other techniques for the improvement of vision. The instrumentation and techniques employed in the external and internal examination of the eyes and related structures.
A full treatment of the errors of refraction, including symptomatology. Eye strain and visual hygiene. The measurement, fitting and application of clinical optical appliances.
- PSA703 *Applied Visual Science II*
All aspects of optometrical practice are covered including the more recent techniques for the detection and treatment of refractive anomalies and accommodation abnormalities.
The investigation of the state and requirements of binocular vision. Anomalies of binocular vision and their treatment. Subnormal vision and its treatment.
The visual needs of special tasks and occupations. Ocular protective glasses. The scope and practice of industrial optometry. The elements of illumination engineering.
- MAB355 *Basic Mathematics*
An introductory course in mathematics providing the necessary mathematical basis for computer science and including complex numbers, vector spaces, matrices, eigenvalues and eigenvectors, functions of a real variable, geometry of straight line, conics, planes and quadratic surfaces.
- PSA405 *Biochemistry*
A study of the chemistry of biological materials, products, and processes, and their applications in industry. Topics include the chemical composition of living materials, metabolic pathways, plant and animal

nutrition, enzymes, hormones, and the bio-chemistry of processes used in the food and other industries.

- PSC406 *Biochemistry*
A course of lectures introducing the chemistry of living processes to illustrate the principles underlying the practical work of this subject which deals with the methods, techniques and practices of bio-chemistry in the biological fields.
- CHC450 *Biological Chemistry*
An introduction to the structure, shape and properties of organic compounds involved in metabolic processes and in biological macromolecular systems. Topics include carbohydrates, lipids, amino acids and proteins and nucleic acids.
- PSA413 *Biological Chemistry*
A course in the chemistry of biological molecules and systems dealing with the fundamentals of chemistry and metabolism of living matter as a basis for applied subjects in the third year. Consideration is given also to the organic chemistry of substances considered in stain technology and immunology.
- PSA414 *Biological Chemistry A*
First part of PSA413 Biological Chemistry.
- PSA415 *Biological Chemistry B*
Second part of PSA413 Biological Chemistry.
- BEC419 *Biological Instrumentation*
A course in the effective use of instruments used in biological laboratories. A wide range of instrumental techniques is included in this course.
- BEC691 *Biological Techniques B*
A course predominately in microtechnique dealing with cells and tissues of plant and animal origin.
- BEC692 *Biological Techniques C*
A course of six fifteen-hour subunits each dealing with a distinct area of biology, e.g. entomology, genetics, animal care, museum technique parasitology, freshwater biology.
- BEC693 *Biological Techniques D*
Not offered 1973.
- BEA102 *Biology*
An integrated course including emphasises on the experimental aspects of biology and the ecological aspects of the subject.
- BEC302 *Biology*
An integrated introductory course in general biology with an emphasis on experimental approach.
- BEC101 *Biology*
An integrated course in general biology, based on the Biological Sciences Curriculum Study and emphasising an experimental approach to understanding the science.
- BEA101 *Biology I*
This subject is divided into three parts
(1) An integrated approach to biological topics with emphasis on experimentation.
(2) An introductory course relating man to the basic processes which contribute to the ecological stability of the biosphere.
(3) The biology of cells and tissues with an emphasis on the chemical basis of life and the interrelation between structure and function.

- BEA401 *Biology II*
A course of 16 hours per week in Biological Principles and Techniques including animal and plant diversity, physiology, genetics, cell biology and field studies.
- BEA701 *Biology III & Ecology*
A course of 22 hours per week in ecology, population genetics, population dynamics, evolution, group projects, special topics and field work.
- MAA301 *Calculus and Analysis*
Differential calculus; complex numbers; integral calculus; first order differential equations; sequences; continuity and differentiability; Riemann integration; infinite series.
- PHC450 *Certificate Physics*
An introductory course in physics dealing with measurement, kinematics, mechanics, properties of matter, heat, light, sound, electricity, magnetism and electronics.
- CHA720 *Chemical Technology III*
Combination of CHA721 and CHA722.
- CHA721 *Chemical Technology IIIA*
An introduction to the practice of chemical reactions on a commercial scale. Industrial stoichiometry, Dynamics of Batch and Continuous Processes, Chemical Plant Economics, Selected Chemical Unit Processes. Physical Chemistry applications to Process Chemistry. Heterogeneous Reactions and Catalysis in fixed and fluid beds. Reactors.
- CHA722 *Chemical Technology IIIB*
Mass Transfer Operations. Considerations of Heat Transfer. Chemical Plant Equipment. Fluid and Particle Mechanics. Unit Operations. Applied Chemical Kinetics. Reactors, Introduction to automatic process control.
- CHA190 *Chemistry I*
For the theory portion of this subject see CHA132 Inorganic Chemistry I, CHA170. Physical Chemistry I, CHA150 Organic Chemistry I. The practical component of this subject of three hours per week will be approximately one term of introductory analytical techniques, one term of introductory Physical Chemistry experiments and one term of Organic Chemistry which will include the simple techniques and simple test tube experiments.
- CHA490 *Chemistry II*
Combination of CHA491 Chemistry IIA and CHA492 Chemistry IIB.
- CHA491 *Chemistry IIA*
For the theory component see CHA432 Inorganic Chemistry II, CHA470 Physical Chemistry II.
- CHA492 *Chemistry IIB*
For the theory component see CHA450 Organic Chemistry II. The practical component of this subject of three hours per week will be divided between Organic Chemistry and Physical Chemistry. This will include more advanced experiments in each discipline.
- CHA705 *Chemistry III*
For the theory component see CHA730 Inorganic Chemistry III, CHA750 Organic Chemistry III. CHA770 Physical Chemistry III. The practical component of this subject will be divided amongst Inorganic Chemistry, Organic Chemistry and Physical Chemistry. This will include further advanced experiments in each discipline.

- CHA496 *Chemistry for Geologists*
Chemistry relevant for the understanding of crystallization from melts (e.g. phase diagrams for silicate and sulphide systems) and metamorphic reactions in rocks.
Instrumental techniques of analysis of rocks and minerals.
- MAA635 *Classical Theoretical Mechanics*
Rectilinear motion of a particle; motion of a particle in a plane; principle of virtual work and its application.
- PSA718 *Clinical Biochemistry*
A course in clinical biochemistry dealing with the biochemical changes and malfunctions associated with disease and the laboratory procedures employed to assist in diagnosis and prognosis. Topics include kidney and liver function, electrolyte balance, plasma and blood volumes, hormones, haemoglobins and their derivatives, carbohydrates and carbohydrate metabolites, inorganic ions, proteins and amino acids, micro and ultramicro techniques, and auto-analysis.
- PSA419 *Clinical Optometry I*
The practical application of the subject matter contained in Applied Visual Science I as a course of clinical training. This section will be conducted in the Optometry Clinic.
- PSA720 *Clinical Optometry II*
The practical application of the subject matter contained in Applied Visual Science I and II as part of optometrical routine and practice. Most of the allotted time will be spent in the Optometry Clinic.
- MAB954 *Compiler Construction*
A course which deals with the techniques involved in the analysis of source language and the generation of efficient object code. Assembly techniques, syntax, one pass techniques, registers, storage, subroutines and functions, compiler languages.
- MAA603 *Complex Variables*
Elementary functions; analytic functions; integration; series; contour integration; analytic continuation and multivalued functions; conformal mapping; boundary value problems; integral transforms.
- MAA605 *Computers and Programming*
Computer structure and machine language; computing languages; assembly and compilation techniques; execution techniques; operating systems.
- MAB354 *Computers and Programming*
A course to introduce the student to basic computer organisation, machine language programming and the use of assembly language. Computer structure and machine language, addressing techniques, digital representation of data, symbolic coding and assembly systems, selected programming techniques, macros, program segmentation and linkage, computer systems organisation, systems and utility programs.
- MAB652 *Computer Organisation I*
This course introduces the methods by which logic modules are used to perform the functions of the central processor unit of a computer. Non-decimal number systems. Counters, comparators, shift registers and parity checkers. Characteristics of magnetic cores. Characteristics of drum, disk and magnetic tape recording materials.
- MAB953 *Computer Organisation II*
A course dealing with system organisation and architecture, augmented by design projects and the evaluation of designs by simulation. Input-output facilities. System organisation. Reliability. Description and simulation techniques. Data transmission.

- PSA723 *Contact Lens Studies*
The history, development and present day practice of the fitting of all types of haptic and corneal contact lenses. Clinical procedures and research problems. The modifications of lenses. The course will include lectures on the anatomy and physiology of relevant structures. Practical sessions will be conducted in the Optometry Clinic.
- MAB653 *Data Structures*
An introduction to the data structures used in computer storage. Basic concepts of data. Linear lists and strings. Arrays and orthogonal lists. Tree structures. Storage systems and structures. Storage allocation and collection. Multilinked structures. Sorting techniques. Symbol tables and searching. Data structure in programming languages.
- MAA617 *Differential Equations*
Ordinary differential equations of the first and higher orders; Sturm-Liouville theory; boundary value problems. Partial differential equations. Laplace transform methods. Systems of simultaneous differential equations.
- MEA224 *Drawing*
A basic course in Drawing to enable students to understand engineering drawings. Subject matter will include geometrical constructions; orthographic projection; sectioning and dimensioning; oblique, parallel and isometric drawings; simple loci problems.
- ESA101 *Earth Science I*
1. Basic Geological Principles and Theories.
Uniformitarianism, superposition of strata, evolution, geological time and its measurement.
Origin and general constitution of the earth and the solar system. Physical and chemical properties of the various layers of the earth. The source of internal and external forces within and on the earth. Isostasy, convection currents, orogeny, epeirogeny, eustatic adjustment, continental drift, etc.
2. Crystallography.
Concept of unit cells leading to the possible crystal systems and the variation within these systems. Symmetry elements, crystallographic axes, crystallographic laws, habit variations, parameters, Miller Indices, and twinning.
3. Mineralogy I.
An introduction to the mineral groups—silicates and non-silicates—and an understanding of their chemical and morphological classification. The definitions and usage of physical properties for the identification of minerals. A minimum of about 50 minerals will be examined consisting of the common rock and ore forming types.
4. Petrology I.
An introduction to the origin and classification of igneous, sedimentary, and metamorphic rocks. Discussion of their respective structures, textures, mineralogy, modes of occurrence. Recognition of representative samples of each group—an approximate total of 50 rocks.
5. Structural Geology I.
The origin, morphology, geometrical aspects, and recognition of folds, faults, joints, unconformities and related structures. Introduction to stereographic projections and other methods of data presentation and solution.

6. Physical Geology.

The origins, chronological development and morphology of topographic features resulting from erosion by marine, fluvial, glacial and aeolian agencies. Transport by and depositional features of these agencies. The relationship between topography and variation in rock and structural types. An introduction to topographic maps and the interpretation of landforms.

7. Stratigraphy.

Discussion of stratigraphic principles. The division of geological time into eras and periods and the significance of these divisions. The stratigraphy of Australia with emphasis on Queensland. The use of air photography and geological maps in the interpretation of stratigraphy and structure in relation to geological history.

8. Palaeontology.

The formation of fossils and the utilization of fossils in geologic studies. Classification and characteristics of the animal and plant kingdoms. Basic principles of palaeontology. Morphological studies, speciation, evolution and ecology of invertebrate phyla.

9. Pedology.

Processes of weathering, their relationship to soil formation, and a study of the major soil groups.

10. Hydrology.

Sources of groundwater, its storage, movement, exploitation and utilization.

11. Economic Geology I.

Geological processes in the formation and accumulation of metalliferous and non-metalliferous economic materials including petroleum.

ESA404 *Earth Science II***1. Mineralogy and Petrology II.**

Extension of the chemical classification of minerals; the examination of additional mineral species in hand specimen and the introduction of advanced methods of mineral identification.

An introduction to the methods of optical mineralogy; the study of minerals in thin section.

The principles and theories relating to the occurrence, genesis, and diversification of igneous, metamorphic and sedimentary rocks. Megascopic and microscopic examination of selected suites.

2. Stratigraphic Geology.

Regional stratigraphy with emphasis on environmental aspects. Evolution of selected basins and geosynclines and a study of the realms of modern sedimentation. Methods of stratigraphic analysis and the application of palaeontology to stratigraphy.

3. Structural Geology II.

Rock deformation, stress and strain relationships, geometric, kinematic and dynamic analysis of folded rocks.

4. Geophysics I.

An introduction to the theory of seismic, gravity, radioactive, magnetic, electromagnetic, electric, and thermal methods of geophysical exploration.

5. Geochemistry I.

The general distribution of elements and their associations, mobility, and dispersion. The origin and concept of geochemical anomalies and their statistical treatment. Sampling techniques used in exploration geochemistry.

6. Surveying and Photogeology.

Theories of surface and sub-surface surveying techniques and their application and practice.

The principles of photogrammetry and photointerpretation and methods of photogeological mapping.

7. Economic Geology II.

A detailed study of geological processes in the formation and accumulation of metalliferous and non-metalliferous economic materials. The study of minerals in polished section and the megascopic and microscopic examination of suites of ores and associated rocks.

8. Petroleum Geology and Hydrology.

Composition and properties of petroleum, natural gas, and ground-water. Genesis and occurrence of reservoirs; porosity and permeability studies. Well logging and assessment.

ESA707 *Earth Science III*

1. Exploration Geology.

Techniques of field mapping, administration of exploration groups; the collection collation and presentation of data.

Preparation of a thesis on the results of an original investigation.

2. Geochemistry II.

The application of geochemistry to the discovery of economic ore and petroleum deposits. The study of case histories. Field testing of geochemical exploration methods.

3. Geophysics II.

The field testing, reduction of data, and interpretation of geophysical methods in exploration.

4. Engineering Geology.

The application of geology to engineering practice including an introduction to soil mechanics and rock mechanics.

5. Economic Geology III. (Industrial, metalliferous, petroleum, water, coal.)

Properties of fluids; structural and stratigraphic analysis of reservoirs; fluid mechanics; drilling and production methods as applied to petroleum and water.

Detailed studies of the genesis, discovery, exploitation, and usage of economic materials.

Methods of mineral search, ore prediction, exploratory drilling, and mining geology.

ESA110 *Earth Science IA*

An introduction to basic geological principles and terms. Topics discussed include the development of geological philosophy, origin and development of the earth, principles of mineralogy and petrology, geomorphic and tectonic processes, the principles of palaeontology and historical geology, and industrial applications of geological studies.

ESA413 *Earth Science IB*

The subjects introduced in Earth Science IA are considered in greater detail with the emphasis on specific examples. Sets of common minerals, rocks, and fossils are considered. Queensland's geological history and geomorphology are discussed; specific ore, coal, oil, and groundwater occurrences are studied.

- BEA732 *Ecology*
A course of lectures and associated practical work dealing with basic principles and concepts pertaining to the ecosystems characteristic of fresh water, marine and terrestrial environments. The application of these principles to problems of conservation, agriculture, forestry, range management, wild life management, and fisheries.
- ESA756 *Economic Analysis for Geologists*
Local and overseas investment; world mineral commodity markets; mineral development financing; taxation; mineral statistics; mineral industries studies.
- ESA716 *Economic Geology*
Consideration is given to those aspects of economic geology likely to be encountered by chemists in the mining, metallurgical, and other industries utilizing minerals. Aspects discussed include:— Introductory theoretical geochemistry and ore genesis; geochemical prospecting techniques; introduction to mineralogical studies for the solution of problems in metallurgic chemistry and ore dressing.
- MAA931 *Elasticity*
Analysis of stress; analysis of strain; equations of elasticity, torsion and flexure in beams.
- PHA711 *Electronics*
A series of lectures on the general application of evacuated, gas filled and solid state devices. Includes power supplies, filters, modulation and detection, oscillators, feedback, pulse circuitry; extends into recording and reproduction of sound, radio, television, digital and analogue devices. Students will be required to undertake design and construction projects as laboratory work.
- LSC101 *English*
An introduction to business communication: application of communication conventions and principles to essays, business letters, reports, speeches; improved reading techniques; meeting procedure; library.
- LSA103 *English Expression*
Combination of LSA101 and LSA102.
- LSA101 *English Expression I*
An introduction to the principles of communication through the study of effective examples; application to reports, business letters, speeches, instructions; reading improvement; library. Student's results in LSA101 will be determined from assignment work set throughout the year.
- LSA102 *English Expression II*
Application of communication principles to the study of meeting procedure, committees, public speaking, learned articles, literary art forms. Student's results in LSA102 will be determined from assignment work set throughout the year.
- LSB101 *English Expression I*
A course aimed at providing vocationally useful material and experience in the fields of oral and written communication. Special forms of communication. Effective communication. Logic and evidence. Tone in writing. Use of a library.
- LSB102 *English Expression II*
Introduction to practical vocational speech situations. Theory and practice of the conduct of meetings, seminars and other conferences. Evaluation of effectiveness of communication.

- PHA104 *Experimental Physics I*
A laboratory course of three hours per week intended to develop students' ability in scientific experimental methods. Emphasis is placed on the understanding and use of physical measuring devices, the techniques of data collection, the processing of this data (including graphical techniques) and critical evaluation of results.
- PHA404 *Experimental Physics II*
This is basically a practical course, flavoured with a series of lectures on the experimental method, which is designed to develop in the student an experimental ability. Each student is required to perform a series of exercises on experimental skills, to conduct a selection of experiments and to carry out a ten week experimental project under the individual supervision of a particular staff member.
- PHA704 *Experimental Physics III*
9 hours per week laboratory and field work in applied physics with emphasis on open ended experiments with modern equipment. In addition each student completes one major experimental project during the year and is involved in delivering seminars and reviews of selected scientific papers.
- ESA122 *Field Excursions I*
A minimum of three one-day excursions to selected areas. Students will be required to submit reports of such excursions.
- ESA424 *Field Excursions II*
A minimum of one seven day field excursion to selected areas. Students will be required to submit a full report of such excursion.
- ESA726 *Field Excursions III*
A minimum of one ten-day field excursion to selected areas. Students will be required to submit a full report of such excursion.
- MAA937 *Fluid Dynamics*
Mathematical models of fluid motion, dimensional analysis and similitude; incompressible potential flow; introduction to boundary layer equations.
- PSA425 *Fundamentals of Visual Science*
The subject considers the eye and the visual processes from physical, physiological, and psychological angles. Image formation in the normal eye and the physiological departures from normality. The focussing adjustment of the ocular system.
The visual functions of Man—light sense, form sense, colour sense. The extent of visual sensations.
One-eyed vision and binocular vision. The subject matter is covered by a series of lectures, demonstrations, and practical sessions.
- PSA427 *General Anatomy*
A course dealing with the gross anatomy and microscopic structure of the human body. Consideration is given to the structure of cells, tissues and organ systems.
- PSA428 *General Pathology*
An outline of the principles of General Pathology as an introduction to ocular pathology.
- PSA129 *General Psychology*
An introduction to the study of Psychology, followed by the evolutionary background of Man, the development of sensation and the relevant aspects of the theory of perception. Learning.
After consideration of the psychology of individual differences and the concepts of personality, normality, emotion, motivation and intelligence, abnormal personality problems are dealt with, then psychological study in the applied fields.

- ESA128 *Geology*
Basic geological principles and terms are introduced with the emphasis on providing a foundation for following courses in mineralogy and economic geology. Some of the aspects discussed will be: origin and constitution of the earth; geological time and its subdivision; the principal features of Queensland's geological history; introductory mineralogy; geomorphic processes and features; groundwater; principles of field geology.
- ESC131 *Geology I*
An introduction to geology, with emphasis on geological principles and terms likely to be encountered by chemists employed in the mining, metallurgical and other mineral based industries. Aspects discussed include; origin and constitution of the earth; fundamental geological principles; geological time; some of the principal features of Queensland's geological history; introductory mineralogy.
- PSA722 *Haematology*
A study of the theoretical and practical aspects of the laboratory diagnosis of disease of the blood and blood forming organs in man. Topics include the anaemias, leucaemias, coagulation disorders, serum defects, pediatric haematology, and the use of radio-isotopes in haematology.
- PSA790 *Histotechnology*
A study of the theoretical and practical aspects of the preparation of cells, tissues, and organs for microscopical examination. Topics include the histochemical location and identification of normal and abnormal chemical constituents, cytological methods employed in the diagnosis of cancer, the theoretical and physical basis of biological staining, and the physical basis of techniques such as microtomy.
- PHD101 *Hospital Practice and Care of Patient*
Care of the patient; first aid; infection and sterilization; principles of asepsis; preparation of patient for examination or treatment.
- PSA435 *Human Physiology*
A study of the functions of an inter-relationships between cells, tissues, organs and systems of the human body with associated practical work. Topics include the physiology of blood and the cardio-vascular system, respiration, digestion and nutrition, excretion, hormones, and a man's adaptation to his environment. The subject serves as a physiological background to para-medical courses.
- PSA737 *Immunology*
A study of the mechanism of immunity, the immunological procedures used to assess or diagnose disease, blood group serology, and blood bank procedures. Topics include the types of immunity, the nature and formation of antibodies, antigens, immunisation, the serological diagnosis of bacterial, parasitic, and blood disease; blood groups and their determination, and serological procedures employed in blood transfusions.
- MNB410 *Information Systems I*
This course introduces the concepts and objectives of data processing systems in commercial organisations. Introduction to information systems. Systems methodology. Systems specification. System design requirements.
- MNB710 *Information Systems II*
A course dealing with design requirements and techniques for both batch and random access systems in business data processing, augmented by topics on management in data processing. Data structure and file organisation techniques. Systems design techniques.

Generalised file processing/data base management. Computer management and operations control. Control of systems projects.

- CHC130 *Inorganic Chemistry*
An introductory course in inorganic chemistry devoted more particularly to elementary atomic structure and bonding, coordination chemistry, periodic classification and the chemistry of selected typical elements.
- CHA132 *Inorganic Chemistry I*
A theoretical course dealing with the modern views on the structure of the atom with particular reference to electron configurations in relation to the periodic classification and reactivity of various elements. Topics include covalent bonding and the shapes of molecules; electrovalency; lattice energy and ionic crystal lattices; co-ordinate bonding and an introduction to co-ordination chemistry including nomenclature, formation and some applications; together with a systematic survey of the chemistry of typical elements.
- CHA432 *Inorganic Chemistry II*
(Prerequisite: CHA132).
A course in the chemistry of metals with emphasis on transition metals including structure and binary compounds; extraction of metals, behaviour of metal ions in aqueous solution; co-ordination chemistry covering bonding, magnetic behaviour, reaction, isomerism and nomenclature; commercial, analytical and biological applications of metal complexes; introductory solid state chemistry.
- CHA435 *Inorganic Chemistry II*
A course in coordination chemistry of selected biological systems and in dyes and stains. Analytical techniques used in the pathology laboratory. Biological relevance of pH. Reaction kinetics and thermodynamics of biochemical systems.
- CHA730 *Inorganic Chemistry III*
(Prerequisite: CHA432).
A combination of CHA731 and CHA732.
- CHA731 *Inorganic Chemistry IIIA*
(Prerequisite: CHA432).
A course in theoretical inorganic chemistry, co-ordination chemistry, x-ray diffractometry and vibrational spectroscopy.
- CHA732 *Inorganic Chemistry IIIB*
(Prerequisite: CHA432).
A course covering the chemistry of selected iron metals; lanthanides and actinides; the structural chemistry of metals and alloys and the structural chemistry of semi-conductors, insulators and defect solids.
- MNA424 *Introduction to Business*
The Legal Structure of Business. The Functions of Business. Principles of Supervision. Office Management. Money, Banks and Banking. Business Economics. Wages and Productivity.
- MAB353 *Introduction to Computer Hardware*
A course designed to provide the necessary background for subsequent hardware topics. Basic set algebra. Boolean algebra and propositional logic. Circuit theory. Semi-conductor physics. Circuitry.

- MAA305 *Introduction to Computing*
Algorithms, programs and computers; FORTRAN programming; programming and computing systems; debugging and verification of programs; data representation; organisation and characteristics of computers; analysis of numerical and non-numerical problems; survey of computers, languages, systems and applications.
- MAB351 *Introduction to Computing*
A first course to provide the student with the basic knowledge and experience to use computers effectively in the solution of problems. An introduction to algorithms, programs and computers. Basic concepts of programming. Program structure. Programming and computing systems. Debugging and verification. Data representation. Special programming topics. Organisation and characteristics of computers. Analysis of numerical and non-numerical problems. Programming in COBOL and ALGOL. Survey of computers, languages, systems and applications.
- MAA935 *Introductory Advanced Dynamics*
Motion of a system of particles; motion of a rigid body in two dimensions; motion of a rigid body in three dimensions; generalised co-ordinates, Lagrange's equations; vibrating strings and wave motion.
- PSA440 *Laboratory Technology*
A course dealing with the practical aspects of instrumental analysis and techniques employed in the clinical laboratory. While the purely theoretical aspects of a number of the topics are dealt with in CHA440 from a chemical point of view, in this course the theoretical aspects covered deal with the physical principles embodied in the instruments. Emphasis is placed throughout on the effective use of the instruments and techniques involved. Topics include, photometry, spectrophotometry, chromatography including gas absorption, thin layer and ion exchange, chromatography, microscopy, freeze drying, and the practical aspects of the maintenance of accuracy, precision, and control in the clinical laboratory.
- ESA454 *Law for Geologists*
Mining, petroleum and land laws; types of land tenure, especially mining leases.
- BEA321 *Local Biology*
A course in the identification of the flora and fauna of the major habitats in South-East Queensland with special reference to conservation and the teaching of this aspect of Biology in schools.
- MNB712 *Management*
This course introduces the theory of organisational behaviour, human relations and management techniques. Function of management. Behaviour in an organisation. The supervisor and the work group.
- MNB711 *Marketing*
A course introducing the concepts of marketing and the sales function. Marketing systems and the role of management. Marketing research. The sales function. Product planning. Sales forecasting.
- MAB955 *Mathematical Methods*
Series, ordinary differential equations, functions of several variables, partial differential equations.
- MAA307 *Mathematical Statistics I*
Basic probability theory and probability models; distributions; mathematical expectation; tests of significance; interval estimation; quality control; linear regression and correlation; introduction to the analysis of variance.

- MAA607 *Mathematical Statistics II*
Marginal and conditional probability; multivariate probability distributions; introduction to experimental design; multiple linear regression; curvilinear regression.
- MAA907 *Mathematical Statistics III*
Transformation of variables; characteristic functions; order statistics; estimation; introduction to stochastic processes.
- MAA908 *Mathematical Statistics IV*
Further experimental design; linear models (matrix approach). Multivariate normal distribution; Cochran's theorem.
- MAA151 *Mathematics IA*
Differential calculus; integral calculus; numerical methods; partial differentiation; differential equations; complex numbers; matrices; determinants; applications of mathematics in physical chemistry.
- MAA153 *Mathematics IA*
Differential calculus; integral calculus; numerical methods; partial differentiation, differential equations; complex numbers; matrices; determinants; organisation and analysis of data; random samples; basic probability theorems.
- MAA155 *Mathematics IB*
Organisation and analysis of data; random samples; basic probability theorems; random variables; probability distributions; sampling theory, estimation theory and statistical quality control; tests of hypotheses; curve fitting, least squares method; regression and correlation.
- MAA159 *Mathematics I*
A course of 4 hours lectures and 1 hour tutorial. Fundamental concepts, differentiation, integration, partial differentiation, differential equation, infinite series, approximation methods, analytic geometry, vectors, matrices, applications to dynamics.
- MAC151 *Mathematics Ii*
An introductory course in algebra, geometry, and trigonometry. The algebra will include indices, surds, ration and proportion, variation, progressions and the binomial theorem. The geometry will include similar figures triangles and circles. The trigonometry will include solution of triangles. The course will also include an introduction to the differential and integral calculus.
- MAA451 *Mathematics II*
Multiple integrals, line integrals. Taylor's. Maclaurin's. Fourier's expansions. Ordinary and partial differential equations, elementary boundary value problems. Laplace Transforms. Functions of a complex variable.
- MAA459 *Mathematics IIP*
Partial differentiation, multiple integrals, ordinary differential equations, Laplace transformations, series solution of differential equations, Bessel and Legendre Functions, vector analysis, partial differential equations, Fourier methods, complex variable.
- MAA455 *Mathematics II (Statistics)*
A basic course in statistical inference and hypothesis testing; non-parametric methods; multiple and partial correlation; analysis of variance; randomized blocks; factorial experiments and determination of optimum conditions.

MAA759 *Mathematics IIIP*

Introduction to tensors; Cauchy's Theorem, calculus of residues and applications; sets, logic, Boolean Algebra, algebraic simplification of switching circuits.

MAC451 *Mathematics and Statistics*

An introductory course in algebra calculus and statistics

Algebra: The binomial theorem with applications.

Calculus: Elementary differentiation and integration, area under a curve maxima and minima.

Statistics: Basic statistical terminology and organization of data, elementary probability, binomial and normal distributions, sampling theory, regression and correlation.

MAA915 *Mathematics with Technological Applications*

An introduction to selected mathematical topics which are designed to develop insight into the mathematical knowledge and techniques employed in science and engineering and in the solution of management and planning problems. Areas from which topics may be selected include mathematical statistics, operations research, control of physical systems, hydraulics, digital and analogue computing.

PSA446 *Medical Laboratory Technology I*

A. Four hours per week of instruction in the techniques of medical laboratory technology and an introduction to the concepts of pathology.

B. Four hours per week assigned to library work, reading and written assignments, museum demonstrations, tutorials and seminars.

PSA747 *Medical Laboratory Technology II*

At the beginning of the academic year groups of students select a project within the field of Medical Technology. Library research, and experimental work are undertaken during the first two terms and in third term the work is prepared as a thesis and seminars are presented on an aspect of the study. Each group of students is assigned a supervisor who guides the student's work. During the year seminars and discussion groups are arranged on other topics.

MAA921 *Methods of Mathematical Physics I*

Distributions and waves; parabolic equations and Fourier integrals; Laplace's equation and complex variables; general theory of eigenvalues and eigenfunctions.

MAA922 *Methods of Mathematical Physics II*

Green's functions; equations of motion of elastic solids and fluids; cylindrical eigenfunctions; spherical eigenfunctions.

PSA750 *Microbiology*

A course of general and industrial microbiology. The general section includes classification and identification of microorganisms, microbial nutrition and metabolism, and the control of microorganisms. The industrial section emphasises the role of microorganisms in the food and fermentation industries, in water and sewage treatment, and in pollution control and biodegradation.

PSC451 *Microbiology*

An introductory course in microbiology dealing with the classification, nutrition, isolation, and identification of bacteria as a background to the microbiological techniques performed in the practical portion of the course. Included in the course is an introduction to mycology, and immunology.

- PSA452 *Microbiology I*
A course in general microbiology with an introduction to immunology, virology and mycology. Aspects covered include the taxonomy and importance of the major groups of bacteria, cytology and genetics, nutrition and metabolism, and the control of microorganisms.
- PSA753 *Microbiology II*
A course in clinical microbiology which deals with the classification and identification of microorganisms capable of causing disease in man. Topics covered include the collection and direct examination of clinical specimens; the isolation and identification of pathogenic fungi and viruses from such specimens; antibiotic sensitivity testing; and the principles of epidemiology.
- ESA434 *Mineralogy*
A study of the properties, uses and occurrences of the most important ore minerals and industrial minerals. Aspects discussed include an introduction to crystallography; practical use of crystallography in the identification of minerals; qualitative chemical tests for minerals; an introduction to petrological and metallurgical microscopy (general techniques are to be known rather than a working knowledge of microscopy); the names, general compositions, diagnostic properties, uses, and general occurrences of the most important ore and industrial minerals.
- ESC437 *Mineralogy*
The physical, crystallographic, optical (both petrological and metallurgical), and chemical techniques employed in the identification of minerals are discussed. The principal ore minerals and industrial minerals are dealt with. Aspects discussed include the fundamentals of crystallography, including crystal systems and forms; practical use of crystallography in the identification of mineral hand specimens; briefly, the significance of crystallography in the identification of minerals by optical and X-ray techniques; the use of platinum wire, blow-pipe, and wet tests for spot checks of mineral identities; the preparation and examination of minerals under petrological and metallurgical microscopes; the names, general compositions, diagnostic properties, and principal uses of the most important ore and industrial minerals.
- MAA309 *Modern and Linear Algebra*
Logic; set theory; relations; functions; mathematical systems. Matrices; vector spaces; linear transformations; determinants; eigenvalues; quadratic forms.
- MAA601 *Multivariable Calculus Part IA*
Real valued functions of several variables; multiple integration; introduction to the calculus of variations.
- MAA602 *Multivariable Calculus Part IB*
Vectors in three dimensions; differential vector calculus; integral vector calculus.
- MAA611 *Multivariable Calculus Part II*
Series and integrals; Fourier methods.
- MAA613 *Numerical Analysis I*
Computing aids; errors; solution of non-linear equations; linear equations—matrix methods; interpolation and approximation; numerical differentiation and quadrature.

- MAB655 *Numerical Analysis I*
A course in numerical methods developed and evaluated from the stand point of efficiency, accuracy and suitability for high speed digital computing. Computing aids, errors, solution of non-linear equations, solution of sets of linear equations, finite difference methods, general approximation methods.
- MAA913 *Numerical Analysis II*
Interpolation and approximation; numerical solutions of ordinary differential equations; partial differential equations; numerical quadrature; linear systems; eigenvalue problem.
- MAB956 *Numerical Analysis II*
Interpolation and approximation, solution of ordinary differential equations, partial differential equations, numerical integration and quadrature, linear systems, iterative methods for obtaining eigenvalues and eigenvectors.
- PSA465 *Ocular Anatomy and Physiology*
A study of the prenatal and postnatal development of the human eye followed by a detailed study of its macroscopic and microscopic anatomy. The physiology of the ocular mechanism and its related structures.
- PSA766 *Ocular Pathology*
A course designed to show the student how the various general and ocular pathological states may affect the appearance of ocular normality and to teach him what referral action should be taken.
- MAA627 *Operations Research I*
Linear programming: Integer and non-linear programming: Networks: Dynamic programming: Search: Queueing.
- MAB657 *Operations Research I*
A course intended to introduce students to the techniques used in achieving a systematic and rational approach to the problems involved in the control of systems. Linear programming. Integer and nonlinear programming. Networks. Dynamic Programming. Search. Queueing.
- MAB957 *Operations Research II*
Formulating the problem. Measurement of efficiency and utility. Data availability and model construction. Simulation and Monte-Carlo methods. Reliability, replacement, maintenance. Corporate modelling techniques. Industrial scheduling. Artificial intelligence and heuristic methods.
- PSA167 *Ophthalmic Dispensing I*
A series of lectures, demonstrations and practical sessions to give the student a thorough understanding of mechanical optics and optical appliances, both from the dispensing and manufacturing aspects.
- PSA468 *Ophthalmic Dispensing II*
The major portion of time allotted for this subject will be spent in actual workshop practice completing prescriptions of the Optometry Clinic.
- PHA140 *Optics*
A series of lectures, demonstrations and practical experiments designed to give a thorough grounding in geometrical and physical optics together with such applications as are required for the study of optometry.
- CHA150 *Organic Chemistry I*
Combination of CHA151 and CHA152.

- CHA151 *Organic Chemistry IA*
A course in the fundamental principles of the chemistry of simple organic chemicals, together with their industrial and biological importance. A reaction mechanism/functional group approach is used to promote comprehension of the way in which reactions occur. Modern spectroscopic and chromatographic techniques are emphasised. Topics include reactions of the carbon-hydrogen bond, carbon-halogen bond, hydroxyl group, ethers, thiols and thioethers, amino group and the carbon-carbon double bond.
- CHA152 *Organic Chemistry IB*
(Prerequisite CHA151 Organic Chemistry IA)
A continuing course in the fundamental principles of the chemistry of simple organic molecules. Topics include the reactions of the carbon-oxygen double bond (aldehydes and ketones), the acyl group (carboxylic acids and derivatives), carbon-carbon triple bond, carbon-nitrogen triple bond, the aromatic nucleus; petroleum, petrochemicals and coal.
- CHC154 *Organic Chemistry I*
An introductory course in the study of carbon compounds. Topics discussed will include both aliphatic and aromatic hydrocarbons, alcohols, ethers, aldehydes ketones, acids and amines. The stress in the course will be on industrial applications.
- CHA155 *Organic Chemistry I*
Combination of CHA156 and CHA157.
- CHA156 *Organic Chemistry IA*
The course introduces the students to the fundamental principles and reactions of organic chemistry by the reaction mechanism/functional group approach, with appropriate examples drawn from the biosciences. Modern chromatographic and spectroscopic techniques are emphasised. Topics include reactions of the carbon-hydrogen bond, carbon-halogen bond, hydroxyl group, ethers, thiols and thioethers, amino group and the carbon-carbon double bond.
- CHA157 *Organic Chemistry IB*
(Prerequisite CHA156, Organic Chemistry 1A)
The course deals with the principles and concepts of organic chemistry along the mechanistic basis initiated in Part 1A. Topics discussed include: the reactions of the carbon-oxygen double bond, aldehydes, carbohydrates, ketones, the acyl group (carboxylic acids and derivatives), carbon-carbon triple bond, carbon-nitrogen triple bond, aromaticity, amino acids and proteins, chemical structure and biological activity, colour in organic compounds, dyes, heterocyclic compounds—natural products, the action of drugs.
- CHA450 *Organic Chemistry II*
Combination of CHA451 and CHA452.
- CHA451 *Organic Chemistry IIA*
(Prerequisite CHA150 Organic Chemistry I)
A continuing course in the fundamental chemistry of more complex organic molecules together with their industrial and biological importance. Increasing use is made of modern spectrographic and chromatographic techniques. Topics include the reactions of poly-functional compounds, stereochemistry and instrumental techniques in organic chemistry.
- CHA452 *Organic Chemistry IIB*
(Prerequisite CHA451 Organic Chemistry IIA)
A continuing course in the chemistry of more complex organic molecules. Topics include, aromatic chemistry and aromaticity, heterocyclic, organometallic chemistry and organic chemical technology.

- CHC458** *Organic Chemistry II*
This course is an extension of CHC154 and consists of a more detailed study of organic compounds with an introduction to polymer chemistry and the chemistry of some heterocyclic compounds.
- CHA750** *Organic Chemistry III*
Combination of CHA751 and CHA752.
- CHA751** *Organic Chemistry IIIA*
(Prerequisite CHA450 Organic Chemistry II)
A course in advanced organic chemistry, including studies in physical organic chemistry, natural and synthetic high polymers. Advanced spectrographic and chromatographic techniques are widely used.
- CHA752** *Organic Chemistry IIIB*
(Prerequisite CHA450 Organic Chemistry II)
A course in advanced chemistry dealing with complex organic molecules of biological importance. The involvement of these molecules in biosynthetic, metabolic and reproductive processes are emphasised. Topics include, proteins, nucleic acids, nucleotides, vitamins, carbohydrates, alkaloids, terpenes, steroids, food and nutrition chemistry.
- CHC762** *Organic Chemistry III*
This course is an extension of CHC458 and consists of a study of industrial processes and industries. Topics discussed will include petroleum, oils and fats, milk and milk products, brewing, food preserving.
- PSA775** *Parasitology*
A course in parasitology directed towards the laboratory diagnosis of the causative agents of parasitic disease in man. It consists of a systematic study of life histories, laboratory diagnosis, incidence, modes of infection, epidemiology, and control of parasites. Emphasis is placed on parasites endemic in Australia and on those parasites which may escape the quarantine barrier.
- CHC170** *Physical Chemistry I*
This is the first stage of a continuing course in the basic principles of chemistry. Some of the topics are: properties of gases and liquids; laws of dilute solutions; chemical equilibrium; conductance of electrolytes; equilibria in solutions of electrolytes with emphasis on pH calculations, buffer solutions, indicators and titrations and solubility product; oxidation and reduction. The treatment of these topics will be in less depth than for Diploma Courses.
- CHA170** *Physical Chemistry I*
This subject provides the first stage of a continuing course dealing with the fundamental principles that underlie chemical transformations. Among the topics dealt with are homogeneous chemical equilibria; equilibria in solutions of electrolytes with emphasis on pH calculations, buffer solutions, solubility product and indicators and titrations; conductance of electrolytes including transference numbers and ionic mobility; the properties of gases including compressibility factors; the properties of dilute solutions, fractional distillation, steam distillation, incomplete miscibility; the first law of thermodynamics and thermochemistry; galvanic cells including applications to the determination of pH and to potentiometric titrations; first and simple higher order kinetics.
- CHA171** *Physical Chemistry IA*
First part of CHA170 Physical Chemistry I.
- CHA172** *Physical Chemistry IB*
Second part of CHA170 Physical Chemistry I.

- CHA175 *Physical Chemistry I*
This course provides a basis in the fundamental principles of chemistry and in the treatment of the topics, emphasis is placed on applications to biological systems. Topics treated include the properties of gases and liquids, the properties of dilute non-electrolyte and electrolyte solutions including fractional distillation, partial miscibility and steam distillation; equilibria in electrolyte solutions; the first law of thermodynamics and thermochemistry; colloids; galvanic cells including applications to the determination of pH and potentiometric titrations.
- CHA176 *Physical Chemistry IA*
First part of CHA175 Physical Chemistry I.
- CHA177 *Physical Chemistry IB*
Second part of CHA175 Physical Chemistry I.
- CHA470 *Physical Chemistry II*
(Prerequisite: CHA170).
This subject provides the second stage of a continuing course in Physical Chemistry. Some of the topics are chemical kinetics including the mechanism of homogeneous unimolecular and bimolecular reactions; the properties of matter; infrared spectroscopy; applied chemical calculations; the second and third laws of thermodynamics, chemical potential; the phase rule; surface chemistry.
- CHA471 *Physical Chemistry IIA*
First part of CHA470 Physical Chemistry II.
- CHA472 *Physical Chemistry IIB*
Second part of CHA470 Physical Chemistry II.
- CHA770 *Physical Chemistry III*
(Prerequisite: CHA470).
The course represents an advanced extension of topics treated in the previous stages and topics include thermodynamics; chemical kinetics; phase rule; catalysis; electrochemistry and corrosion; surface and colloid chemistry.
- CHA771 *Physical Chemistry IIIA*
First part of CHA770 Physical Chemistry III.
- CHA772 *Physical Chemistry IIIB*
Second part of CHA770 Physical Chemistry III.
- CHC483 *Physical and Inorganic Chemistry II*
The topics in this stage of the continuing course include the Bohr theory of atomic spectra; ultraviolet and visible spectrophotometry; flame photometry; atomic absorption spectrophotometry; nephelometry and turbidimetry; fluorimetry; galvanic cells and potentiometric titrations; electrodeposition and coulometry; surface chemistry and colloids; chromatography including gas chromatography.
- CHC784 *Physical and Inorganic Chemistry III*
The topics in the final stage of the continuing course include the first law of thermodynamics and thermochemistry; the second law of thermodynamics and its application to chemical equilibrium and galvanic cells; chemical kinetics; transference numbers; infrared spectroscopy; radio-activity and nuclear chemistry; phase equilibria; co-ordination chemistry. The topics in this course are treated at a lower standard than in the Diploma Course.

- PHA120 *Physics IB*
A course dealing with the basic physical measurements, elementary mechanics and mechanical properties of matter, heat, light, sound electricity and magnetism (including elementary A.C. theory), and radiation (including optics).
- PHA121 *Physics IC*
First part of PHA120 Physics IB.
- PHA122 *Physics ID*
Second part of PHA120 Physics IB.
- PHA101 *Physics IS*
A comprehensive one year course in Physics, it is designed as both an introductory course for students intending to pursue further study in the subject and a terminal course for those who require a basic Physics course as framework for studies in their chosen field. A blend of classical and modern physics includes the study of: mechanics, properties of matter, thermometry, heat transfer, thermodynamics, waves, geometrical and physical optics, polarization, D.C. theory, A.C. theory, elementary solid state devices, crystallography and modern physics, including atomic and nuclear physics. Experimental procedures and techniques are emphasized.
- PHA401 *Physics IIA*
A study of A.C. theory, electronics, statistical mechanics, thermodynamics, applied nuclear physics and vacuum physics.
- PHA402 *Physics IIB*
A study of electrostatics, magnetostatics, vibrations, waves, optics and mechanics.
- PHA405 *Physics IIC*
A study of A.C. theory, electronics, statistical mechanics, thermodynamics, applied nuclear physics and vacuum physics. This course is designed primarily as a subsidiary course for second year science students majoring in subjects other than physics. The course will also involve training in experimental techniques.
- PHA701 *Physics IIIA*
2 hours lectures and 1 hour tutorial each week covering quantum mechanics, the physics of materials and an introductory course on special relativity.
- PHA702 *Physics IIIB*
2 hours lectures and 1 hour tutorial each week covering applied nuclear physics and reactor technology, geophysics, physical techniques and instrumentation.
- PHA703 *Physics IIIC*
2 hours lectures and 1 hour tutorial each week covering electricity and magnetism, acoustics, ultrasonics, colour and vacuum physics.
- PHD102 *Physics for Radiographers*
Introductory mathematics; electricity and magnetism; physics of radiation; X-rays; interaction of ionizing radiation with matter; measurement of X-rays; dosimetry.
- PSC430 *Physiology*
An introductory course in which the lectures serve as a back-ground to the performance of the techniques of the subject in the practical section

of this course. Topics include the elementary physiology of cells, tissues, organs, and systems. Practical work incorporates techniques commonly employed in physiological studies.

- BEC441 *Plant Physiology*
An extension of the botany studies in earlier years with emphasis on plant physiology. The course is designed for students engaged in work in applied botanical laboratories. It should be noted that this course is offered provisional upon adequate student numbers are enrolled in this subject.
- PHD105 *Preliminary Radiotherapeutic Practice*
A brief introduction to beam directing devices, their principles and application; mathematics relevant to such devices.
- PHD104 *Principles of Pathology*
Elementary pathology; biological effects of radiation; factors modifying radiation effect; clinical aspects of radiation reaction.
- MAB654 *Programming Languages*
This course surveys the significant features of existing programming languages with particular emphasis on the concepts abstracted from these languages. Structure of simple statements, structure of algorithmic languages, list processing and string manipulation languages, topics in programming languages.
- ESA453 *Property Evaluation for Geologists*
Valuation acts in Australia; methods of valuation of industrial and mineral properties, sampling, testing; methods of acquisition and compensation; valuation reports.
- PHA710 *Radiation Physics*
A lecture and laboratory course of four hours per week dealing essentially with radiation health and protection and with the principles of use of X-rays and radioactive materials in industry. The course material includes tracer techniques, counting techniques, thickness gauging, etc.
- PHD103 *Radiographic Technique A*
Photographic aspects of radiography; intensifying screens; the radiographic image; X-ray developers; fixers and fixing; processing; presentation of the radiograph; the X-ray darkroom; accessories.
- MAA157 *Statistics*
A course in statistical methods involving elementary probability, statistical terminology, mean, standard deviation, binomial normal and poisson distribution, sampling theory, analysis of variance, chi-square and linear correlation.
- MAB651 *Switching Theory*
This course is concerned with the theoretical foundations and mathematical techniques associated with the design of logical circuits. Development of switching algebra. Simplification of combinational networks. Modes of sequential circuit operation. Synthesis of sequential circuits. Delays.
- MAB951 *Systems Programming*
This course introduces the student to the problems encountered in systems programming. It involves a review of batch systems and a study of more complex concepts embodied in multiprogramming and

multiprocessor systems. Batch systems, multiprogramming and multiprocessor systems, addressing techniques, process and data modules, file system organisation and management, job scheduling, explicit input-output references, real time systems.

MAA933 *Theoretical Electromagnetism*

Maxwell's equations; electrostatic fields; magnetostatics; electromagnetic waves; radiation.

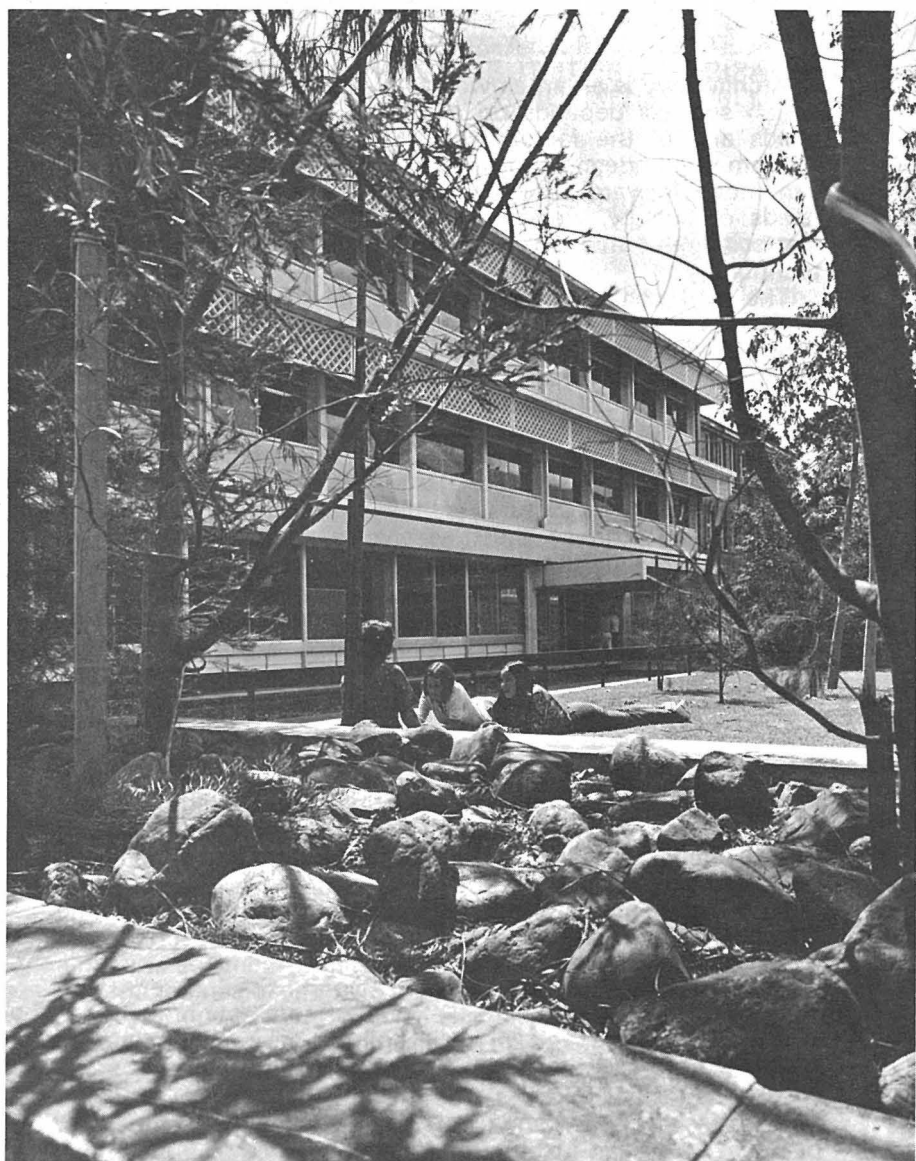
MAA925 *Topics in Mathematics*

Geometry; elementary topology; special relativity; theory of numbers; linear programming and the theory of games; applications of mathematics in the behavioural sciences; history and development of mathematics.

MEA270 *Workshop Technology*

A course of lectures and practical work on introductory engineering drawing, design, engineering materials, workshop tools and practices. One term will be spent in the drawing office and three hours per week in each of the other terms on practical work in the workshops.

Department of Architecture



DEPARTMENT OF ARCHITECTURE

Within this Department there are courses in Architecture, Quantity Surveying, Town and Country Planning and Landscape Architecture.

Architecture

Architecture is an art as well as a science and a business, in which success depends on a clear understanding of human needs and of the factors which affect our every day lives.

From this understanding (his primary function) the architect can move forward to designing buildings which satisfy the needs of society. Here his success depends largely on his appreciation of environment and his skill in the field of building technology.

The work of the modern Architectural student has therefore of necessity become an extended course covering the many facets of environmental and functional planning and aesthetics calling for greater versatility and creative ability.

His training must embrace the fields of drafting, presentation, design, hygiene, types and uses of material and equipment, and modern methods of construction, of costing, building law and administration.

Because of the nature of the building profession, the Architectural student must receive a large proportion of practical training in the field on actual jobs as well as associated practical work in the drafting office.

The Department of Architecture appreciates this necessity and the courses are designed accordingly.

The courses available in Architecture are:

Associate Diploma in Architecture

This is a six (6) year part-day, part-evening course. In each of the first two years, classes are held on two afternoons and two evenings per week. In the third year, on one afternoon and three evenings per week and in the fourth, fifth and sixth years, on three evenings per week.

A candidate must be engaged in architectural work under the direction of an architect before commencing the second year of the course. In the case of broken employment the student's continuation in the course shall be at the discretion of the Director.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (Arch).

The Associate Diploma is recognised for registration by Board of Architects, Queensland, and, as qualifying for membership of Royal Australian Institute of Architects.

(In both cases provisos apply regarding practical experience).

The subject entrance requirements are: Senior—English, Mathematics I, Physics, Art or Geometrical Drawing and Perspective and one other subject. (See pp. 23-25 for subject entry standards and conditions).

NOTE: FIRST YEAR ENROLMENTS WILL BE ACCEPTED FOR THIS COURSE IN 1973, BUT IT IS ANTICIPATED THAT NO FIRST YEAR ENROLMENTS WILL BE ACCEPTED IN 1974.

Bachelor of Applied Science—Architecture

Beginning in 1973, there will be available a new course in Architecture.

Entrance qualification for this course is the same as for the present Associate Diploma Course viz. Senior pass in English, Mathematics I, Physics, Art or Geometrical Drawing and Perspective and one other subject. (See pp. 23-25 for further particulars of entrance requirements).

The first three years of the new course will be of full-time study, and successful completion of these three years will qualify for the Degree of *Bachelor of Applied Science*.

At this stage the student will be a competent draftsman, employable as an Architectural Assistant with a practicing architect or in a government architectural department.

The student may then proceed to the second three years of part-time study, during which period, he must be employed in the office of an architect during the day time. Successful completion of this three years of part-time study will qualify for the Graduate *Diploma in Architecture*.

The new course will be recognized by the Board of Architects, Queensland, for registration as an Architect and by the Royal Australian Institute of Architects for corporate membership of the Institute (subject in each instance to satisfaction of a period of approved practical experience).

Certificate for Architectural Technician

The architect is called upon to design many different types of buildings, each requiring its own set of plans, working drawings or other documents which describe the building to the contractor in careful detail. All this information is produced in the architect's office under the broad heading "plans and specifications". In addition, the architect or his representative will carry out regular job inspections until the completion of the building.

The above services which the architect directs and for which he holds himself responsible are brought about by team-work in the drafting office. Each member has to be specially trained for his job. Special information is provided by consultant technologists at professional level. The Architectural Technician is a key member of the office team.

He is a competent draftsman with an understanding of colour and good form in architecture, and his work which extends to sub-professional level, covers a variety of technical aspects including coloured perspectives, working details, and investigations which bring him in contact with many people. He has a sound knowledge of materials and methods of construction and to a large degree, is able to anticipate the essential requirements of the other team members, the architect, the technologist and the draftsman as well as the contractor himself.

This is a four (4) year course with two (2) years full day time study and two (2) years evening study.

Before proceeding to Third Year of the course, the student must submit evidence that he is employed in an architectural office or other approved allied employment.

This course is recognised by the Institute of Draftsmen, Australia, as satisfying the academic qualifications for those seeking admission to membership.

The subject entrance requirements are: Junior—English, Maths B, Science A and Science B. (See pp. 23-25 for subject entry standards and conditions).

Quantity Surveying

Quantity Surveying (unlike land surveying) is concerned with measurements of materials in order that costs in the building industry may be calculated.

From his knowledge of building, and from the architect's plan the quantity surveyor is able to measure all these components and to provide for the owner, the architect and the contractor, a precise document of measurements before the building is erected.

The Quantity Surveyor, from experience, becomes familiar with the costs of building operations and he is able to provide the architect with very accurate estimates based on his Bill of Quantities. In the early stages of preparation of plans, the architect often will seek the advice of the Quantity Surveyor on the comparative costs of various types of construction and finish.

From this it will be realized that the Quantity Surveyor requires a full understanding of building construction and procedures, an aptitude for mathematics, a capacity for

concentrated logical thought and a sense of fairness that will earn him the trust of builders as well as that of architects, engineers and building owners.

The quantity surveyor may carry on an independent practice or be engaged in the quantity surveying section of a Government Department.

The course available is:

Associate Diploma in Quantity Surveying

This is a six (6) year part-time evening course.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (Qty Surv).

Before proceeding to the Third Year of the course the student must submit evidence that he is employed in an approved quantity surveying office.

The subject entrance requirements are: Senior—English, Mathematics I, Physics and two other subjects (See pp. 23-25 for subject entry standards and conditions).

Town and Country Planning

Town and Country Planning, like Architecture is concerned with man's social evolution but in a broader sense.

In dealing with the problems of the present-day city the town planner can look back over a history of 5,500 years when towns were relatively small and were surrounded by a comparatively overwhelming rural population. Today the urban-rural relationship is vastly different and town and country planners find themselves fighting to preserve a balance in a world in which the population explosion is matched only by a similar expansion in technology and industry.

Town planners are continually engaged in collecting and assessing data on population trends, industrial growth, land usage, transport and communications from which a rational pattern for city development extending far beyond the towns to the very edge of the continent.

Apart from acting as consultants where they are professional men of vital importance in the field of national industrial development they are urgently needed in government and local government service where, in collaboration with the allied professions of architecture and engineering they can take part in shaping the future pattern for our cities.

The course available is:

Diploma in Town and Country Planning

This is a post-graduate course of three (3) years part-time study.

Completion of the course entitles the graduate to a Diploma and the use of the letters DQIT (T & CP).

The diploma is recognised by the Royal Australian Planning Institute as exemption from final examinations for membership. (A proviso of practical experience applies).

Entrance requirements are:

- (a) Graduates and Diplomates in Architecture, Engineering or Surveying of University of Queensland or Queensland Institute of Technology, and holders of other degrees or diplomas in Architecture, Engineering or Surveying acceptable to Director, Queensland Institute of Technology.
- (b) Graduates and diplomates of the University of Queensland or the Queensland Institute of Technology or of other Universities and Institutes of Technology of comparable standing, who have completed such introductory subjects as may be required by the Director.

Landscape Architecture

Landscape Architecture deals with the planning of spaces which link, separate or are associated with buildings, other man made forms, or natural features.

In deciding on his plan, based on an exhaustive site analysis the landscape architect is intimately concerned with preserving some kind of affinity between man and nature herself. He is continually conscious of how things will look whether viewed at close quarters or at a distance and he must be able to calculate the importance of relationships between all visual factors in the environment. He may be dealing with spaces and volumes ranging from an indoor garden to a whole portion of a city or highway of many square miles. His client could be a householder, a business man or a government authority, and he works in close collaboration with the architect and the engineer.

The Course available is:

Diploma in Landscape Architecture

This is a post-graduate course of three (3) years part-time evening study plus field studies and some day time studies.

Completion of the course entitles the graduate to a Diploma and the use of the letters DQIT (Land Arch).

The course is recognised as qualifying for membership of the Australian Institute of Landscape Architects (subject to practical experience).

Entrance Requirements are:

- (a) Graduates or Diplomates in Architecture or Town Planning.

- (b) Graduates or Diplomates in any other field of study, of comparable standing, who have completed such introductory subjects as may be required by the Director.

NOTE: CONSIDERABLE REVISION TO THE FORMER COURSE WILL BE INTRODUCED IN 1973. IN THE SYLLABUS FOR THE COURSE SHOWN ON PAGE 167, THE REVISED FIRST YEAR IS SHOWN BUT SECOND AND THIRD YEARS ARE AS IN THE FORMER COURSE.

ASSOCIATE DIPLOMA COURSE IN ARCHITECTURE

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
ARA129	Techniques of Presentation I	3
ARA102	Architectural Construction I	4
ARA110	Architectural Principles and Design I	4
ARA120	History of Architecture I	1
ARA128	Surveying and Measuring *(Saturday mornings as required)	*
	<i>Second Year</i>	
ARA230	Techniques of Presentation II	2
ARA203	Architectural Construction II	4
ARA211	Architectural Principles and Design II	5
ARA221	History of Architecture II	1
ARA216	Art Appreciation	1
	<i>Third Year</i>	
ARA304	Architectural Construction III	3
ARA308	Architectural Materials I	1
ARA319	Environmental Science	1
LSA101	English Expression I	1
ARA312	Architectural Principles and Design III	6
ARA322	Hygiene and Sanitation	1
	<i>Fourth Year</i>	
ARA405	Architectural Construction IV	2
ARA409	Architectural Materials II	1
ARA407	Architectural Estimating	1
ARA417	Building Services I	1
ARA431	Town Planning for Architects	1
ARA413	Architectural Principles and Design IV	5
	<i>Fifth Year</i>	
ARA506	Architectural Construction V	1
ARA524	Professional Practice I	1
ARA514	Architectural Principles and Design V	5
ARA518	Building Services II	1
ARA526	Specifications I	1
ARA523	Interior Design	1
	<i>Sixth Year</i>	
ARA625	Professional Practice II	1
ARA615	Architectural Principles and Design VI	6
ARA627	Specifications II	1
ARA601	Administration and Economics	1

BACHELOR OF APPLIED SCIENCE—ARCHITECTURE

This is a full-time course, but it will be on a unit basis.

Note: A syllabus of the Course Structure is given below for the first three years of full-time study leading to the primary degree. In 1973 enrolments will be accepted for First Year only.

	<i>Hours per Week</i>
<i>First Year</i>	
ARB111 Theory of Communications I	1
ARB110 Spoken Presentation I	1
ARB112 Written Presentation I	1
ARB103 Graphic Presentation I	4
ARB109 Science of Technology I	4
ARB106 Materials, Structures & Methods I	6
ARB105 Human Sciences I	1
ARB102 Environmental Controls I	2
ARB104 History of the Built Environment	2
ARB108 Research Analysis and Synthesis I	4
ARB107 Measurement	1
ARB101 Building Industry Studies	1
<i>Second Year</i>	
Theory of Communications II	2
Spoken Presentation II	2
Graphic Presentation II	7
Science of Technology II	2
Materials, Structures and Methods II	6
Human Sciences II	1
Environmental Controls II	1
The Natural Environment	2
Research Analysis and Synthesis II	4
Thesis	2
<i>Third Year</i>	
Spoken Presentation III	2
Written Presentation II	2
Art Appreciation	2
Science of Technology III	2
Materials, Structures and Methods III	6
Human Sciences III	1
Environmental Controls III	1
The Built Environment	4
Research Analysis and Synthesis III	4
Financial Measurement	2
Thesis	2

CERTIFICATE COURSE FOR ARCHITECTURAL TECHNICIAN

<i>Subject</i>	<i>Hours per week</i>
The first two years are on a "yearly" basis, in that all subjects prescribed for the year's study must be passed in the same examination period.	
<i>First Year (Full day course)</i>	
LSC101 English I	3
MAC191 Mathematics I	4
ARC149 Geometrical Drawing and Perspective	5
ARC139 Building Construction I	8
ARC138 Art I	3
ARC134 Architectural Draftsmanship I	6
<i>Second Year (Full day course)</i>	
LSC401 English II	2
MAC491 Mathematics II	3
ARC237 Architectural History	1
ARC245 Composition and Rendering	6
ARC240 Building Construction II	8
ARC248 Elementary Surveying and Levelling	1½
ARC235 Architectural Draftsmanship II	6
PHC450 Certificate Physics	4
The remaining two years of part-time study are on a "unit" basis, in that all subjects need not be passed in the same examination period.	
<i>Third Year (Part-time)</i>	
ARC341 Building Construction III	2
ARC350 Structural Mechanics	2
ARC343 Building Services I	3
ARC346 Drafting Office Practice I	1
<i>Fourth Year (Part-time)</i>	
ARC444 Building Services II	3
ARC436 Architectural Estimating	1
ARC447 Drafting Office Practice II	1
ARC442 Building Details	3

ASSOCIATE DIPLOMA COURSE IN QUANTITY SURVEYING

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
ARA192 Quantity Surveying IA	4
ARA193 Quantity Surveying IB	
ARA102 Architectural Construction I	4
BGA101 Appreciation of Architecture	1
ARA128 Surveying and Measuring	1
BGA000 Drawing and Applied Geometry	2
<i>Second Year</i>	
ARA294 Quantity Surveying II	3
ARA203 Architectural Construction II	4
BGA321 Valuations and Dilapidations	2
ARA290 Bookkeeping for Q/Surveyors	2
(The student is required to be in an approved Quantity Surveying office from commencement of Third Year of the course).	
<i>Third Year</i>	
ARA395 Quantity Surveying III	3
ARA304 Architectural Construction III (inc Structural Mechanics)	3
ARA308 Architectural Materials I	1
ARA 319 Environmental Science	1
LSA101 English Expression I	1
ARA322 Hygiene and Sanitation	1
<i>Fourth Year</i>	
ARA496 Quantity Surveying IV	3
ARA405 Architectural Construction IV (inc. Adv. Structural Mechanics)	2
ARA491 Estimating (inc. Element Cost Analysis etc.)	3
ARA417 Building Services I	1
ARA409 Architectural Materials II	1
<i>Fifth Year</i>	
ARA597 Quantity Surveying VA	3
ARA589 Quantity Surveying VB	3
ARA524 Professional Practice I	1
ARA518 Building Services II	1
ARA526 Specifications I	1
Home Projects	*
<i>Sixth Year</i>	
ARA698 Quantity Surveying VIA	3
ARA699 Quantity Surveying VIB	3
ARA627 Specifications II	1
ARA601 Administration and Economics (inc. preparation of data and statistics)	1
ARA625 Professional Practice II	1
Home Projects	*
* (own time)	

DIPLOMA COURSE IN TOWN AND COUNTRY PLANNING

<i>Subject</i>		<i>Terms</i>	<i>Hours per week</i>
Introductory Course			
ARA431	Town Planning for Architects	3	
BGA101	Appreciation of Architecture	3	
ARA128	Surveying and Measuring	3	
ARA129	Techniques of Presentation I	3	
Diploma			
<i>First Year</i>			
ARP164	Planning Practice I	3	3
ARP161	Historical Development of Planning	3	1
ARP160	Geology for Planners	1	1 $\frac{1}{2}$
ARP159	Geography and Environment	1	1 $\frac{1}{2}$
ARP169	Sociology for Planners	1	1 $\frac{1}{2}$
ARP168	Public Health in Relation to Planning	1	1 $\frac{1}{2}$
ARP156	Basic Surveys and their Analysis	2	1 $\frac{1}{2}$
ARP170	Statistics and their Use	1	1 $\frac{1}{2}$
	Field Work I	(own time)	
<i>Second Year</i>			
ARP265	Planning Practice II	3	3
ARP272	Theory of Urban Planning	3	1
ARP271	Theory of Regional Planning	1	1 $\frac{1}{2}$
ARP258	Economics, Finance and Valuations	1	1 $\frac{1}{2}$
ARP273	Traffic and Civil Engineering for Planners	2	1 $\frac{1}{2}$
ARP262	Horticulture for Planners	1	1 $\frac{1}{2}$
ARP257	Civic Design	2	1 $\frac{1}{2}$
ARP263	Planning Law	2	1 $\frac{1}{2}$
	Field Work II	(own time)	
<i>Third Year</i>			
ARP366	Planning Practice III	3	3
ARP367	Public and Professional Administration	1	1 $\frac{1}{2}$
ARP179	Landscape Design I (Lecture)	3	1 $\frac{1}{2}$
	Field Work III	(own time)	

DIPLOMA COURSE IN LANDSCAPE ARCHITECTURE

<i>Subject</i>	<i>Terms</i>	<i>Hours per Week</i>
<i>Introductory Subjects</i>		
Basic Design	3	3
Basic Construction	3	3
Basic Presentation	3	3
<i>First Year (Revised Course)</i>		
ARP179 Theory of Landscape Design	3	1
ARP180 Landscape Design I	2	2
	1	3
ARP181 Landscape Construction	2	1
ARP182 Geomorphology	1	1
ARP177 Botany and Horticulture I	2	1
ARP183 History of Landscape	1	1
ARP184 Surveying and Levelling	3	As Arranged
Field Work		As Arranged
<i>Second Year (Old Course)</i>		
ARP281 Landscape Design II	3	3
ARP276 Forestry	1	1½
ARP257 Civic Design	2	1½
ARP278 Horticulture, Botany and Ecology II	3	1½
Field Work		As Arranged
<i>Third Year (Old Course)</i>		
ARP382 Landscape Design III	3	3
ARP383 Landscape Engineering	2	1½
ARP384 Professional Practice (Landscape)	3	1
Field Work		As Arranged

SYNOPSIS OF SUBJECTS

- ARA601 *Administration and Economics*
A study of business methods, organisations, statistics, data processing, costing systems, and matters of law and insurance etc. relating to the practising architect.
- BGA101 *Appreciation of Architecture*
An investigation of the factors which govern the evolution of architecture, the history of the past periods and the development of the 'modern' movement up to the present day.
- ARA102 *Architectural Construction I*
Basic materials and methods of construction of smaller and simpler types of buildings including domestic class; instruction in drawing of elementary construction details.
- ARA203 *Architectural Construction II*
Foundations and footings; Building plant; Concrete; Fire resisting construction; Masonry construction; Cladding of frame buildings; Precast flooring systems; industrialised buildings; Modular dimensional co-ordination.
- ARA304 *Architectural Construction III*
Forces and reactions; Bending moments and shearing force diagrams; Stress strain and deflections; Loads on buildings and structural requirements; design of steel members; radius of gyration, moments of inertia, section modulus; Design of timber members; Design of concrete members; Connections.
- ARA405 *Architectural Construction IV*
Footings; Retaining walls; Roof truss design; Building frames; Floor systems; Roof systems; Laminated timber; Structural plywood; Precast prestressed concrete; Building failures; Calculated brick and masonry construction; Corrosion protection and fireproofing; Underpinning and shoring.
- ARA506 *Architectural Construction V*
Philosophy of structures; Study of three dimensional structural forms; Shells, folded slabs; Space frames; Statically indeterminate structures.
- ARC134 *Architectural Draftsmanship I*
Practical work in the studio on presentation and working drawings.
- ARC235 *Architectural Draftsmanship II*
A detailed application of Drawing Office Practice in the design of more complex buildings which combines construction theory with working drawing techniques.
- ARA407 *Architectural Estimating*
Methods of estimating by cube, square and simple quantities methods; Form and purpose of bills of quantities; Variations; Provisional Sums; Costs control; Works programming; Critical path scheduling.
- ARC436 *Architectural Estimating*
The role of the Quantity Surveyor in relation to the Architect, the Builder and the Client, methods of approximate estimating and general principles of taking off quantities.
- ARC237 *Architectural History*
Brief study of the history of architectural evolution showing the development of various styles from ancient to modern.

- ARA308 *Architectural Materials I*
Sources of supply, manufacture, preparation, chemical, physical mechanical and aesthetic properties of common building materials of: Stone, timber, clay products, concrete, iron and steel, non ferrous metals and alloys, limes, gypsum.
- ARA409 *Architectural Materials II*
Sources of supply, manufacture, preparation, chemical, physical, mechanical and aesthetic properties of common building materials: glass, sheet materials, tiles, paint, bituminous materials, plastics, adhesives.
- ARA110 *Architectural Principles and Design I*
Analysis of design; Basic principles of colour; lettering; Composition; Three dimensional massing exercises; Simple design and planning problems.
- ARA211 *Architectural Principles and Design II*
Studies in Ergonomics as applied to Building; Theory of Architectural analysis and synthesis; Principles of Design and composition; Advanced planning in two dimensions; time and motion studies; introduction to space planning.
- ARA312 *Architectural Principles and Design III*
Creation of architectural environment as three dimensional study; Laboratory studies of design elements in relation to environmental science; Principles of structure-design integration.
- ARA413 *Architectural Principles and Design IV*
Analysis and synthesis of more complex planning problems with stress on environment; Assessment and evaluation of architectural works of merit past and present through inductive criticism.
- ARA514 *Architectural Principles and Design V*
Compilation of data for analysis and synthesis of problems concerned with neighbourhood and community development; Integration of transport problems with building design; Feasibility studies; Design and decoration of space within a building.
- ARA615 *Architectural Principles and Design VI*
Analysis, synthesis, feasibility, design and planning of major building projects emphasising installation of essential services.
- ARA216 *Art Appreciation*
Study of famous artists and their work through the ages; Assessment and evaluation of works of art through inductive criticism.
- ARC138 *Art I*
Freehand drawing and sketching and its application to general presentation work.
- ARP156 *Basic Surveys and their Analysis*
Factors determining location and structure of towns; present trends; techniques for recording and analysing uses of land and buildings; application of information in preparation of planning schemes.
- ARA290 *Bookkeeping for Quantity Surveyors*
To provide a basic knowledge of bookkeeping principles and practice to enable efficient administration of a private office and an appreciation of accounting techniques.
- ARP177 *Botany and Horticulture I*
The recognition of plants, their anatomy and growth.
Plant morphology, anatomy, physiology.
Plant reproduction.
Plant taxonomy and identification.
Introduction to recognition and requirements of the living plant and including landscape maintenance.

- ARC139 *Building Construction I*
A study of the nature and use of materials and methods of constructing simple buildings combined with preparation of working drawings.
- ARC240 *Building Construction II*
Preparation of drawings and details for more advanced types of structures with emphasis on techniques of jointing and finishing, combined with a study of materials and methods.
- ARC341 *Building Construction III*
A detailed study of advanced building methods related to structural mechanics together with the preparation of advanced working drawings.
- ARC442 *Building Details*
The application of advanced drafting and construction techniques in solving building problems of a special nature.
- ARB101 *Building Industry Studies*
The trades, trade unionism, trade guilds, professions, professional institutes, building companies and finance institutions.
- ARA417 *Building Services I*
Electrical services; Lifts and escalators; Mechanical ventilation, Heating and Air-conditioning; Light and Artificial Lighting of buildings; Fire protection; Telephone and public address system; Clock and time systems; Swim pool equipment; Acoustics.
- ARA518 *Building Services II*
Kitchen and laundry services; Swimming pools; High rise buildings; Hospitals and operating theatres; Schools and institutions; District scheme for heating; cooling and Total Power; Building services in the Tropics; Evaporative coolers and heat storage systems; Solar heating; Acoustics studies.
- ARC343 *Building Services I*
A study of the general building requirements in connection with the electrical contractor, plumber and drainer.
- ARC444 *Building Services II*
An advanced study of major building sources including air conditioning, lighting, sound control, fire control and lifts.
- PHC450 *Certificate Physics*
Measurement, kinematics, mechanics, properties of matter, heat, sound, light, electrostatics, current electricity, electromagnetism, electronics etc.
- ARP257 *Civic Design*
Theories of civic design; functional and design considerations; implementation.
- ARC245 *Composition and Rendering*
A practical study of proportion, colour and textures in architectural presentation.
- ARC346 *Drafting Office Practice I*
An introduction to the business side of architecture including filing and storing of information and drawings, site supervision and general co-ordination.
- ARC447 *Drafting Office Practice II*
An extension of Stage I to include all external factors affecting the processing of working drawings and the inspection of works for which an architect is responsible.

- BGA000 *Drawing and Applied Geometry*
Exercises in line drawing and plane geometry. A study of Solid Geometry introduces the development of intersections and surfaces.
- ARP258 *Economics, Finance and Valuations*
Components of gross national product; federal, state and local authority finance; economic bases of land valuation; effect of planning on values.
- ARC248 *Elementary Surveying and Levelling*
An introduction to the methods and equipment used in land surveying and its relation to building.
- LSC101 *English I*
An introduction to business communication: application of communication conventions and principles to essays, business letters, reports, speeches; clear thinking; improved reading techniques; meeting procedure; library; literature.
- LSC401 *English II*
An introduction to business communication: analysis of examples of imaginative, descriptive, and controversial prose to see the application of communication principles; communication in organizations.
- LSA101 *English Expression I*
Principles of communication through study of effective samples; application to report writing, business letters, instructions; public speaking, study of meeting procedure; committee; reading improvement; library.
- ARB102 *Environmental Controls I*
Cultural and human geography, climate, topography, sunlight, air movement, thermal studies, sound and hygiene.
- ARA319 *Environmental Science*
Physical environment; climate and human comfort elements; air movement; solar geometry; sun control; natural ventilation; heat transfer and insulation; natural lighting of buildings.
- ARA491 *Estimating*
Study of the full range of estimating services provided by quantity surveyors and a detailed study of all methods employed; building up the elements of unit cost rates for all trades and preparing estimates on selected projects using the various methods.
- ARP276 *Forestry*
Introduction to forest and commercial trees; national parks and reservations.
- ARP159 *Geography and Environment*
General consideration of the physical environment; implications of geographical studies for town and country planning.
- ARP160 *Geology for Planners*
Outline of elementary geology and of investigatory techniques.
- ARC149 *Geometrical Drawing and Perspective*
Exercises in descriptive geometry at sub-senior standard and theory and application of Perspective Drawing particularly as applied to architecture.
- ARP182 *Geomorphology*
A special course in geology as it affects the landscape.
Methods of determining geological structures.
Stability of geological structures, including weathering.
Topography determined by geological structures.
Reading of geological maps and results of test drillings.

- ARB103 *Graphic Presentation I*
Elementary graphic design, colour theory, geometrical and perspective drawing, pen and pencil sketching, watercolour and drafting techniques.
- ARP161 *Historical Development of Planning*
Methodology; growth and development of physical planning; planning theorists.
- ARA120 *History of Architecture I*
A study of the development of Architecture from Egyptian to Romanesque, with special reference to social influences, availability of materials and technological knowledge.
- ARA221 *History of Architecture II*
Continuation of the study of development of architecture from Medieval to Contemporary. The study of modern architecture in its environment, and of the influence of building methods.
- ARP183 *History of Landscape*
The history of conscious landscape design with special reference to Australia.
History of principal schools of landscape design, with considerations of philosophical, social and climatic implications.
Evolution of Australian landscape.
Australian landscape design.
- ARB104 *History of the Built Environment*
Detailed study of the development of Towns and Buildings in relation to the social and political ideologies of the people and within the limitations of available materials and knowledge of construction.
- ARP278 *Horticulture, Botany and Ecology II*
More advanced studies on Stage I.
- ARP262 *Horticulture for Planners*
Selection, propagation and soil requirements of plant material; garden management.
- ARB105 *Human Sciences I*
Physiology, human engineering, psychology, sociology, anthropology.
- ARA322 *Hygiene and Sanitation*
Water supply to buildings; Source of supply, storage and distribution; Hot water installations; Sanitation, septic tanks, absorption and transpiration beds; Drainage systems; sanitary fittings; Stormwater and Sewerage disposal; Garbage and refuse disposal.
- ARA523 *Interior Design*
History of Interior Design and Furniture; Materials, colour and texture; Relationship of spaces and circulation; Lighting; Furnishings.
- ARP181 *Landscape Construction*
Methods of construction and problems and their solutions of constructional work in landscape.
Land clearing, earth-moving and modelling.
Methods, machinery, and equipment for earthworks.
Filling materials.
Soil stabilisation.
Specifications, plans, and estimating for earthworks.
Construction materials, uses and qualities.
Materials and construction methods for walls, paths, steps, minor buildings.

- ARP180 *Landscape Design I*
The analysis and attempted solutions of problems concerning the use of landscape.
Landscape survey and analysis.
Assessment of user requirements.
Observance of surroundings.
Design of space by enclosure using landscape materials.
- ARP281 *Landscape Design II*
Development of landscape design for specific sites and problems.
- ARP382 *Landscape Design III*
Development of more advanced landscape designs for towns and gardens.
- ARP383 *Landscape Engineering*
Construction principles of works involved in landscape development.
- ARB106 *Materials, Structures and Methods I*
Elementary structural design, construction and testing of models, introduction to the nature and use of materials and basic construction methods and functional requirements of simple components in low rise buildings.
- MAC191 *Mathematics I*
Algebra—Indices, surds, logarithms, ratio and proportion, variation, progressions, permutations and combinations, binomial theorem.
Trigonometry—Ratios of angles, solution of triangles, compound angles, identities.
Geometry—Similar figures, ratio and proportion, triangles and circles.
- MAC491 *Mathematics II*
Algebra—Binomial theorem and applications.
Analytic Geometry—Straight line and circle.
Calculus—Differentiation, maxima and minima, integration, definite integral.
Trigonometry—Solution of triangles, equations, heights and distances.
- ARB107 *Measurement*
Surveying and levelling, photogrammetry, measured studies.
- ARP263 *Planning Law*
Evolution of Planning Law and its adoption by Australian legal systems; Queensland Planning Law and other relevant legislation.
- ARP164 *Planning Practice I*
Study of basic techniques; programmes involving study of limited regional problems requiring field work and studio work.
- ARP265 *Planning Practice II*
Application of civic survey techniques to specific metropolitan problems; urban renewal and redevelopment; studio and field work on preparation of redevelopment proposals for urban areas.
- ARP366 *Planning Practice III*
Individual preparation by each student of a special project embodying the result of an original investigation of a subject approved by the Director of the Institute of Technology.
- ARA524 *Professional Practice I*
The study of law closely related to the practice of Architecture, and including types of contracts, their formation, performance, non-performance, variation, assignment, penalties and damages, agency

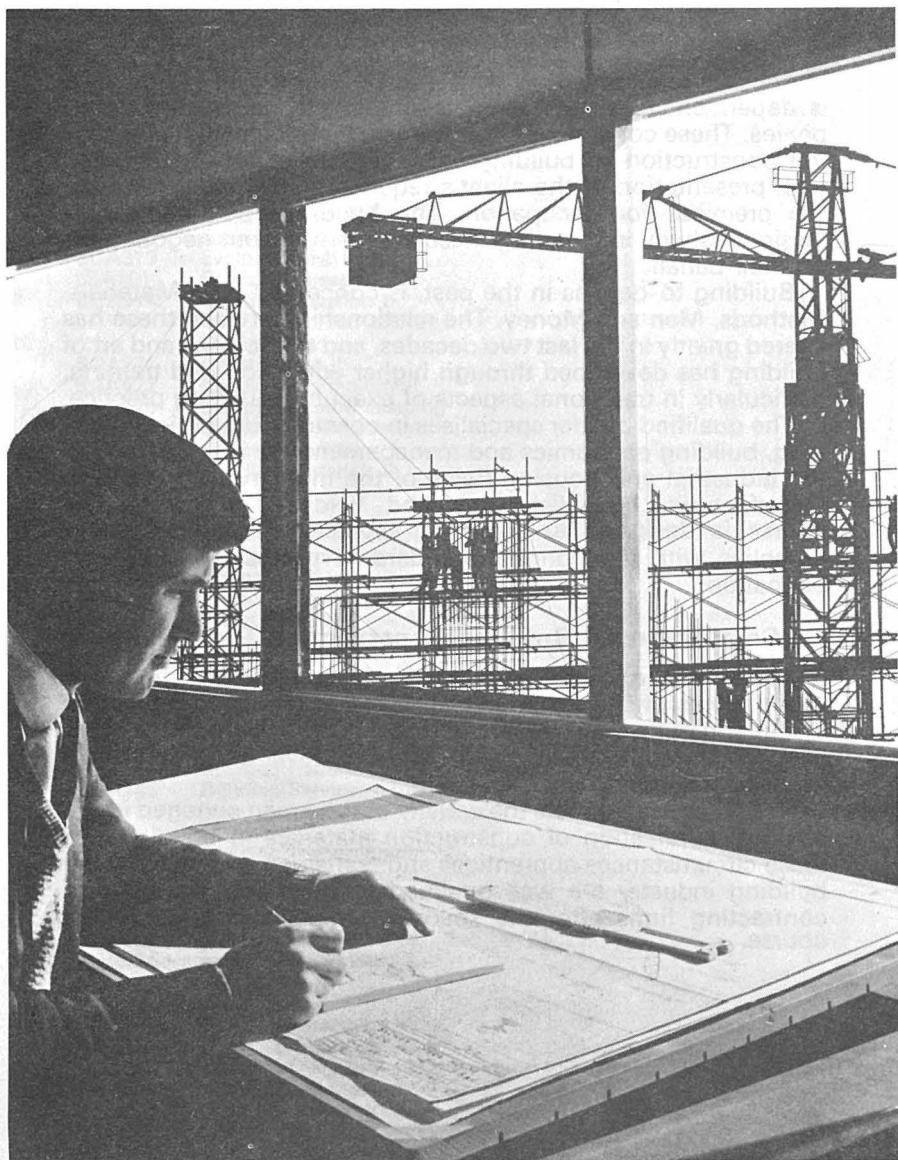
and negligence. The detailed study of the R.A.I.A. "Agreement and Schedule of Conditions of Building Contract" particularly relating the contents to principles of law.

- ARA625 *Professional Practice II*
The study of the Architects Act of 1962, and of the Codes of Professional Conduct of the Board of Architects and of the R.A.I.A.; to laws, ordinances and by-laws relating to buildings; the functions and relationship, each to the other, of the parties associated with building; the remuneration of the Architect; office and job practice and management; arbitration; ownership and copyright of documents; documentation for contracts; contract administration.
- ARP384 *Professional Practice (Landscape)*
Study of general office procedures and of law relating to landscape practice.
- ARP367 *Public and Professional Administration*
Types of practice; preparation and implementation of various forms of planning scheme. Office administration and professional conduct.
- ARP168 *Public Health in Relation to Planning*
Study of the relationship between the environment and physical and mental health; the contribution of physical planning to the health of the community.
- ARA192 *Quantity Surveying IA*
The Quantity Surveyor in the building team; Methods of estimating building costs; Introduction to Quantity Surveying methods and practice in various trades.
- ARA193 *Quantity Surveying IB*
Introduction to quantity surveying and the Standard Method of Measurement. "Taking off" and "squaring" of the following trades of selected building projects—Pavior, Tiler, Plasterer, Painter and simple examples of other trades.
- ARA294 *Quantity Surveying II*
Detailed study of the Standard Method of Measurement of building works and the "taking off" and "squaring" of the following trades of a selected building project—Excavator (elementary), Concretor, Bricklayer, Blocklayer, Carpenter, Joiner and Ironmonger.
- ARA395 *Quantity Surveying III*
Detailed study of the Standard Method of Measurement of building works and the "taking off" and "squaring" of the following trades of a selected building project—Asphalter, Roofer, Plumber, Drainer, Metalworker, Joinery Fittings, Terrazzo Worker, Glazier.
- ARA496 *Quantity Surveying IV*
Detailed study of the Standard Method of Measurement of building works and the "taking off" and "squaring" of the following trades of selected projects. Excavator (advanced), Concretor (advanced), Underpinning, Piling, Structural Steelwork, Study of bill presentation (including Preliminaries and Trade Preambles).
- ARA597 *Quantity Surveying VA*
A study of the post contract services offered by the Quantity Surveyor including measuring and valuating variations—preparation of interim valuations and financial statements. Principles covering negotiations and a study of Rise and Fall methods.

- ARA589 *Quantity Surveying VB*
Building economics including a study of Cost planning techniques using elemental cost analysis, cost control and features of design influencing costs, appreciation of critical path techniques.
- ARA698 *Quantity Surveying VIA*
Detailed study of the Standard Method of Measurement of building works and the "taking off" and "squaring" of the following trades of selected projects—Demolisher, Stone Mason, Electrician and Mechanical Engineer. Advanced measurement on Precast concrete and Prestressed concrete. Detailed study of Method of Measurement of Civil Engineering Quantities, AS154—1967 and the measurement of selected projects.
- ARA699 *Quantity Surveying VIB*
Preparation for Final Examination including specific examples in taking off and billing more advanced work. Interpretation of queries on Standard Method of Measurement of Building Works and Practice Notes.
- ARB108 *Research, Analysis and Synthesis I*
Principles of logic and criticism. Statement and analysis of problems, data collection, information handling, research techniques, analysis of data, synthesis and solution of problems. Continuing exercises in simple design problems.
- ARB109 *Science of Technology*
Applied mathematics, physics, chemistry and geology.
- ARP169 *Sociology for Planners*
Underlying principles of sociology; contribution of sociological thought and research to physical planning; sociological consequences of physical planning.
- ARA526 *Specifications I*
Function of the specification and its contractual ramifications; Construction of the Specification and terminology; Specification writing by trades and building functions.
- ARA627 *Specifications II*
Specification writing by trades and building functions as a continuation from Stage 1; The use of schedules and specification enclosures; Presentation of Specification.
- ARB110 *Spoken Presentation I*
Public speaking, chairmanship.
- ARP170 *Statistics and their Use*
Available data; collection of materials; sampling and analysis.
- ARC350 *Structural Mechanics*
Forces and reactions; Bending moments and shearing force diagrams; Stress strain and deflections: Loads on buildings and structural requirements: design of steel members: radius of gyration, moments of inertia, section modulus: Design of timber members: Design of concrete members: Connections.
- ARP184 *Surveying and Levelling*
Prerequisite subject—Basic construction.
Basic field survey methods and presentation and interpretation of results.
Uses of chain survey, plane table, compass, stadia, abney and dumpy levels.
Preparation, presentation and interpretation of survey material.
Uses of aerial photography.

- ARA128 *Surveying and Measuring*
Linear measurement including elements of chain surveying; Construction, adjustment and use of the theodolite and the level; Office procedure in relation to elementary survey work.
- ARA129 *Techniques of Presentation I*
Descriptive geometry; perspective projection; shade and shadow projection; Water colour techniques; Freehand Drawing; Composition.
- ARA230 *Techniques of Presentation II*
Composition components; Photography; Landscape elements; Techniques of model making; Graphics; Study of art techniques; Measured study of an historic building.
- ARB111 *Theory of Communications I*
Psychology of perception, interpersonal relationships and small group processes.
- ARP179 *Theory of Landscape Design*
Design principles applied to the design and detailing of the landscape.
Principles of landscape design.
Elements of design (natural and man-made).
Factors influencing design (land, climate, site requirements, character etc.)
Theories of Landscape Design.
Planting design (characteristics of plants, ecological association, selection of species).
- ARP271 *Theory of Regional Planning*
The terrestrial environment; consideration of a variety of regional problems and projects.
- ARP272 *Theory of Urban Planning*
Consideration of particular types of development; relationship between buildings, land use and circulation.
- ARA431 *Town Planning for Architects*
The town planning team; historical background of town planning; Factors influencing town growth; Civic surveys; Zoning; Residential neighbourhood and community development; Subdivision principles; Transportation and traffic; Design of civic spaces; Town landscapes; Legislation.
- ARP273 *Traffic and Civil Engineering for Planners*
Measurement and analysis of traffic behaviour; design of traffic and highway facilities; provision of public services.
- BGA321 *Valuations and Dilapidations*
A study of valuation for city and urban properties, comprising an analysis of characteristics which influence land values, and methods of valuation appropriate to the nature of building. Dilapidations are studies in the light of cause such as physical deterioration, impaired efficiency and inadequacy of the property.
- ARB112 *Written Presentation I*
Information theory, research techniques, essay and theses writing.

Department of Building



DEPARTMENT OF BUILDING

Education facilities provided by this Department satisfy the essential requirement for efficient functioning of the building industry. Courses are conducted for both technologist and technician.

Associate Diploma in Building

The building industry, which is one of the largest in Australia, is dependent upon the tangible product of contracting companies. These companies are responsible in exact legal terms for the construction of buildings and associated works from the final presentation of the client's requirements to completion of the premises for occupation. The builders apply their professional ability in directing these and carrying out negotiations on their behalf.

Building to-day, as in the past, is concerned with Materials, Methods, Men and Money. The relationship between these has altered greatly in the last two decades, and the science and art of building has developed through higher education and training, particularly in traditional aspects of executive building practice.

The qualified builder specialises in construction, project planning, building economics and management. He is in demand in the industrial and housing fields of the industry, as well as in manufacturing establishments and fields of research. The course is designed to cover all aspects of building and it complies with the national standard of professional building education.

Certificate for Building Construction Technician

Although the executive builder is responsible for furthering the interests of the community, there also is a need for supervision and control at sub-professional level. This requirement is satisfied through education at certificate level and appropriate industry training.

The technician directs the activity of workmen engaged in the physical application of construction materials in buildings. In these circumstances apprentices and craftsmen employed in the building industry are well qualified for technical positions in contracting firms after the special training of the Certificate course.

ASSOCIATE DIPLOMA COURSE IN BUILDING

Six (6) years part-day part-evening study course. (One afternoon and three evenings per week.)

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (Bldg).

The Associate Diploma is recognised by the Australian Institute of Building, incorporated by Royal Charter. (A proviso applies regarding practical experience).

Subject entrance requirements: Senior—English, Mathematics I, Chemistry, Physics and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subjects</i>	<i>Hours per Week</i>
<i>First Year</i>	
BGA111 Construction I	4
BGA312 Building Technology I	2
BGA000 Drawing and Applied Geometry	2
BGA313 Evolution of Building	1
LSA101 English Expression	1
BGA514 Building Materials I	2
<i>Second Year</i>	
BGA221 Construction II	4
BGA422 Building Technology II	2
ARA128 Surveying and Measuring	1
BGA223 Building Administration	1
BGA724 Quantity Surveying I	3
BGA625 Building Materials II	1
<i>Third Year</i>	
BGA531 Building Technology III	3
BGA832 Quantity Surveying II	3
BGA533 Estimating	2
BGA634 Project Equipment and Safety	2
BGA535 Project Survey	1
ARA417 Building Services I	1
<i>Fourth Year</i>	
BGA641 Building Technology IV	4
BGA942 Quantity Surveying III	3
BGA443 Valuations and Dilapidations	2
BGA544 Building Regulations	2
BGA745 Building Services—Installations	1
<i>Fifth Year</i>	
BGA751 Building Technology V	3
BGA752 Financial Management I	2
BGA753 Construction Planning Techniques	3
BGA754 Business Management I	1
BGA755 Environmental Science	1
ARA524 Professional Practice	1
<i>Sixth Year</i>	
BGA861 Building Technology VI	3
BGA862 Financial Management II	2
BGA863 Building Development Techniques	2
BGA864 Business Management II	2
BGA865 Building Research	1
BGA866 Social and Industrial Psychology	1

CERTIFICATE COURSE FOR BUILDING CONSTRUCTION TECHNICIAN

Five (5) years evening study.

Entrance Requirements: (a) Junior—English, Mathematics B, Science B and one other subject.

AND (b) Successfully completed 2 years' apprenticeship in a building trade.

OR (c) Successfully completed 2 years' service in an approved allied occupation. (See pp. 23-25 for subject entry standards and conditions).

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
LSC101	English	1½
BGC211	Principles of Construction	2
BGC221	Construction Materials I	1
BGC231	Trade Practice I	3
	Before proceeding to second year and for each succeeding year of the course, students must submit evidence that they are engaged in a building trade or approved allied occupation, such evidence to be made available by employers.	
	<i>Second Year</i>	
BGC312	Construction I	3
BGC322	Construction Materials II	2
BGC333	Trade Practice II (Inc. Construction Mathematics)	2
BGC341	Job Diaries and Technical Reports	1
	<i>Third Year</i>	
BGC413	Construction II	3
BGC423	Construction Materials III	2
BGC434	Trade Practice III	2
BGC442	Personnel Control and Supervision	1
	<i>Fourth Year</i>	
BGC514	Construction III	3
BGC543	Regulations and Building Practice I	2
BGC544	Project Quantities I	3
	<i>Fifth Year</i>	
BGC645	Project Quantities II	3
BGC646	Interpretation of Plans and Specifications	2
BGC647	Regulations and Building Practice II	1
BGC648	Project Machinery and Safety Precautions	2

SYNOPSIS OF SUBJECTS

- BGA233 *Building Administration*
Introduction to building operations control, site and office records, industrial provisions and the role of the supervisor. Fabrication sequences, standards and quality control.
- BGA863 *Building Development Techniques*
Valuation methods and applications to feasibility studies. Determination of capital cost of project. Annual outgoings and gross income—examples of Brisbane rental values. Feasibility—multi-storey office building—site capacity—plot ratios—relevant legislation. Demand surveys and development studies. Discounted Cash Flow. Aspects of town planning. Industrial land and development—"going concern value". Studies of completed feasibility studies.
- BGA514 *Building Materials I*
A study of the properties and uses of basic structural materials. Methods of manufacture, use and durability in service. Related S.A.A. codes, materials testing.
- BGA625 *Building Materials II*
An extension of the first year subject to cover decorative and applied finishes, design properties, testing procedures and related S.A.A. Codes.
- BGA544 *Building Regulations*
Investigation of the Acts, Regulations, By-Laws and Building Codes, which govern and control the design and decoration of all classes of buildings.
- BGA865 *Building Research*
A research assignment project on a selected topic with tutorial assistance. Assessment of assignment constitutes the annual result.
- ARA417 *Building Services I*
An investigation of non-structural elements, mechanical and otherwise which are essential for the proper functioning of the building in regard to lighting, heating, sound control, transport, fire protection and drainage.
- BGA745 *Building Services—Installations*
A detailed study of the elements studied in the previous year with emphasis on builder's responsibility for their installation.
- BGA313 *Building Technology I*
An outline of the organisation of the industry. Work specifications of operative, craft, technician and technologists calling. Structural forms and methods in timber, brick and concrete. Setting out procedures.
- BGA422 *Building Technology II*
Introduction to theoretical and practical considerations for various types of construction. Introduction to structural mechanics.
- BGA531 *Building Technology III*
Structural mechanics relating to Loading Codes and design loads for truss analysis and force diagrams. Stress, strain, tension in members, theory of bending and design of steel beams. Buckling—and design of columns. Steel design problems. Designs in timber and concrete.
- BGA641 *Building Technology IV*
Further on concrete design, footings, two way slabs and flat plate construction. Elements of soil mechanics. Retaining walls. Pre-stressed concrete and basic design problems. Formwork and falsework design. Foundations, site investigations and design. Design problems relating to piling, coffer dams, caissons, shoring and underpinning. De-watering and treatment of substrata. Brickwork and concrete masonry design. Qualitative continuity and deflected shapes. General stability and building frames.

- BGA751 *Building Technology V*
Building Management Objectives. Management skills. Management through the contract. Pre-tender, tender, pre-commencement period, contract period, office and site controls. Project Manager, Site Supervisor, Foreman. Duties of Quantity Surveyor—progress payments etc. Sub-contractors. Mechanical plant—buy—hire—lease. Detailed recording of costs.
- BGA861 *Building Technology VI*
Types of contract. Open or invited tender. Bill of Quantities, Plans and Specifications, design and build. Civil Engineering tender. Further implications of Contract Document E5B. Comparisons between contracts.
Management leadership; Training and promotion. Builder's Registration Act, Queensland.
Production—units of work, standardisation, administration, production engineering—planning and control.
Trade unions—arbitration.
- BGA754 *Business Management I*
A study of executive management and the basic professional practices applied to companies' procedure.
- BGA864 *Business Management II*
A continuation of the first stage. A brief overview of the historical development of management techniques.
- BGA111 *Construction I*
Study of the properties and use of materials and their application in basic structural forms. Construction principles illustrated by preparation of working drawings.
- BGC312 *Construction I*
A study of the use of materials and basic structural forms with preparation of detail drawings of those forms.
- BGA221 *Construction II*
Further detailed study of more advanced structural forms. Building principles and techniques. Preparation of working drawings.
- BGC413 *Construction II*
An extension of Stage I in the more advanced construction techniques with an introduction to framed structures. Preparation of drawings illustrating heavier timber construction.
Introductory study of sanitary plumbing and drainage; hygiene and building services.
- BGC514 *Construction III*
Study of structural forms relative to the theory and application of elementary mechanics. Outline of principles of roof trusses and retaining walls. Preparation of drawings by way of examples of study.
- BGC221 *Construction Materials I*
Method of manufacture, processing and application of building materials. Organisation, acceptance, and storage on project site. Introduction to S.A.A. Codes.
- BGC322 *Construction Materials II*
An extension to Stage 1 for the manufacture, processing, properties, characteristics and application of selective building materials.
- BGC423 *Construction Materials III*
Continuation of study of previous stages with special attention to the application of S.A.A. Codes relating to building materials. Timber identification and usage. Properties and characteristics of floor and paving materials.
- BGA753 *Construction Planning Techniques*
Planning and detailing the erection of buildings. Use of Gantt charts. Critical Path Network planning, and P.E.R.T. Projects of short and long duration for restricted and un-restricted sites. Programming and controlling. The computer in building.

- BGA000 *Drawing and Applied Geometry*
Applied Geometry and drawing principles related to the production of working drawings and setting out procedures. A study of plane and solid geometry with development of surfaces and inter-penetration of solids.
- LSC101 *English*
An introduction to business communication: application of communication conventions and principles to essays, business letters, reports, speeches; improved reading techniques; meeting procedure; library.
- LSA101 *English Expression I*
An introduction to the principles of communication through effective examples; application to reports, business letters, speeches, instruction, reading improvement. Use of library. Results will be assessed on assignment work set throughout the year.
- BGA755 *Environmental Science*
An investigation of the various characteristics of climatology, geographical and building elements and methods used to create desired standards of comfort etc. with regard to heat, sound, light, air, water, fire and hygiene.
- BGA533 *Estimating*
A study of the full range of estimating methods relating to types of contract, Bill of Quantities, Plans and Specifications according to the Australian Institute of Building Code of Estimating Practice. The building up of cost rates. Unit rate, current rate, all up rate etc. Estimating for sub-contract trades. From Preliminaries to submission of tender. Costs recording and work study.
- BGA313 *Evolution of Building*
A brief historical overview of the factors influencing the development of building over the ages. The uses of the available materials and the factors governing particular building forms.
- BGA752 *Financial Management I*
Analysis and interpretation of financial statements and reports. Valuation of work in progress in building projects. Depreciation methods and taxation considerations. Liquidations and bankruptcies. Financial decision making.
- BGA862 *Financial Management II*
Financial budgeting and control. Cash flow projections. Sole proprietorship and partnerships. Bookkeeping for a builder including creditors, debtors and contract records. Job costing records. Office machines and computer methods. Taxation, etc.
- BGC646 *Interpretation of Plans and Specifications*
The study and understanding of drawings and specifications for major works, including sub-contract works for installation of building services.
- BGC341 *Job Diaries and Technical Reports*
Appreciation and application of office procedure and records in building organisation and exercises in composing technical reports applicable to building.
- BGC442 *Personnel Control and Supervision*
Capabilities and qualifications required in a Project Foreman and Clerk of Works; relationships and duties. Industrial awards and management of building project.
- BGC211 *Principles of Construction*
Study of the setting out of buildings, use of profiles and taking site levels. Preparation and organisation of the project site. Drawing details of appropriate subjects in Trade Practice I.

- ARA524 *Professional Practice*
The study of the implications of the law relating to buildings, types of contracts, their formation, performance, non-performance, variation, assignment, penalties damages etc. The study of Edition E5B, Agreement and Schedule of Conditions of Building Contract. Arbitration in the building industry.
- BGA634 *Project Equipment and Safety*
Types of project equipment and machinery. Erection and operation, limitations and advantages. Safety precautions and requirements of relevant Acts.
- BGC648 *Project Machinery and Safety Precautions*
Equipment and methods used on the project, study of economics of procedures, and safety precautions on the project.
- BGC544 *Project Quantities I*
Method of measurement of building works and "taking off" various trades for material ordering.
- BGC645 *Project Quantities II*
A continuation of the study in Stage 1 of this subject with emphasis on adjustments caused by variations and amendments.
- BGA535 *Project Survey*
A continuation of "Surveying and Measuring" with special consideration of operational exercises for site preparations and the setting out of a building on a project site with provision for all temporary and storage structures. Results will be assessed on a documentary submission of a practical project exercise.
- BGA724 *Quantity Surveying I*
Introduction to Quantity Surveying and the Standard Method of Measurement. Taking off and squaring selected trades.
- BGA832 *Quantity Surveying II*
Detailed study of the Standard Method of Measurement of Building Work. "Taking off" and squaring selected trades of a building project.
- BGA942 *Quantity Surveying III*
Advanced study of "taking off" and squaring of a complete building project. The write up of a Bill of Quantities.
- BGC543 *Regulations and Building Practice I*
Study and appreciation of Acts, Regulations, By Laws and Codes relating to all classes of buildings.
An introduction to the types of contracts applicable to building projects.
- BGC647 *Regulations and Building Practice II*
A continuation of the study in Stage 1 of this subject with emphasis on practical application in construction. Administration and relationship of subcontractors in contract projects.
- BGA866 *Social and Industrial Psychology*
Introduction to the nature of scientific enquiry as applied to psychology. Person perception; group structure; communication and job satisfaction; leadership; group dynamics; conformity; attitude formation and change. Organisational psychology. Management by objectives.
- ARA128 *Surveying and Measuring*
An introduction to the methods and equipment used in land surveying and the relationship to building, combined with practical work and measured studies.
- BGC231 *Trade Practice I*
An elementary study of construction trades and theory of reinforced concrete.
- BGC333 *Trade Practice II* (inc. Construction Mathematics)
A continuation of study of the previous year with emphasis on construction trades and treatment of foundation work under varying conditions. Testing of concrete materials and preparation of formwork. Practical application of mathematics to features of construction.

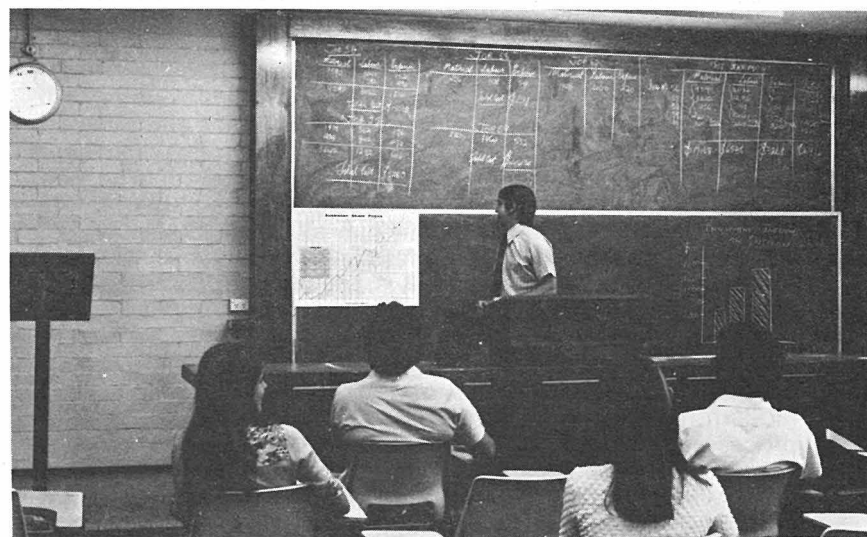
BGC434 *Trade Practice III*

More advanced testing of concrete specimens; the importance of shoring, underpinning and special works for foundations. The use of machinery and heavy equipment, setting out projects on restricted sites.

BGA443 *Valuations and Dilapidations*

A study of valuation for city and urban properties, analysis of characteristics influencing land values, methods of valuation, appropriate to the nature of the building. Dilapidations in regard to the causes of physical deterioration, impaired efficiency and inadequacy of the property.

School of Business Studies



SCHOOL OF BUSINESS STUDIES

The School of Business Studies offers a wide range of courses at the professional level of business and government, together with appropriate supporting courses. Diploma courses are provided in Accountancy, Business Studies, and Public Administration for the development of prospective managers. Certificate courses in Business Studies and an Advanced Commercial Certificate offer the person aspiring to senior clerical and supervisory positions the opportunity to prepare for these responsibilities. A continuing Education Programme is offered for a lifetime of learning, and is offered to adult students who find a need to improve their knowledge and skills on the job. A graduate Diploma is offered to students from other disciplines who have completed a basic academic qualification and wish to learn about management.

Management, whether in industry, commerce, or government, is concerned with fundamentals of supervision and executive leadership. Decision making and leadership are essential capabilities of the manager who plans, organizes, and controls productive enterprise at any level of the national or local economy. To complete the study of managerial practice, students are led to explore the development of management thought, examine carefully the conceptualization of basic principles of management and relate these principles to the emerging concepts of the behavioural sciences, as well as stressing the inter-relationships of accounting, statistical methods, economics, social psychology and computer technology. Courses at all levels are designed to meet the needs of the student who expects to make a worthwhile contribution during his life, and materially and socially benefit from his efforts.

The Associate Diploma courses in Accountancy and Business Studies are designed to lay a foundation for effective practice of these skills of management. In accountancy, the student is given a broad background, leading to specialized study in the final year of the course, which will fit him to compete successfully with fellow members of his profession.

Provision is also made for advanced study upon completion of the Associate Diploma in Accountancy which will lead to the highest levels of the profession.

Accountancy studies are based on the academic disciplines of accounting, law, economics, and statistics. The complexity of modern manufacturing processes, the advances in information processing, the increasing size of business operations, and of the financial transactions involved have increased the requirements in knowledge, skill, and ability demanded of today's accountant, who may specialise in auditing, financial analysis, systems investigations and installations, data processing, taxation

services, management services, office management or financial administration.

The Associate Diploma in Business Studies prepares qualified students to accept responsibilities of management at the mid-level of the structure of organization and depending upon their own abilities, proceed to the upper levels of managerial responsibility. A grounding in the theory and practice of management, human relations, and the use of quantitative analysis is the basis of this course. In the final year of the course, attention will be directed to a detailed study of the fundamental areas of business through the study of Marketing, Production, Industrial Relations, Finance, and advanced methods of Economic Analysis. When properly developed, these basic skills of management will serve as the cornerstone of achievement in the ranks of professional managers.

The Associate Diploma in Public Administration, with Studies based on Economics, Statistics, Psychology, Management and Government, prepares students for senior executive positions in the State and Commonwealth Public Service.

The Advanced Commercial Certificate Course requires two years of full-time study (or 4 years part-time) followed by a further two years part-time study. The Course is designed specifically to meet the needs of advancing technology at the senior clerical and supervisory levels. This Course will prepare the advanced student to compete successfully for professional status at this level.

A Certificate in Business Studies will be issued to students who complete the two years full-time (or 4 years part-time) study for the Advanced Commercial Certificate. This certificate, covering the essentials of business practice, is a basic qualification for business and government. It also serves as an introductory course for the specialist courses in the Continuing Education Programme.

On the post-graduate level, a Diploma in Business Administration is offered to graduates and diplomates who wish to complement their present professional qualification with the skills of management. A part-time course, the Diploma in Business Administration, offers the opportunity for persons qualified in other disciplines to add a capability in advanced management and administration to their professional qualifications.

The School of Business Studies seeks to give the practical managers, who train at the Institute of Technology, an awareness of the social, economic, and industrial environment in which they will function; and endeavours to equip them with that knowledge of human behaviour, organisation and management, and analytical decision-making skills, which will enable them to attain their highest potential as managers, accountants and administrators.

FELLOWSHIP DIPLOMA COURSE IN MANAGEMENT

The Fellowship Diploma in Management is a two (2) year part-time course designed to prepare students of Accountancy, Business Studies and Public Administration for further graduate work. The course will also allow the student to clarify his thinking in management and develop his practical ability to manage effectively.

Completion of this course will fit students for responsible managerial and specialist positions in Industry and Government.

Entrance Qualifications

Entrance to this course depends upon completion of the Associate Diploma in Accountancy, Business Studies, or Public Administration, together with the approval of the Head of the School of Business Studies based on an assessment of the student's aptitude for advanced study. Courses of similar content to the Associate Diploma may be accepted as an entrance qualification.

Course Structure

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
MNF801 Applied Research & Scientific Method	3
One of the subjects listed below	3
Research project and submission of a thesis	6*
<i>Second Year</i>	
Two of the subjects listed below	6*
<i>Seminars & Advanced Courses in:</i>	
MNF800 Operations Research	
ACF800 Finance	
MNF802 Production	
MNF803 Marketing	
MNF804 Personnel	
MNF805 Public Administration	
MNF807 Taxation Law & Estate Planning	
ACF802 Company Law & Accounts	
ACF803 Bankruptcy, Receivership, Liquidation	
ACF805 Auditing & Investigation	
ACF806 Accounting Practice	

Other subjects will be offered as required.

*Times may be arranged to allow for research work and individual study in conjunction with staff consultation.

ASSOCIATE DIPLOMA COURSE IN ACCOUNTANCY

Three (3) years full-time day study.

This course is also available by part-time evening study.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (Acctcy).

Subject entrance requirements: Senior—English, Mathematics I, and three other subjects. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
LSA310	Communications IA	4
MAA171	Quantitative Methods IA	5
MNA111	Behavioural Science I	4
MNA110	Economic Analysis	5
ACA110	Accounting I	6
	<i>Second Year</i>	
MNA420	Management I	4
MNA421	Quantitative Methods IIA	5
ACA421	Business Law	4
ACA420	Accounting II	6
	<i>ONE of the following:</i>	
MNA422	Data Processing <i>or</i>	5
MNA425	Information Systems IA	5
	<i>Third Year</i>	
ACA731	Financial Management	4
ACA733	Taxation Law and Practice	5
ACA730	Accounting III	6
ACA732	Auditing and Professional Practice	4
	<i>ONE of the following subjects:—</i>	
MNA730	Quantitative Methods III	5
MNA731	Production Systems I	4
MNA739	Economic Development	4
MNA751	Government Accounting and Finance	5
MNA734	Marketing	5

Additional time will be required for projects, assignments and library work.

ASSOCIATE DIPLOMA COURSE IN ACCOUNTANCY

Part-Time

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
LSA310	Communications IA	3
MAA171	Quantitative Methods IA	3
MNA111	Behavioural Science I	3
	<i>Second Year</i>	
MNA110	Economic Analysis	3
ACA110	Accounting I	4
	<i>Third Year</i>	
MNA420	Management I	3
ACA421	Business Law	3
MNA421	Quantitative Methods IIA	3
	<i>Fourth Year</i>	
ACA420	Accounting II	4
	<i>ONE of the following:</i>	
MNA422	Data Processing	3
	<i>OR</i>	
MNA425	Information Systems IA	3
	<i>Fifth Year</i>	
ACA731	Financial Management	3
ACA733	Taxation Law and Practice	3
ACA730	Accounting III	4
	<i>Sixth Year</i>	
ACA732	Auditing and Professional Practice	3
	<i>ONE of the following:</i>	
MNA730	Quantitative Methods III	3
MNA731	Production Systems I	3
MNA739	Economic Development	3
MNA751	Government Accounting and Finance	3
MNA734	Marketing	3

DIPLOMA COURSE IN BUSINESS ADMINISTRATION

Three (3) years part-time evening course.

This course is designed to assist graduates and diplomates to prepare for administrative responsibilities. The course examines the contributions which have been made to management theory and practice by accounting, statistics, economics, and psychology, and emphasises the importance of personal inter-relationships, and the role of the executive as decision-maker. Case studies are used to provide simulated business situations in which students become members of a management team and are required to analyse problems and make decisions. Provision is made for specialisation in particular areas, and the preparation of a research report.

Completion of the course entitles the graduate to a Diploma and the use of the letters DQIT (BusAdmin).

Entrance Requirements:

1. A graduate or diplomate (other than in Business Studies) of a University or Institute of Technology, AND
2. Two years appropriate experience in commerce, industry or the Public Service.

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
LSP210 Research and Communication	2
MNP110 Managerial Analysis I	3
ACP110 Accounting Principles	2
<i>Second Year</i>	
MNP421 Managerial Psychology	3
MNP422 Managerial Analysis II	4
ACA422 Commercial Law	3
<i>Third Year</i>	
MNP733 Advanced Management	3
MNP730 Computer & Information Science	3
ONE of the following:—	
MNP732 Managerial Analysis III	4
MNA734 Marketing	3
MNA735 Behavioural Science III	3
MNA732 Business Finance	3

ASSOCIATE DIPLOMA COURSE IN BUSINESS STUDIES

Three (3) years full-time day study.

This course is also available by part-time evening study.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT (BusStud).

Subject entrance requirements: Senior—English, Mathematics I and three other subjects. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
LSA310 Communications IA	4
MAA171 Quantitative Methods IA	5
MNA111 Behavioural Science I	4
MNA110 Economic Analysis	5
ACA110 Accounting I	6
<i>Second Year</i>	
MNA420 Management I	4
MNA421 Quantitative Methods IIA	5
MNA423 Behavioural Science II	6
ACA422 Commercial Law	4
ONE of the following subjects:—	
MNA422 Data Processing	5
MNA425 Information Systems IA	5
<i>Third Year</i>	
MNA730 Quantitative Methods III	5
MNA733 Management II	6
MNA732 Business Finance	4
TWO of the following subjects:—	
MNA731 Production Systems I	4
MNA734 Marketing	5
MNA735 Behavioural Science III	4
MNA739 Economic Development	4
MNA740 Industrial Relations	5
MNA741 Promotional Strategy	5

Additional time will be required for projects, assignments and library work.

ASSOCIATE DIPLOMA COURSE IN BUSINESS STUDIES

Part-Time

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
LSA310 Communications IA	3
MAA171 Quantitative Methods IA	3
MNA111 Behavioural Science I	3
<i>Second Year</i>	
ACA110 Accounting I	4
MNA110 Economic Analysis	3
<i>Third Year</i>	
MNA420 Management I	3
MNA421 Quantitative Methods IIA	3
ACA422 Commercial Law	3
<i>Fourth Year</i>	
MNA423 Behavioural Science II	4
ONE of the following subjects:—	
MNA422 Data Processing	3
<i>OR</i>	
MNA425 Information Systems IA	3
<i>Fifth Year</i>	
MNA733 Management II	4
MNA730 Quantitative Methods III	3
MNA732 Business Finance	3
<i>Sixth Year</i>	
TWO of the following subjects:—	
MNA731 Production Systems I	3
MNA734 Marketing	3
MNA735 Behavioural Science III	3
MNA739 Economic Development	3
MNA740 Industrial Relations	3
MNA741 Promotional Strategy	3

ASSOCIATE DIPLOMA COURSE IN PUBLIC ADMINISTRATION

Three (3) years full-time day study.

This course is also available by part-time evening study.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters A.Q.I.T. (Pub.Admin.).

Subject entrance requirements: Senior—English, Mathematics I and three other subjects. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
LSA310 Communications IA	4
MAA171 Quantitative Methods IA	5
MNA111 Behavioural Science I	4
MNA110 Economic Analysis	5
ACA110 Accounting I	6
<i>Second Year</i>	
MNA420 Management I	4
MNA421 Quantitative Methods IIA	5
MNA423 Behavioural Science II	6
MNA450 Public Administration I	5
MNA422 ONE of the following: Data Processing	5
MNA425 <i>OR</i> Information Systems IA	5
<i>Third Year</i>	
MNA751 Government Accounting and Finance	5
MNA750 Public Administration II	5
ACA734 Administrative Law	4
MNA739 Economic Development	4
MNA730 ONE of the following subjects:— Quantitative Methods III	5
MNA733 Management II	6
MNA735 Behavioural Science III	4
MNA734 Marketing	5
MNA740 Industrial Relations	5

Additional time will be required for projects, assignments and library work.

ASSOCIATE DIPLOMA COURSE IN PUBLIC ADMINISTRATION

Part-Time

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
LSA310 Communications IA	3
MNA111 Behavioural Science I	3
MAA171 Quantitative Methods IA	3
<i>Second Year</i>	
MNA110 Economic Analysis	3
ACA110 Accounting I	4
<i>Third Year</i>	
MNA420 Management I	3
MNA421 Quantitative Methods IIA	3
MNA450 Public Administration I	3
<i>Fourth Year</i>	
MNA423 Behavioural Science II	4
MNA422 ONE of the following: Data Processing	3
OR	
MNA425 Information Systems IA	3
<i>Fifth Year</i>	
MNA751 Government Accounting and Finance	3
MNA750 Public Administration II	4
ACA734 Administrative Law	3
<i>Sixth Year</i>	
MNA739 Economic Development	3
ONE of the following subjects:—	
MNA730 Quantitative Methods III	3
MNA733 Management II	4
MNA735 Behavioural Science III	3
MNA734 Marketing	3
MNA740 Industrial Relations	3

ADVANCED COMMERCIAL CERTIFICATE COURSE

Two (2) years full-time day, and

Two (2) years part-time evening study.

Entrance Requirements: Junior—English, Mathematics B, and two other subjects. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year—(Full-Time)</i>	
LSC210 Business English I	5
MAC171 Business Mathematics I	5
ACC110 Administrative Practice	5
MNC120 Business Psychology	4
MNC121 Introductory Economics	5
ACC120 Office Machine Operation	3
Students will be expected to devote TWO hours additional work for every ONE hour of lecture time. This will include assignments and projects.	
<i>Second Year—(Full-Time)</i>	
LSC510 Business English II	4
MAC471 Business Mathematics II	5
MNC430 Australian Business and Social Structure	4
ACC440 Accounting Procedures I	5
MNC440 Economic Geography	5
MNC441 Computer Programming I	4
Students will be expected to devote TWO hours additional work for every ONE hour of lecture time. This will include assignments, and projects.	
A CERTIFICATE IN BUSINESS STUDIES will be issued to students who satisfactorily complete all subjects of the 2-year full-time course. These subjects may also be taken by part-time study.	
<i>Third Year—(Part-Time)</i>	
<i>THREE</i> of the following subjects:	
ACC750 Accounting Procedures II	3
MNC750 Principles of Management	3
ACC751 Mercantile Law	3
MNC751 Computer Programming II	3
ACC752 Credit Management	3
MNC753 Personnel Practice I	3
MNC754 Purchasing I	3
<i>Fourth Year—(Part-Time)</i>	
<i>THREE</i> of the following subjects:	
MNC760 Marketing and Distribution	3
MNC762 Principles of Supervision	3
MNC761 Computer Programming III	3
ACC762 Credit Theory and Practice	3
MNC763 Personnel Practice II	3
MNC764 Purchasing II	3
ACC763 Costing Procedures	3

ADVANCED COMMERCIAL CERTIFICATE COURSE

Part-Time

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
LSC210	Business English I	3
MAC171	Business Mathematics I	3
ACC110	Administrative Practice	3
	<i>Second Year</i>	
MNC120	Business Psychology	3
MNC121	Introductory Economics	3
ACC120	Office Machine Operation	3
	<i>Third Year</i>	
LSC510	Business English II	3
MAC471	Business Mathematics II	3
MNC430	Australian Business and Social Structure	3
	<i>Fourth Year</i>	
ACC440	Accounting Procedures I	3
MNC440	Economic Geography	3
MNC441	Computer Programming I	3
	Completion of CERTIFICATE IN BUSINESS STUDIES	
	<i>Fifth Year</i>	
	<i>THREE</i> of the following subjects:	
ACC750	Accounting Procedures II	3
MNC750	Principles of Management	3
ACC751	Mercantile Law	3
MNC751	Computer Programming II	3
ACC752	Credit Management	3
MNC753	Personnel Practice I	3
MNC754	Purchasing I	3
	<i>Sixth Year</i>	
	<i>THREE</i> of the following subjects:	
MNC760	Marketing and Distribution	3
MNC762	Principles of Supervision	3
MNC761	Computer Programming III	3
ACC762	Credit Theory and Practice	3
MNC763	Personnel Practice II	3
MNC764	Purchasing II	3
ACC763	Costing Procedures	3
	Completion of ADVANCED COMMERCIAL CERTIFICATE	

SCHOOL OF BUSINESS STUDIES**SYNOPSIS OF SUBJECTS**

- ACA110 *Accounting I*
Basic Accounting Theory. Basic Principles of recording, classifying and reporting business transactions. Preparation and Analysis of Financial Statements of Sole Traders, Partnerships, Companies. Introductory costing. Profit measurement and Asset valuation. Depreciation and Asset Valuation. Matching Costs and Revenue. Inventory Valuation. Accounting as an aid to Managerial Planning and Control. EDP approaches to Accounting Procedures.
- ACA420 *Accounting II*
Accounting theory. General and Company Accounting. Classification of Accounting Data. Instalment and Hire Purchase. Inventory Control. Dissolution of Partnership. Trustee and Executorship Accounts. Statement of Affairs and Deficiency Accounts. Company formation, reconstruction, amalgamation, take-overs, holding companies, annual reports. Consolidation Accounting. Goodwill and Share Valuation. Price level changes. Winding-up and Liquidation. Official management and receivership. Branch Accounts. Pastoral Accounts. Accounting for leases. Reporting to management. EDP approaches to Accounting Procedures. Analysis and Interpretation of Financial & Operating Statements.
- ACA730 *Accounting III*
Cost and Management Accounting: Cost concepts and techniques. Accounting for materials, labour and expense. Integration of Financial and Cost records. Job and Process Cost Records. Joint and By-product costs. Budgetary Control and Standard Costs. Management's use of accounting information. Cost and Profit Analysis for decision-making. Differential Cost Analysis. Gross Profit Analysis. Capital Expenditure decisions. Business forecasting, Profit planning. Cost-Volume-Profit Relationships and comparative cost studies. Application of Statistical Methods to accounting data. Reports for Management. Principles and objects of Budgetary Control. Management accounting for decision-making and control.
- ACP110 *Accounting Principles*
The relationship of Accounting to Management. Financial Statements. Accounting measurements of performance and their significance. Fixed assets and depreciation methods. Inventory management. Cost accounting concepts, controls and decision aids. The financial structure. Capital budgeting.
- ACC440 *Accounting Procedures I*
Orienting the accounting system to management needs. Control of Purchases, Sales, Cash, Stock, Debtors. Income determination. Balance Sheet and Final Statements. Partnership accounts. Company accounts. Non-trading concerns. The Statement of Funds. Introductory costing. Analysis and Interpretation of Financial Statements. Design and installation of accounting systems.
- ACC750 *Accounting Procedures II*
Partnership Accounts, Departmental Accounts, Pastoral Accounts, Accounting for Leases; Contract Accounts; Accounts from Incomplete Records; Company accounting-consolidated Statements, Instalment and Hire Purchase Accounts. Branch Accounts. Valuation and Depreciation Accounting; Introduction to Government Accounting.
- ACA734 *Administrative Law*
Nature and Sources of Law. Elements of Law. Morality and justice.

Responsibility of society. Politics and Law. The Legal Process. Creation of the Law. Legislative, Judicial and Administrative Processes. Regulations, Rules, Orders in Council, Proclamations, Hierarchy of the Courts, Enforcement of the Law, Interpretation of Statutes. Contracts. Common Law. Property Law, Torts. Legal Processes and Public Administration. Administrative Law. Tribunals, including Industrial Tribunals. Laws of evidence.

ACC110 *Administrative Practice*

Business organisation. Accounting for business transactions. Introductory Law of Contract, Sale of Goods, Principal and Agent. Filing, Indexing, Duplicating. Stock Control, Money, Banks and Banking. Insurance. The Post Office and its services. Taxation. Information processing. Office planning and control.

MNP733 *Advanced Management*

The Systems concept. Management by objectives. Relating internal and external environmental factors. Policy formulation, programs and procedures. Policy, Planning and control. Theoretical considerations of the function of planning. Cases and simulations in management.

ACA732 *Auditing and Professional Practice*

The conduct of an audit. Internal Control. The Audit programme. Audit working papers. Auditor's rights, duties and liabilities. Modern auditing standards and techniques. Internal Auditing. Audit Problems. Investigations. Verification of Assets and Liabilities. Principles of Asset Valuation. Auditor's Reports. Professional standards. Principles of professional practice. Organisation, management and control of a practice. The relationship of the accountant with clients, third parties, other accountants, management, shareholders and others.

MNC430 *Australian Business and Social Structure*

Business Ownership. Organisation Structures. Marketing, Pricing, Selling, Advertising. Business Finance. Financial Institutions. Location of Industry. Manufacturing Processes. Production Control, Transportation. Government and Business. Business Decisions and Taxation. Industry Studies. Nature of Democracy. Forms of Government—Executive and Administrative. Australian Political System. Federal and State Relationships. Financial Relationships. Local Government. Functions of Government Departments. Legal System. Social and Economic Institutions. Population, Immigration, Decentralisation. The Organisation and Growth of Industry. Australia and International Relationships. Australia as a Country of South-east Asia. Problems in Australia's development.

MNA111 *Behavioural Science I*

Introduction to behavioural science—history and thought. General psychology—the individual, motivation, learning and information processing. The social matrix of behaviour. Small groups. Organisations—formal, informal, leadership and labour relations. Personnel—communications, morale, selection and incentives. The ergonomic environment. Organisational behaviour in perspective.

MNA423 *Behavioural Science II*

An overview of Management and the Behavioural Sciences. Conceptual Schemes for Viewing Organisations. Individuals—a comprehensive coverage of Motivation, Perception, Learning, and Decision-Making as applied to organisational behaviour. Small groups—concepts, analysis of structure, motivational effects of leadership (including power and authority), the manager and the work group (how to build a work team). The Organisation—general concepts, formal organisations, informal organisations, organisational goals, the individual and the organisation, making organisations effective and minimizing human problems, labour-management

relations, systems of enterprise, culture, world ideologies. Managerial skills—delegation, communication, introduction of change, interviewing (including appraisal interviewing), recruitment and selection, training, discipline. Physical Work Environment (including Job Design and Human Engineering). Management's Responsibilities.

MNA735 *Behavioural Science III*

The role of personnel management in the management of the total enterprise. Managerial philosophy and the personnel manager. Manpower planning, organisational planning. Recruitment-selection, allocation, training, management development. Health, welfare, safety and job design. Salary and wages administration, incentives. Organisation development and the introduction and successful management of change.

LSC210 *Business English I*

The main aim of the English course is to make students efficient communicators, able to convey their ideas precisely in writing and in speech, able to examine critically the ideas of others which they hear or read:

1. Revision of the fundamental conventions of communication.
2. Analysis of the contribution of the word, the sentence, the paragraph, and the outline to successful communication.
3. Writing of essays, business letters, reports and speeches.
4. An introduction to how the intentions and prejudices of communicators influence their selection of material and presentation of ideas.
5. A discussion of the novel and drama as literary art forms.

LSC510 *Business English II*

The main aim is to make students efficient communicators.

1. Students will read examples of imaginative and descriptive prose to deduce principles of effective communication.
2. They will read examples of controversial prose to practise critical analysis of opinionative communication.
3. They will apply the principles of effective communication learnt in 1. and 2. to study of communication in organisations.

MNA732 *Business Finance*

The role of the financial manager, environment of financial decisions; management of cash, accounts receivables, inventory, fixed assets; preparation of budgets, cost of capital; short term and long term financing; capital markets, leasing, mergers and consolidation, reorganization. Case studies in financial decision making.

ACA421 *Business Law*

Nature and Source of Law. Law of Contract. Sale of Goods. Hire Purchase. Principal and Agent. Partnership. Insurance. Carriage of Goods. Cheques. Debtor/Creditor relationships. Restrictive Trade Practices. Outline of Bankruptcy Law. General Principles of Company Law. Duties and responsibilities of officers of a Company. Formation and Promotion of Companies. Flotation and Under-writing Procedures. Memorandum and Articles of Association. Methods of Finance. Share Capital. Stock Exchange Regulations, customs, and terminology. Application, Allotment and Transfer Procedure for Shares and Debentures. Profits and Dividends. Accounts and Audit. Reports for Shareholders. Amalgamation, Reconstruction, Takeovers, Holding and Subsidiary Companies. Special types of Company. Dissolution and winding up.

MAC171 *Business Mathematics I*

Commission, stocks and shares; simple interest, compound interest (compound interest law), discounting and present values, nominal and

effective rates of interest. Use of slide rule. Number systems of algebra and basic operations. Algebraic functions, functional notation, direct and inverse variation. Simultaneous linear equations, an introduction to matrices and equation of straight line. Quadratic functions and equations. Sequences, series, progressions, permutation and combinations. An introduction to mathematical induction, the binomial theorem. Logarithms, power, exponential and logarithmic curves. Elementary differential and integral calculus. Applications of calculus to approximations, maxima and minima problems. Graphs of polynomial equations using calculus. Introductory logic and sets.

MAC471 *Business Mathematics II*

Data collection, presentation and use of statistical analysis in business. Frequency distributions and methods of graphical description. Measures of central tendency, mean, median, and mode. Measures of dispersion, range, standard deviation, mean deviation, variance, coefficient of variation. An introduction to probability. A brief consideration of discrete probability distributions, the binomial distribution. An introduction to continuous distribution, the normal curve and probability. An introduction to sampling and statistical inference. Standard error of the mean and confidence limits for the true mean. The general concept of linear regression and correlation. An introduction to time series analysis of business data. Index numbers.

MNC120 *Business Psychology*

Introduction to general, industrial and social psychology. The senses. Attention and perception. Imagery, memory, and thinking. Learning. Motivation. Emotion. Individual differences. Personality. Vocational guidance and selection. Interviewing. Training. Incentives. Work Study. Working conditions. Accidents. Leadership. Work groups. Group attitudes, conflicts, and co-operation. Morale. Personal efficiency.

ACA422 *Commercial Law*

Nature and Sources of Law. Law of Contract. Sales of goods. Hire purchase. Principal and Agent. Partnership. Insurance. Carriage of Goods. Cheques. Debtor/Creditor relationships. Restrictive Trade Practices. Outline of Bankruptcy Law. Outline of Company Law. Outline of Taxation Law.

LSA310 *Communications IA*

This course consists of complementary theoretical and practical segments:

- (a) An introduction to principles of clear thought and clear expression through a study of scientific thinking and of rhetorical principles.
- (b) Development of practical competence in speaking and expository writing.

MNP730 *Computer & Information Science*

An introduction to information processing. Punched card/paper tape processing. An introduction to automatic computers. Logical design of digital computers. Flowcharting and Programming analysis. Computer organization—hardware and software systems. Systems analysis—systems definition and description. Systems analysis—classifications and hierarchies of systems; simplification methods. Systems design principles. Systems design—systems for management. Computer control systems. Information technology and management. Management control systems. Real time systems. Information retrieval. Management of Information Processing systems.

MNC441 *Computer Programming I: Introduction to Computers*

The use of computers in business and an introduction to computer/data processing terminology. Basic computer components, their

function and use, (a) input media and equipment; (b) storage, memory and auxiliary devices; (c) output media and equipment. A visit to a computer installation. An introduction to problem solving using a computer. An introduction to the concept of instructions and the use of flow charts in defining operations and their sequence. Use of flow charts in conjunction with basic programming techniques such as looping, indexing, branching and switching. Further work on flow charts and programming including an introduction to array structures, and sub-routines. *COBOL Programming*—The origin and structure of COBOL language and the use of COBOL for business applications. Data organisation and the divisions of the language. The Identification and Environment Division. The Data Division. The Procedure Division. Preparation, error correction and testing of class exercises written in COBOL. Further programming techniques with COBOL, including an introduction to file processing, and simple problems based on the work covered in Managerial Bookkeeping and/or Business Mathematics I.

MNC751 *Computer Programming II:*

An introduction to number systems (binary, octal, etc.). An introduction to the functional organisation of a digital computer and a brief comparison with an analog computer. A review and extension of previous work on the operation of the following function units of a digital computer: (a) input—media and equipment; (b) storage—memory and auxiliary storage devices; (c) output—media and equipment. A consideration of the arithmetic/logic and control functions. A general review of the functional organisation of a digital computer system. A review of problem solving and flow charting of problems for computer solution. The segmentation of problems, flow charting of complex problems and the use of subroutines.

A review and extension of previous work on files and data structures and the use of auxiliary storage devices. *FORTRAN Programming*—The Origin and structure of FORTRAN language and the use of FORTRAN for business applications. Data organisation and the major features of FORTRAN with special emphasis on the internal representation of data. The non executable statements of FORTRAN their function and use. The executable statements of FORTRAN—their function and use. Preparation, error correction and testing of class exercises written in FORTRAN. The function and use of subroutines and other methods of program segmentation in FORTRAN. Further programming techniques with FORTRAN including file processing and simple problems based on the work covered in Business Mathematics I and/or Business Mathematics II.

MNC761 *Computer Programming III:*

An introduction to the following programming procedures: (a) internal sorting techniques; (b) sorting techniques with external devices; (c) searching and table look up techniques. An introduction to the operations and functions of a compiler system (FORTRAN). An introduction to operating systems, supervisors. An introduction to various software topics such as, report generators, sort generators, assembly languages, application packages and their uses. A brief coverage of other selected topics such as multi-programming. Information retrieval. *Data Processing for Business Applications*—File maintenance. Other general run types. Administrative and clerical procedures required by computer systems. An introduction to integrated data processing systems for business. An introduction to selected mathematical techniques and their application to data processing and business problems. The application of these techniques to business problems in the areas of accounting, marketing and business administration. Selected problems will be programmed in FORTRAN and/or COBOL.

- ACC763** *Costing Procedures*
The functions and operations of a costing department. Preparation and collation of basic documents and schedules required for costing and budgeting work. Types of Cost Systems. Job Costing; Process Costing. Joint Product and By-Product Costing. Standard Costing. Accounting and Control Procedures—Materials, Labour, Expense. Allocation of Factory Expense. Budgets and Budgetary Control. Cost, Volume, Profit relationships. Cost investigations, cost analysis and reports.
- ACC752** *Credit Management*
Credit Statistics and Ratio Analysis. Analysis of Financial Statements. Sales Promotion in Credit Management. Bills of Sale. Hire Purchase Law and Practice. Factoring. Supreme Court, District Court, Magistrates' Court. Procedures for Debt Collection. Credit Insurance. Receivers, Official Management and Company Liquidations. The Companies Act as it affects the Credit Manager, Creditors' Meetings, Bankruptcy Law and Practice.
- ACC762** *Credit Theory and Practice*
Credit and its functions. Credit Policy Analysis and Exercise of Credit Judgement. Interviews and investigations. Credit Authorisation. Practical Credit Judgement. Collection Policies, Procedures and Goodwill. Practical Credit Exercises.
- MNA422** *Data Processing*
(1) The Organisation and its objectives.
(2) Types of information systems: components of the system; the system development process.
(3) The preliminary systems survey; a. Definition of survey goals and objectives. b. Determining the individual survey tasks. c. Implementation and planning of the survey. d. Presentation of survey results. e. Alternatives to the systems survey. f. Equipment evaluation and selection.
(4) Data Gathering and Data Analysis Techniques. a. Information sources. b. Interview techniques. c. Data recording—organisation and analysis of data; sampling and estimating techniques. d. Decision tables; decision table preprocessors.
(5) Data Base Organisation and Design. a. File Structure. b. Equipment considerations. c. Security, validation and internal control.
(6) Organisation of the system. a. Segmentation of the system. b. Documentation. c. Audit requirements. d. Generalized file processors and other software. e. Data management systems. f. Considerations when processing is carried out by a service bureau.
- MNA739** *Economic Development*
Analytical treatment of the problems of economic growth and development combined with comparative studies of the growth of advanced and underdeveloped economies. Considerations of policy measures to promote economic development and growth. The building and using of growth models. The planning of technological and structural change.
- MNC440** *Economic Geography*
Nature and function of economic geography. Physical Geography and its effect on economic activities. Weather and climate. World climatic types, regions and natural resources. Industrial regions and manufacturing centres. Transportation and Commerce. Australia's resources and their utilisation. International trade.
- MNA110** *Economic Analysis*
Introduction to fundamental economic concepts and analysis, economic interdependence and the operation of a mixed economy, the determinants of the National Income, fiscal and monetary policy,

international trade and balance of payments. Seminars on current economic problems. Emphasis is laid on the understanding of business activity within the economic framework and in response to analysis of economic activity.

ACA731 *Financial Management*

The Finance Function. Financial Analysis, and Interpretation of financial and operating statements. Financial Control. Financial Planning. Short term finance. Long term financing. The Capital Market. Financial Strategy. Financial Policy. The Application of statistical and mathematical techniques to decision-making and control.

MNA751 *Government Accounting & Finance*

Government Finance—government income, role of taxes and subsidies, public investment and public debt. An examination of the nature and intent of Government Accounting—The Structure and content of Commonwealth, State, and Local Government accounting systems—A comparative study of U.S.A. and Australian Systems—The notion of 'fund' and its adaptations—the exploration of significant problems for accounting as an information system and as a mechanism for control—future trends in government accounting. Parliamentary control of government finance. Government Finance and economic policy.

MNA740 *Industrial Relations*

The structure and development of the industrial relations system in Australia, trade unions and employer's associations. The framework of the conciliation and arbitration system. Awards and agreements. Disputes over wages and conditions, the parties to the dispute, role of trade union and employees' representatives and the Court. The grievance procedure. Collective bargaining. The legal framework, acts etc. Comparative systems in U.K. and U.S.

MNA425 *Information Systems IA*

This subject introduces students to computers, associated equipment and information structures. The basic techniques of analyzing problems, the use of flow charts and decision tables, and the programming of problem solutions using basic FORTRAN and compact COBOL are provided. A coverage of two major sources of information systems for government and commercial organisations is included. The introduction to the analysis and overall design of information systems is given. Attention is concentrated on the systems methodology for the batch sequential processing of information.

MNC121 *Introductory Economics*

The nature of economics—economic systems. Costs, prices, supply and demand and market structures. National accounts, index numbers, inflation and deflation. Factors of production and their rewards. Economic fluctuations—public finance. Australian economic background (growth)—from Vernon Report.

MNA420 *Management I*

Essentials of Management, Manager's Role, Authority and Responsibility. Planning Process, Objectives, Policy-making. Organising principles and practice. Control considerations and techniques. Leadership consideration for management. Decision-making process, problem-solving, strategies. Management in perspective.

MNA733 *Management II*

This subject aims at further developing attitudes and skills conducive to effective decision-making and executive leadership by identifying

and interrelating the functions and responsibilities of the various levels of management. It traces the development of management thought and practice to clarify contemporary management principles and concepts and facilitates understanding the systems approach to management by analyzing organizations in terms of information/decision systems. The concept of management of the total enterprise is developed through an analysis of the formulation and execution of corporate policies and strategies, and management thought and practice is integrated with cultural developments to expand students understanding of the changing environment of business.

MNP110 *Managerial Analysis I*

This subject is designed to provide students with a foundation in the modern techniques of quantitative and economic analysis necessary for managerial analysis and decision making. The economic theory of the firm is presented in descriptive form and, as an additional illustration of the application of the construction and analysis of economic and management problems, in quantitative terms.

MNP422 *Managerial Analysis II*

This subject builds upon the work commenced in Managerial Analysis I. It is designed to introduce students to the application of economic statistics and econometrics in the analysis of certain economic models. In addition, it provides a foundation for the application of statistical and econometric methods and operations research techniques to the analysis of economic and management problems.

MNP732 *Managerial Analysis III*

Linear programming, Goal programming, Profit planning and Financial Budgeting. Investment Decisions under conditions of Certainty. Investment Decisions under Conditions of Uncertainty. Analysis of Investment Decisions. Analysis and Management of Working Capital. Simulation Modelling in Financial Analysis. Optimal Production/Marketing Models. Demand Analysis Employing Econometrics Methods. Cost Analysis and Budget Allocations. Product Policy. Pricing Policy. Advertising Decisions. Competitive Models. Simulation Modelling in Marketing Analysis.

MNP421 *Managerial Psychology*

The organisation as an open system. Management functions of planning, organising, controlling and decision making. Management philosophy, authority, power and responsibility. The formal and informal systems and environmental systems. Behavioural aspects, individual differences, perception, motivation. Roles and group dynamics. Communication in the organisation. Leadership, styles, participation. Cultural factors.

MNA734 *Marketing*

The objective of the course is to inform the student of the overall function of marketing and to develop a scientific approach in problem solving. The case study method will be employed to develop the creative and independent thinking of the student with the end view of increasing his analytical ability. Nature and scope of marketing. Role of marketing within the firm. Marketing Management and the Planning Process. Role of Market Analysis. Effect of the market on the marketing of industrial goods and raw materials. Effect of the market on the marketing of consumer goods. Marketing Policies and Practices. Effect of the market on the marketing of goods internationally.

- MNC760** *Marketing and Distribution*
The marketing function. Classification of goods marketed. Channels of distribution. Wholesaling. Retailing. Trade risks. Price policy. Overseas trade. Import and export procedures. Market research. Advertising and sales promotion. Packaging. Budgetary Control. Stock control. Transportation. Selecting, training and supervising sales personnel. Public relations.
- ACC751** *Mercantile Law*
Nature and Sources of Law. Law of Contract. Sale of Goods. Hire Purchase. Principal and Agent. Partnership. Insurance. Carriage of Goods. Bailments. Cheques. Debtor/Creditor relationships. Credit and Collection procedures. Outline of Bankruptcy Law. Introductory Taxation Law.
- ACC120** *Office Machine Operation*
Methods of Communication and Record. Writing and reproducing machines. Calculating machines. Computing machines. Systems machines. Accounting machines. Punched Card Systems. Data Processing equipment and Techniques. (Students must have access to machines for practical work.)
- MNC753** *Personnel Practice I*
The Personnel Function. Personnel Policy & Administration. Recruitment, selection, placement, training and appraisal. Planning Labour requirements. Selection techniques and procedures. Promotion policies and practices. Principles of training. Training programmes and techniques. Measuring and evaluating training. Labour turnover. Job analysis and Specifications. Job evaluation. Wage and Salary administration and records. Principles of Wage and Salary determination. Incentives.
- MNC763** *Personnel Practice II*
Industrial Relations. Australian Conciliation and Arbitration System. Relations with employee representatives and union officials. Grievance procedure. Industrial unrest. Work environment. Employee morale and productivity. Attitudes and Human behaviour. Absenteeism. Employee Services. Pension and Superannuation funds. Industrial medical services. First Aid. Occupational Safety. Accident causes, investigation and statistics. Plant layout and safety. Specific hazards—machinery, hand tools, electrical, fire, etc. Industrial hygiene. Supervision and Leadership. Labour Relations. Executive development.
- MNC750** *Principles of Management*
The fundamentals of management; the job of the manager and the techniques which assist successful leadership in the workplace. Planning, Organisation, Staffing, Direction, Control.
- MNC762** *Principles of Supervision*
Office organisation: The role of the supervisor. Personnel Management. Personnel problems. Human Relations. Methods Improvement. Discipline, Morale, Leadership.
- MNA731** *Production Systems I*
Integration of the methods and analytical techniques of industrial engineering into the design of a complete production system. Production, organisation, delegation, and control. Production methods and facilities, equipment and production models. Work measurement, motion and time study and performance ratings, production control methods, quality control and qualitative methods of evaluation. Comparative alternatives for production efficiency, economic studies of equipment utilisation and capacity, machine loading and material replacement costs, quantitative methods of determining productive efficiency and models to demonstrate production decisions.

MNA741 *Promotional Strategy*

Promotional Strategy as the name implies examines the advertising and selling efforts within the marketing framework. The various communication methods are treated separately and in combination, in conveying the attributes of products and services to buyers. The approach will be to develop fundamental considerations as a background and then look at the managerial problems involved. Specific areas of penetration will be buyer motivation and perception, brand names and brand promotion, seller support, market segmentation, and pull versus push strategy.

MNA450 *Public Administration I*

An examination of the institutions and dynamics of Australian government and politics.

- (a) Nature and framework of government—institution of government, the constitution and federal system, Parliament, electoral procedures, Cabinet, Prime Minister, public services, state and local government, legal system, international relationships.
- (b) Nature of politics and Australian political processes—theories and realities of political science; theories of democracy; Australian socio-economic structure; Australia's political history, parties, politicians, electors, and interest groups; major political issues—defence and foreign policy, social welfare, economic management, the environment, minorities and 'freedoms', centralism; alternate governmental systems.

MNA750 *Public Administration II*

This subject analyzes government structure and organisation and the role and functions of public managers.

- (a) Administrative agencies of government; principles of bureaucratic organization; public service and public enterprise agencies—history, conceptual foundations, structures and administrative features; regulatory agencies; power and authority, accountability and control, bureaucracy and community relations; inter-governmental relations; comparative civil service; bureaucracy in developing countries.
- (b) Policy-makers, administrators or managers? Public service as a system; programme management; P.P.B. and Cost Analysis; Administrative Management; Personnel Management; marketing governments' goods and services.

MNC754 *Purchasing I*

Organisation of Purchasing Department. Purchasing Procedures. Quality Control. Price Policy. Settlement of Accounts. Records. Salvage and Disposals. Trade Associations.

MNC764 *Purchasing II*

Customs. Transport. Government Regulations. Stores Management. Advanced Purchasing. Purchasing Seminar.

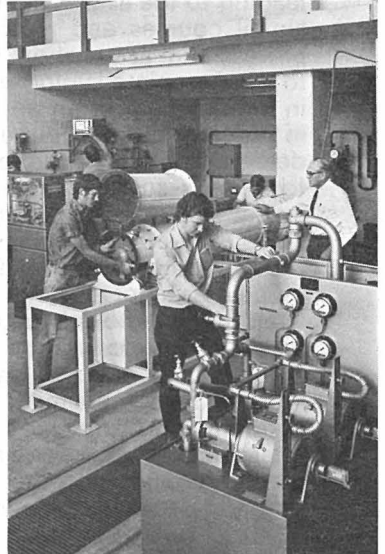
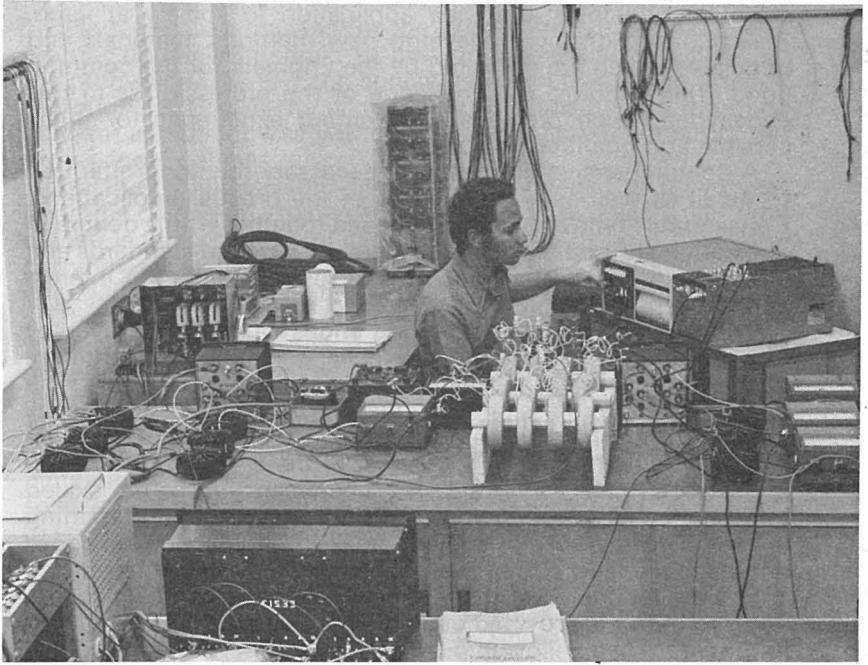
MAA171 *Quantitative Methods IA*

Term 1: A short introduction to Combinatorial Analysis leads to the Binomial Theorem with applications to compound interest and approximations. A revision of progressions is applied to annuities and the interaction of money and time. Linear algebra is developed to handle economic models. The Basic Language is taught to enable students to solve problems in elementary statistics.

Term 2: The differential calculus is developed to handle functions of more than one variable. Maclaurin's and Taylor's theorems are used to develop the nth derivative test for optimizing analytic functions. Quadratic forms are studied to develop the Hessian determinant to test for

- extreme of functions of more than one variable. The value of money in time is extended to include continuous compounding and discounting.
- Term 3:* Constrained optimization is developed using the bordered Hessian. Integral calculus is developed and applied to dynamics. Simple differential equations are applied to economic models. An introductory course on linear programming is given including the graphical approach and the simplex, with both maximizing and minimizing, and the dual.
- MNA421 *Quantitative Methods IIA*
 Differential Calculus. Integral Calculus. Differential and Difference Equations. Linear Equation Systems. Descriptive Statistics. Probability Theory. Probability Distribution. Sampling Theory. Estimation and Hypothesis Testing. Sampling and Sample Design. Significance Testing and the Derived Distributions of the Normal. Analysis of Variance. Non-parametric Statistics. Regression and Correlation Analysis. Time Series Analysis. Index Numbers. Decision and Game theories.
- MNA740 *Quantitative Methods III*
 This course is directed towards the application of quantitative techniques in a wide range of subject areas, such as accounting, marketing, etc. Students are provided with the basic principles of econometric methods and an introduction to selected deterministic and probabilistic models that have proved to be of general applicability in management science. The techniques involved in examining, setting up and solving problems by computer methods are examined. Each student will be required to complete a substantial project that incorporates the application of some aspect of the quantitative principles discussed to his major subject area of study.
- LSP210 *Research and Communication*
 The nature of modern business research.
 (a) Orientation towards verification of hypotheses, which are generated by a theoretical model of business; rejection of fact-gathering directed only by response to day-to-day problems.
 (b) The nature of thought; The nature of scientific thought. Applications of scientific thinking to research design, the reporting of research, and decision making. The role of definition in research.
 (c) The theoretical model as a mediator between theory and reality. The nature and role of measurement.
 Composition and delivery of the business speech. Analysis of business speaking situations.
The business conference—Advantages and disadvantages of the conference. Uses of the conference. Types of conferences. Preparation for the conference. Characteristics of good participation and good leadership. Rules of debate informal meetings.
The business letter—Style and tone in different letter types.
- ACA733 *Taxation Law and Practice*
 The determination of income. Assessment of various forms of income. Assessment of different classes of taxpayer. Allowable deductions, rebates. Provisions for income tax collection. Land tax, payroll tax, sales tax.

School of Engineering



SCHOOL OF ENGINEERING

The Engineer is concerned with the essential bridging of scientific principles and their application to society at large. Research and discovery develop new methods, materials and principles which are exploited by the Engineer for the common good. The stimulus and challenge of the profession is in this endeavour which provides a rewarding experience for those capable and qualified to pursue it.

A comprehensive education is necessary requiring attention to detail as well as an awareness of the broader implications. Considerable time and effort is needed together with a degree of dedication and self discipline to meet the required standards and attain professional qualification. The result is enduring interest and the sense of achievement realised by all Engineers.

With the growth of Engineering endeavour and the diversity of specialities encountered, a two-tier technological structure has evolved to meet the need for co-ordination of effort. The fully qualified professional engineer is referred to as a technologist while his assistant is called a technician. The technician is trained to act as a member of the engineering team in the role of support staff at a level between that of the skilled tradesman and the technologist. His advanced course of training is related to the special subject areas in engineering but does not reach the level or depth of that required by the technologist.

For the technologist there are two methods of qualification. The alternative is provided of a four year full time course leading to the award of a Fellowship Diploma or six year part time course leading to the award of an Associate Diploma. Both are professional courses and receive full recognition from the relevant professional association. One of the requirements for admission to the Associate Diploma Course is that the applicant should be in employment in an approved occupation. Experience gained in industry during the period of study is taken into account in determining the structure of the course and the time allocated to various subjects within the course. Broadly speaking, the extent and coverage of subject matter within the technological fields in the two courses is similar, although additional reading in the students' own time is regarded as essential in the part time course.

Students who graduate from the Institute in any of the professional courses will be well equipped for employment within industry in all of the fields of professional engineering. They will be employed in a similar capacity, with similar salary and other conditions as those of corresponding University graduates. Their course of study at the Institute will however, place greater emphasis on the practice of the profession than would be the case in the corresponding University course.

Professional Engineering students are required to undertake vacation employment relevant to their studies and to submit reports to their department heads.

The technician courses for the qualification of support staff are not normally intended to provide for natural escalation to the professional level. Each course has been planned to provide thorough training in the particular specialised field in the most efficient and direct way without the scope and treatment of the professional courses.

For the technician, the alternative is provided of a five year part time course or a two years full time and two years part time course leading to a certificate qualification. In both cases the part time portion of the courses must be undertaken while engaged in industry in an approved occupation.

The technical content of part time and dual certificate courses is equivalent. The full-time part-time course has more time spent on tutorial and practical work, but the two streams converge and the final two years of part time study are completed together. The availability of these two distinct means of obtaining technician qualifications provides an alternative to suit the needs and preferences of individuals and of potential employers. The selection of a course of study should be considered in relation to employment opportunities and the maturity of the individuals.

Since in both technologist and technician courses there is great emphasis on both the practice of the profession and on the techniques used in industry, provision has been made in the planning of the Institute facilities for modern, well equipped laboratories in the three fields of engineering covered by the school.

Civil Engineering

The practice of Civil Engineering and its allied fields is concerned directly with the application of scientific methods to the improvement of the community environment. The Civil Engineer is increasingly called upon to provide larger, better and more economical structures and services for the expanding and complex needs of our society. The profession embraces design, construction and operation of projects involving water supply and conservation, hydroelectric development, dams, tunnels, irrigation, sewage collection and treatment, harbour and river development, large buildings, bridges, traffic, highways, railways and airports.

The Civil Engineer is charged with the responsibility to examine and evaluate the broader implications of these developments in the environment at large, as well as their detailed operations, and thereby ensure proposals which are consistent with the community well being.

The Fellowship and Associate Course programs include an intensive education in the fundamentals of mathematics and basic sciences in the initial years of the course with emphasis on engineering applications. In the later years of the course, more detailed specialisation in civil engineering theory and practice is undertaken and emphasis is placed on the principles of design and synthesis.

Any profession must be responsive and receptive to the changing requirements and problems of the community it serves and, to this end, the department has actively pursued a policy of community involvement and maintains a strong liaison with industry. In providing courses oriented towards the needs of society, an interdisciplinary postgraduate diploma course in Environmental Engineering is offered for those graduates wishing to undertake more specific study of environmental problems. Developmental plans include a course in Systems Technology as well as programs of continuing education.

The recently completed multistory building comprising Stage II of the Civil Engineering complex, contains comprehensive modern laboratories as well as offices and lecture theatres. The laboratories have been developed for both routine and research work in the fields of structural mechanics, structures, soil mechanics, public health, fluid mechanics and hydraulics. Facilities for advanced studies are being developed and include a suspended strong floor for structural testing, closed loop controlled universal testing machines, a wide range of calibration equipment, air-conditioned special purpose laboratories, a highway projects room and a bitumen technology laboratory. With increasingly sophisticated testing facilities becoming available, it is hoped that the resources of the department will be utilised more fully for programs of applied industrial research and post-graduate studies in addition to the undergraduate programs.

Electrical Engineering

The Department of Electrical Engineering presently conducts courses for students studying at both the sub-tertiary (technician) and tertiary (professional engineer) levels. These courses may be taken with emphasis on either power engineering or electronics and communications engineering. In addition, the department will offer in 1973 a Postgraduate Diploma course in Automatic Control. This course will be open to students already holding a tertiary qualification having a suitable control engineering content. Other intending students will be required to undertake preliminary subjects before proceeding to this course. It is anticipated that this course will lead in the future to

a Master's Degree in Automatic Control, after the submission of an acceptable thesis report on an approved research topic.

In all courses offered by the department emphasis is placed on practical engineering with the aim that the newly graduating student is readily acceptable to industry. To this end much attention is given to the development of laboratory and design facilities for student use, and where appropriate, use of the Institute computer by the students is actively encouraged. The laboratories presently established in the Department are:

(a) *Power*

Basic D.C. and A.C. machinery, transformers, motor starter and control equipment.

High voltage and heavy current testing plant.

Relay protection, network analysers, SCR units and modern measuring instruments.

Variable speed drive equipment.

(b) *Electronics and Communications*

Digital and Pulse Equipment Laboratory—logic circuits, sampling oscilloscopes.

Propagation and Transmission Laboratory—coaxial and microwave waveguide test benches, antenna testing benches, UHF and SHF equipment, Screened Room.

Modulation and Signal Processing Laboratory—universal filters, spectrum analyser.

Circuits Laboratory—general purpose laboratory.

Measurements Laboratory—diode and transistor curve tracers, bridges, precision instruments, electrometer.

(c) *Control*

Small systems for position, speed and temperature control.

Large control systems using electro-hydraulic, pneumatic and electrical devices.

Process Control Systems—presently incorporated in a liquid flow rig and model mixing plant.

Equipment for calibration and dynamic testing of transducers and control equipment.

Analogue/Hybrid Computers (EA1580 and TR20 computers as well as EA1180 Computer Trainers).

A new suite of Control Laboratories is planned to be in use by 1974 in the new Mechanical Engineering Building.

In addition to the above laboratories, project working space is provided for final year students, located as conveniently as possible to the equipment laboratories relating to their sphere of interest.

Mechanical Engineering

The graduate Mechanical Engineer has an almost bewildering variety of industries in which he may apply the science and skills he has learned during his student days. His choice ranges through the entire field of mass production, through power supply, air conditioning, process plant design and operation, aeronautical work, marine and land propulsion units . . . to name but a few.

The preparation, both theoretical and practical, for such a variety of possible careers must itself be a varied one, and this, together with the range of equipment provided for training in the Mechanical Engineering laboratories makes this course a particularly rewarding and interesting one.

The Mechanical Department orients its courses strongly towards a financial consideration of the results derived from the theory, and several laboratories are conducted in such a way that the student carries out projects in a nominated field rather than following a set series of experiments.

The laboratories in which a student will carry out such work include those of applied mechanics, thermodynamics, stress analysis and vibration, metallurgy, fluid mechanics, and metrology.

In addition to these laboratories the department also operates several production workshops in which the students become familiar with methods of manufacture. Those workshops in which the student engineer carries out a series of exercises include lathes, milling machines, shapers, automatic machine tools, press shop, gas and electric arc welding, and foundry.

The mechanical engineering course also contains elements of management studies and social sciences along with english expression.

Surveying Section

The Surveying Section is a self-contained teaching unit of the School of Engineering. It currently offers service courses in surveying and cartographic subjects to students in the Departments of Civil and Electrical Engineering, Architecture, Building and Biological Sciences, and it conducts Certificate Courses in Surveying and in Cartography within the School of Engineering.

DEPARTMENT OF CIVIL ENGINEERING

POSTGRADUATE DIPLOMA IN ENVIRONMENTAL ENGINEERING

Three (3) years part-time evening study.

The course is designed to provide specialist training in Environmental Engineering for the qualified engineers concerned with environmental problems, and covers the control of pollution of water, air and land together with the management of water resources.

Completion of the course entitles the graduate to a Diploma and the use of the letters DQIT (Env.Eng).

Provision of this course will be subject to sufficient enrolments.

Entrance Requirements:

- (a) Graduates of a College of Advanced Education or University holding a recognised tertiary qualification in Engineering.
- (b) Civil Engineers registered in Queensland under the Professional Engineer's Act 1920.
- (c) Engineers who have received the Local Government Certificate of competency.
- (d) Holders of qualifications other than the above which are accepted by the Director as meeting the requisite academic standard and prerequisite knowledge.

<i>Subject</i>	<i>Hourly content year</i>
<i>First Year</i>	
CEP170 Principles of Environmental Engineering	30
BEP181 Environmental Science I	60
BEP182 Environmental Science II	60
CEP171 Waste Water Treatment I	30
<i>Second Year</i>	
CEP271 Waste Water Treatment II	90
BEP481 Environmental Science III	30
CEP272 Hydrology I	30
CEP270 Air Pollution	30
<i>Third Year</i>	
CEP372 *Water Supply and Treatment	90
CEP374 *Solid and Toxic Waste Disposal	30
CEP373 *Water Systems Management	60

* *Note:*

Elective subjects are being developed in the final year to suit the requirements of individual classes.

FELLOWSHIP DIPLOMA COURSE IN CIVIL ENGINEERING

Four (4) years full-time day study.

Completion of the course entitles the graduate to a Fellowship Diploma and the use of the letters FQIT(Eng).

The Fellowship Diploma is recognised by the Institution of Engineers Australia for admission to Graduate membership.

Entrance Requirements: Senior—English, Mathematics I, Mathematics II, Chemistry, Physics. (See pp. 23-25 for subject entry standards and conditions).

The Original Fellowship Course has been revised and the new course details are shown below:—

<i>Subject</i>		<i>Hours per week</i>
	<i>First Year</i>	
MAF191	Engineering Mathematics I—Pure	4
MAF193	Engineering Mathematics I—Applied	3
PHF130	Engineering Physics I	4
MEF120	Engineering Drawing I	4
CEF190	Strength of Materials I	4½
CEF100	Civil Engineering I	1½
EEF100	Electrical Engineering I	2
MEF100	Mechanical Engineering I	1½
MEF140	Materials and Processes I	4½
LSA101	English Expression I	1
	<i>Second Year</i>	
MAF491	Engineering Mathematics II	4
PHF430	Engineering Physics II	3
CEF290	Strength of Materials II	3½
MEF210	Applied Mechanics I	3½
MEF288	Mechanical Engineering Design Ia	1½
CEF280	Civil Engineering Design I	4½
CEF250	Structural Engineering I	2½
ESF146	Geology	4½
LSA102	English Expression II	1
	<i>Third Year</i>	
CEF360	Fluid Mechanics	3½
CEF350	Structural Engineering II	2
LSA130	Social Science I	2
CEF380	Civil Engineering Design II	5
SVF304	Surveying I	3½
CEF331	Building Construction	1
CEF310	Highway, Bridge & Traffic Engineering I	2
CEF340	Soil Mechanics I	3
CEF330	Concrete Technology & Design	2
MAF791	Engineering Mathematics III	2

<i>Subject</i>	<i>Hours per week</i>
<i>Fourth Year</i>	
<i>First Period (1½ Terms)</i>	
LSA131 Principles of Management for Engineers	2
CEF485 Seminar	1
CEF482 Project	1
CEF401 Civil Engineering Practice & Management	2
CEF480 Civil Engineering Design III	6
CEF470 Public Health Engineering	2
CEF460 Hydraulic Engineering I	3
CEF450 Structural Engineering IIIA	2½
CEF410 Highway, Bridge & Traffic Engineering II	2½
CEF440 Soil Mechanics II	3
<i>CIVIL ENGINEERING FIELD</i> —A two week series of field visits to nominated projects to illustrate design and construction techniques throughout Australia. Normally undertaken during final year vacation period.	
<i>Second Period (1½ Terms)</i>	
LSA131 Principles of Management for Engineers	2
CEF485 Seminar	1
CEF482 Project	1
CEF401 Civil Engineering Practice & Management	2
CEF480 Civil Engineering Design III	6
CEF470 Public Health Engineering	2
CEF420 Architecture, Town & Regional Planning	2
and three elective subjects chosen from the following:	
CEF550 Structural Engineering IIIB	3
CEF560 Hydraulic Engineering II	3
CEF540 Soil Mechanics & Foundations	3
CEF461 Coastal Engineering or	
CEF421 Transportation Engineering	3
CEF431 Building Design or	
SVF404 Surveying II	3

Students should plan their course and determine their elective subjects in consultation with the Head of Department. Availability of each of these electives will be subject to sufficient enrolments.

One hour is allotted throughout the year for formal supervision of seminars and group projects. Considerable personal study and investigation are expected outside this period.

ASSOCIATE DIPLOMA COURSE IN CIVIL ENGINEERING

Six (6) years part-time evening study.

Students may not attend for more than 12 hours per week, but may enrol for less than this total. The course timetable is arranged as follows.

First year: four (4) evenings per week *OR* three (3) evenings per week and one (1) afternoon per week.

Second and subsequent years: three (3) evenings per week and one (1) afternoon per week.

For the second and subsequent years, one subject will be offered for study only at day classes. To accommodate students unable to obtain day release, the day subject will be alternated from year to year.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT(Eng).

This Associate Diploma is recognised for Graduate membership of the Institution of Engineers, Australia.

For those students who have not completed the course by the 1979 examinations, transition subjects will be made available to enable transfer to a new course now being prepared.

Before commencing the Associate Diploma course, prospective students must obtain employment in suitable engineering work, and must be so employed throughout the duration of the course under the supervision of suitably qualified engineering personnel.

At the end of each year students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before a student is granted an Associate Diploma of the Institute, he must produce evidence that he is engaged in an approved engineering capacity.

Subject entrance requirements: Senior—English, Mathematics I, Mathematics II, Chemistry, Physics. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
MEA120 Engineering Drawing I	3
PHF130 Engineering Physics I	3
MAA191 Engineering Mathematics I	3
MEA140 Engineering Materials I	3
<i>Second Year</i>	
MEA220 Engineering Drawing II	3
MAA193 Engineering Mathematics II	3
MEA210 Applied Mechanics	3
PHA136 Physics IIE	3
<i>Third Year</i>	
EEA304 Electrical Engineering Ia	1½
MEA388 Mechanical Engineering Ia	1½
CEA390 Strength of Materials	3
MAA491 Engineering Mathematics III	3
CEA350 Structural Engineering I	3
<i>Fourth Year</i>	
CEA450 Structural Engineering II	3
CEA460 Fluid Mechanics	3
SVA404 Surveying I	3
ESA140 Geology	1½
CEA430 Concrete Technology	1½

Associate Diploma Course in Civil Engineering—continued

<i>Subject</i>		<i>Hours per week</i>
	<i>Fifth Year</i>	
CEA550	Structural Engineering III	3
CEA540	Soil Mechanics	3
CEA560	Applied Hydraulics	3
SVA504	Surveying II	3
	<i>Sixth Year</i>	
CEA680	Civil Engineering Design	6
CEA610	Highway and Bridge Engineering	3
CEA600	Administration and Building Construction	3

Continuing Education

In certain instances, where the demand is indicated and there are sufficient enrolments, consideration is given to the provision of lectures in special subjects. Typical of these are the following post-graduate subjects required for registration by the Board of Examiners for Local Government Engineers.

<i>Subject</i>		<i>Hours per Week</i>
CES120	Town and Regional Planning	1½
CES100	Powers and Duties of a Municipal Engineer	1½

Consideration is also currently being given to the provision of suitable courses for the continuing education of engineers. Limited facilities for this already exist with a small number of class vacancies available in the final year Fellowship elective subjects. These may be undertaken by qualified engineers. Due to the limited number of vacancies nominations should be lodged as early as possible. Fees applicable are the same as for a normal unregistered student.

The subjects offered may include the following:—

CEF550	Structural Engineering IIIB	3
CEF560	Hydraulic Engineering II	3
CEF540	Soil Mechanics and Foundations	3
CEF461	Coastal Engineering	3
CEF421	Transportation Engineering	3
CEF431	Building Design	3
SVF404	Surveying II	3

CERTIFICATE COURSE IN CIVIL ENGINEERING

**FOUR (4) YEARS—TWO YEARS FULL-TIME DAY STUDY.
TWO YEARS PART-TIME EVENING STUDY.**

This course is available for—

Design Office Technician
Laboratory Technician
Construction Technician

This course is recognised by the Institute of Draftsmen, Australia as satisfying the academic qualifications for those seeking admission to membership.

Entrance Requirements: Junior—English, Mathematics B, Science B and one (1) other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
First and Second Years are full-time study and the First year is common to all the above Certificate Courses.	
<i>First Year</i>	
All Courses	
LSC101 English	3
MAC191 Mathematics I	5
CHC195 Chemistry I	3
MEC120 Engineering Drawing I	6
MEC140 Engineering Materials I	2
MEC270 Workshop Processes	2
MEC286 Production Practice	4
<i>Second Year</i>	
Design Office Technician and Construction Technician	
MAC491 Mathematics II	5
PHC450 Certificate Physics	4
MEC310 Applied Mechanics I	3
MEC321 Civil Drawing I	6
CEC300 Civil Engineering I	4
MEC340 Engineering Materials II	3
Laboratory Technician	
MAC491 Mathematics II	5
PHC450 Certificate Physics	4
MEC310 Applied Mechanics I	3
CHC496 Chemistry II	6
EEC300 Electrical Engineering	4
MEC340 Engineering Materials II	3

After successful completion of the full-time portion of the Certificate course, students will be awarded a Certificate in Engineering Studies. To gain the Certificate in Engineering they must obtain employment in suitable engineering work and must be so employed throughout the remainder of the course under the supervision of suitably qualified engineering personnel.

At the end of each part-time year, students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain

Certificate Course in Civil Engineering—continued

essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

On completion of the course, a student must produce evidence that he is engaged in an approved engineering capacity before being granted the Certificate.

<i>Subject</i>	<i>Hours per week</i>
Design Office Technician	
<i>Third Year</i>	
CEC400 Civil Engineering II	3
CEC460 Hydraulics	3
SVC314 Engineering Surveying	3
Home Assignments	
<i>Fourth Year</i>	
MEC521 Civil Drawing II	4½
CEC550 Structures	3
CEC502 Specifications and Estimates	1½
Home Assignments	
Laboratory Technician	
<i>Third Year</i>	
CEC440 Soil Mechanics I	3
CEC430 Concrete Practice	3
CHC463 Organic Chemistry and Materials	3
Home Assignments	
<i>Fourth Year</i>	
CEC540 Soil Mechanics II	3
ESC119 Engineering Geology	3
CEC588 Advanced Laboratory Practice	1½
CEC586 Laboratory Projects	1½
Home Assignments	
Construction Technician	
<i>Third Year</i>	
SVC314 Engineering Surveying	3
CEC460 Hydraulics	3
CEC400 Civil Engineering II	3
Home Assignments	
<i>Fourth Year</i>	
CEC501 Construction Principles	3
CEC503 Contract Administration	1½
CEC504 Job Organisation	3
CEC502 Specifications and Estimates	1½
Home Assignments	

CERTIFICATE COURSE IN CIVIL ENGINEERING

FIVE (5) YEARS PART-TIME EVENING STUDY

This certificate course is available for—

Design Office Technician
Laboratory Technician
Construction Technician

Students must obtain employment in suitable engineering work no later than the beginning of the second year of the course and must furnish evidence to this effect to the Institute.

Students must be so employed throughout the remainder of the course under the supervision of suitably qualified engineering personnel.

At the end of each year, students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before being granted the Certificate, students must produce evidence of being employed in an approved engineering capacity.

This course is recognised by the Institute of Draftsmen, Australia as satisfying the academic qualifications for those seeking admission to membership.

Entrance Requirements: Junior—English, Mathematics B, Science B and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>		<i>Hours per week</i>
	Design Office Technician	
	<i>First Year</i>	
MAC191	Mathematics I	3
MEC120	Engineering Drawing I	3
CHC195	Chemistry I	1½
MEC140	Engineering Materials I	1½
	Home Assignments	
	<i>Second Year</i>	
MAC491	Mathematics II	3
PHC450	Certificate Physics	3
LSC101	English	1½
MEC270	Workshop Processes	1½
	Home Assignments	
	<i>Third Year</i>	
MEC310	Applied Mechanics I	3
MEC321	Civil Drawing I	3
CEC300	Civil Engineering I	1½
MEC340	Engineering Materials II	1½
	Home Assignments	
	<i>Fourth Year</i>	
CEC400	Civil Engineering II	3
CEC460	Hydraulics	3
SVC314	Engineering Surveying	3
	Home Assignments	
	<i>Fifth Year</i>	
MEC521	Civil Drawing II	4½
CEC550	Structures	3
CEC502	Specifications and Estimates	1½
	Home Assignments	

Certificate Course in Civil Engineering—continued

<i>Subject</i>	<i>Hours per week</i>
Laboratory Technician	
<i>First Year</i>	
MAC191 Mathematics I	3
MEC120 Engineering Drawing I	3
CHC195 Chemistry I	1½
MEC140 Engineering Materials I	1½
Home Assignments	
<i>Second Year</i>	
MAC491 Mathematics II	3
PHC450 Certificate Physics	3
LSC101 English	1½
MEC270 Workshop Processes	1½
Home Assignments	
<i>Third Year</i>	
MEC310 Applied Mechanics I	3
CHC496 Chemistry II	3
MEC340 Engineering Materials II	1½
EEC300 Electrical Engineering	1½
Home Assignments	
<i>Fourth Year</i>	
CEC440 Soil Mechanics I	3
CEC430 Concrete Practice	3
CHC463 Organic Chemistry and Materials	3
Home Assignments	
<i>Fifth Year</i>	
CHC540 Soil Mechanics II	3
ESC119 Engineering Geology	3
CEC588 Advanced Laboratory Practice	1½
CEC586 Laboratory Projects	1½
Home Assignments	
Construction Technician	
<i>First Year</i>	
MAC191 Mathematics I	3
MEC120 Engineering Drawing I	3
CHC195 Chemistry I	1½
MEC140 Engineering Materials I	1½
Home Assignments	
<i>Second Year</i>	
MAC491 Mathematics II	3
PHC450 Certificate Physics	3
LSC101 English	1½
MEC270 Workshop Processes	1½
Home Assignments	
<i>Third Year</i>	
MEC310 Applied Mechanics I	3
MEC321 Civil Drawing I	3
CEC300 Civil Engineering I	1½
MEC340 Engineering Materials II	1½
Home Assignments	

Certificate Course in Civil Engineering—continued

<i>Subject</i>		<i>Hours per week</i>
	<i>Fourth Year</i>	
CEC400	Civil Engineering II	3
CEC460	Hydraulics	3
SVC314	Engineering Surveying Home Assignments	3
	<i>Fifth Year</i>	
CEC501	Construction Principles	3
CEC503	Contract Administration	1½
CEC504	Job Organisation	3
CEC502	Specifications and Estimates Home Assignments	1½

DEPARTMENT OF ELECTRICAL ENGINEERING

GRADUATE DIPLOMA COURSE IN AUTOMATIC CONTROL

Two (2) years of part-time study.

The course is designed to provide specialist training in Automatic Control for suitably qualified engineers concerned with the application of automation.

The two years of the course may be undertaken in either sequence. Normally, only one year of the course will be offered in any one calendar year.

It is anticipated that the course will be submitted for recognition as the formal segment of a Masters Degree programme of study in Automatic Control, for suitably qualified candidates.

Entrance Requirements:

The course is open to students with a tertiary qualification in Engineering which contains a Control Engineering content equivalent to that included in subjects EEF320 (Instrumentation and Control) and EEF420 (Closed Loop Control Systems) in the Fellowship Course. Those students with a tertiary qualification in Engineering with an insufficient Control Engineering content will be required to successfully undertake preliminary subjects P1 and/or P2, before enrolling in the postgraduate course.

<i>Subject</i>		<i>Hours per Week</i>
	<i>Year A</i>	
EEP721	Automation Practice A	1 $\frac{1}{2}$
EEP722	Analogue/Hybrid Computing	1 $\frac{1}{2}$
EEP723	Techniques of Systems Analysis and Design A	3
EEP724	Laboratory/Projects A	4
	<i>Year B</i>	
EEP821	Automation Practice B	1 $\frac{1}{2}$
EEP822	Digital Computing	1 $\frac{1}{2}$
EEP823	Techniques of Systems Analysis and Design B	3
EEP824	Laboratory/Projects B	4

QUALIFYING SUBJECTS IN CONTROL ENGINEERING

The following two subjects may be taken by suitably qualified students seeking an undergraduate qualification in Control Engineering, as a course of continuing study in Control Engineering, or as part entrance requirements to the Postgraduate Diploma Course in Automatic Control.

First Year Qualifying Subject in Control Engineering (P1)

This subject will cover the fields of study presently included in EEF320 and EEA520 Instrumentation and Control. The subject requires an attendance of 3 hours per week, by part time day or evening study. Minimum entry requirement to this course is a qualification in Engineering. Satisfactory completion of this subject entitles the student to a letter of recognition from the Registrar.

Second Year Qualifying Subject in Control Engineering (P2)

This subject will cover the work included in the EEF420 Closed Loop Control Systems subject of the Fellowship Diploma Course in Electrical Engineering. It requires an attendance of 3 hours per week by part time day or evening study. For entry to this subject, a standard of education in Control Engineering at least equivalent to that of the P1 subject is required, in addition to a qualification in Engineering.

FELLOWSHIP DIPLOMA COURSE IN ELECTRICAL ENGINEERING

Four (4) years full-time day study.

Completion of the course entitles the graduate to a Fellowship Diploma and the use of the letters FQIT (Eng).

The Fellowship Diploma is recognised by the Institution of Engineers Australia for admission to Graduate membership.

Entrance Requirements: Senior—English, Mathematics I, Mathematics II, Chemistry, Physics. (See pp. 23-25 for subject entry standards and conditions).

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
MAF191 Engineering Mathematics I—Pure	4
MAF193 Engineering Mathematics I—Applied	3
PHF130 Engineering Physics I	4
LSA101 English Expression I	1
MEF120 Engineering Drawing I	4
CEF190 Strength of Materials I	4 $\frac{1}{2}$
CEF100 Civil Engineering I	1 $\frac{1}{2}$
MEF100 Mechanical Engineering I	1 $\frac{1}{2}$
EEF100 Electrical Engineering I	2
MEF140 Materials and Processes I	4 $\frac{1}{2}$
<i>Second Year</i>	
MAF491 Engineering Mathematics II	4
PHF430 Engineering Physics II	3
CEF290 Strength of Materials II	3 $\frac{1}{2}$
MEF210 Applied Mechanics I	3 $\frac{1}{2}$
MEF200 Engineering Thermodynamics I	2 $\frac{1}{2}$
MEF280 Mechanical Engineering Design I	4
EEF200 Electrical Engineering IIA	4
EEF202 Electrical Engineering IIB	2 $\frac{1}{2}$
LSA102 English Expression II	1
<i>Third Year</i>	
MAF791 Engineering Mathematics III	2
LSA130 Social Science I	2
MEF352 Thermal Plant	2
EEF380 Design	3
SVF334 Surveying and Photogrammetry	1
EEF320 Instrumentation and Control	3
EEF303 Network Analysis	2
EEF330 Transmission and Propagation	2
EEF350 Electrical Power Plant	2 $\frac{1}{2}$
EEF370 Electronic Circuits	1 $\frac{1}{2}$
EEF360 Communications Theory	2
EEF386 Laboratory	3
<i>Fourth Year</i>	
Power	
LSA131 Principles of Management for Engineers	2
MEF471 Industrial Engineering	1
EEF420 Closed Loop Control Systems	3
EEF483 Design	3
EEF441 Power System Analysis	3
EEF442 Switchgear and Protection	2
EEF450 Electrical Power Systems	3
EEF486 Laboratory	3
EEF484 Project	3
EEF485 Seminars	1

<i>Subject</i>		<i>Hours per week</i>
	Electronics and Communications	
LSA131	Principles of Management for Engineers	2
MEF471	Industrial Engineering	1
EEF420	Closed Loop Control Systems	3
EEF481	Design	4
EEF472	Modern Devices and Digital Techniques	3
EEF445	Electronic Systems and Technology	4
EEF430	S.H.F. Techniques	2
EEF460	Communications Theory	3
EEF482	Project	3
EEF485	Seminars	1

ASSOCIATE DIPLOMA COURSE IN ELECTRICAL ENGINEERING

Six (6) years part-time evening study.

Students may not attend for more than 12 hours per week, but may enrol for less than this total. The course timetable is arranged as follows—

First year: four (4) evenings per week *OR* three (3) evenings per week and one (1) afternoon per week.

Second and subsequent years: three (3) evenings per week and one (1) afternoon per week.

For the second and subsequent years, one subject will be offered for study only at day classes. To accommodate students unable to obtain day release, the day subject will be alternated from year to year.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT(Eng).

This Associate Diploma is recognised for Graduate membership of the Institution of Engineers, Australia.

For those students who have not completed the course by the 1979 examinations, transition subjects will be made available to enable transfer to a new course now being prepared.

Before commencing the Associate Diploma course, prospective students must obtain employment in suitable engineering work, and must be so employed throughout the course under the supervision of suitably qualified engineering personnel.

At the end of each year students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before a student is granted an Associate Diploma of the Institute, he must produce evidence that he is engaged in an approved engineering capacity.

Subject entrance requirements: Senior—English, Mathematics I, Mathematics II, Chemistry, Physics. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
MEA120 Engineering Drawing I	3
PHF130 Engineering Physics I	3
MAA191 Engineering Mathematics I	3
MEA140 Engineering Materials I	3
<i>Second Year</i>	
MEA220 Engineering Drawing II	3
MAA193 Engineering Mathematics II	3
MEA210 Applied Mechanics	3
PHA136 Physics IIE	3
<i>Third Year</i>	
EEA300 Electrical Engineering I	3
MEA300 Mechanical Engineering I	3
CEA390 Strength of Materials	3
MAA491 Engineering Mathematics III	3
<i>Fourth Year</i>	
MEA480 Engineering Design I	3
EEA400 Electrical Engineering II	3
EEA470 Electronic Engineering	3
EEA480 Electrical Laboratory and Design	3

Associate Diploma Course in Electrical Engineering—continued

<i>Subject</i>		<i>Hours per week</i>
	<i>Fifth Year</i>	
EEA500	Electrical Engineering III	4½
EEA520	Instrumentation and Control	3
EEA541	Electrical Engineering IIIa (Power)	
	<i>OR</i>	
EEA570	Electrical Engineering IIIb (Electronics and Communication)	4½
	<i>Sixth Year</i>	
MEA671	Industrial Engineering and Administration	3
EEA650	Electrical Engineering IVa (Power)	
	<i>OR</i>	9
EEA645	Electrical Engineering IVb (Electronics and Communication)	

CERTIFICATE COURSE IN ELECTRICAL ENGINEERING

FOUR (4) YEARS—TWO YEARS FULL-TIME DAY STUDY. TWO YEARS PART-TIME EVENING STUDY.

This course is available for—
 Electrical Technician
 Electronics and Communication Technician
 Design Office Technician

This course is recognised by the Institute of Draftsmen, Australia as satisfying the academic qualifications for those seeking admission to membership.

Entrance Requirements: Junior—English, Mathematics B, Science B and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<p>First and Second Years are full-time day study and are common to all the above Certificate courses.</p>	
<i>First Year</i>	
LSC101 English	3
MAC191 Mathematics I	5
CHC195 Chemistry I	3
MEC120 Engineering Drawing I	6
MEC140 Engineering Materials I	2
MEC286 Production Practice	4
MEC270 Workshop Processes	2
<i>Second Year</i>	
MAC491 Mathematics II	5
PHC450 Certificate Physics	4
MEC320 Engineering Drawing II	6
MEC310 Applied Mechanics I	3
EEC300 Electrical Engineering	4
MEC300 Mechanical Engineering	3

After successful completion of the full-time portion of the Certificate course, students will be awarded a Certificate in Engineering Studies. To gain the Certificate in Engineering they must obtain employment in suitable engineering work and must be so employed throughout the remainder of the course under the supervision of suitably qualified engineering personnel.

At the end of each part-time year, students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

On completion of the course, a student must produce evidence that he is engaged in an approved engineering capacity before being granted the Certificate.

Certificate Course in Electrical Engineering—continued

<i>Subject</i>	<i>Hours per week</i>
Electrical Technician	
<i>Third Year</i>	
EEC400 Circuit Analysis	3
EEC450 Electrical Machines I	3
EEC470 Electronics I	3
Home Assignments	
<i>Fourth Year</i>	
EEC540 Power Systems I	3
Electives— <i>TWO</i> of	
EEC572 Computer Electronics	
EEC590 Computer Programming	
EEC550 Electrical Machines II	
EEC511 Electrical Measurements	6
MEC552 Thermal Plant	
EEC542 System Protection	
MEC572 Production Planning	
EEC640 Power Systems II	
Home Assignments	
Electronics and Communications Technician	
<i>Third Year</i>	
EEC400 Circuit Analysis	3
EEC560 Telecommunications I	3
EEC470 Electronics I	3
Home Assignments	
<i>Fourth Year</i>	
EEC570 Electronics II	3
Electives— <i>TWO</i> of	
EEC572 Computer Electronics	
EEC590 Computer Programming	
EEC591 Navigational Aids	
EEC592 Radio and T.V.	6
EEC660 Telecommunications II	
EEC670 Electronics III	
Home Assignments	
Design Office Technician	
<i>Third Year</i>	
MEC480 Drawing Office Practice I	3
Electives— <i>TWO</i> of	
EEC470 Electronics I	
EEC452 Plant Layout (Com.)	6
EEC451 Plant Layout (Power)	
EEC440 Electrical Power	
<i>Fourth Year</i>	
MEC580 Drawing Office Practice II	3
Electives— <i>TWO</i> of	
MEC572 Production Planning	
CEC550 Structures	6
SVC314 Engineering Surveying	
MEC410 Applied Mechanics II	
MEC522 Drawing Office Practice (Elec.)	

CERTIFICATE COURSE IN ELECTRICAL ENGINEERING

FIVE (5) YEARS PART-TIME EVENING STUDY.

This certificate course is available for—

- Electrical Technician
- Electronics and Communications Technician
- Design Office Technician

Students must obtain employment in suitable engineering work no later than the beginning of the second year of the course and must furnish evidence to this effect to the Institute.

Students must be so employed throughout the remainder of the course under the supervision of suitably qualified engineering personnel.

At the end of each year, students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before being granted the Certificate, students must produce evidence of being employed in an approved engineering capacity.

This course is recognised by the Institute of Draftsmen, Australia as satisfying the academic qualifications for those seeking admission to membership.

Entrance Requirements: Junior—English, Mathematics B, Science B and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
The First, Second and Third Years are common to all the above Certificate courses.	
<i>First Year</i>	
MAC191 Mathematics I	3
MEC120 Engineering Drawing I	3
CHC195 Chemistry I	1½
MEC140 Engineering Materials I	1½
Home Assignments	
<i>Second Year</i>	
MAC491 Mathematics II	3
PHC450 Certificate Physics	3
LSC101 English	1½
MEC270 Workshop Processes	1½
Home Assignments	
<i>Third Year</i>	
MEC310 Applied Mechanics I	3
EEC300 Electrical Engineering	1½
MEC300 Mechanical Engineering	1½
MEC320 Engineering Drawing II	3
Electrical Technician	
<i>Fourth Year</i>	
EEC400 Circuit Analysis	3
EEC450 Electrical Machines I	3
EEC470 Electronics I	3
Home Assignments	

Certificate Course in Electrical Engineering—continued

<i>Subject</i>	<i>Hours per week</i>
<i>Fifth Year</i>	
EEC540 Power Systems I	3
Electives— <i>TWO</i> of	
EEC572 Computer Electronics	
EEC590 Computer Programming	
EEC550 Electrical Machines II	
EEC511 Electrical Measurements	
MEC552 Thermal Plant	6
EEC542 System Protection	
MEC572 Production Planning	
EEC640 Power Systems II	
Home Assignments	
Electronics and Communications Technician	
<i>Fourth Year</i>	
EEC400 Circuit Analysis	3
EEC560 Telecommunications I	3
EEC470 Electronics I	3
Home Assignments	
<i>Fifth Year</i>	
EEC570 Electronics II	3
Electives— <i>TWO</i> of	
EEC572 Computer Electronics	
EEC590 Computer Programming	
EEC591 Navigational Aids	6
EEC592 Radio and T.V.	
EEC660 Telecommunications II	
EEC670 Electronics III	
Home Assignments	
Design Office Technician	
<i>Fourth Year</i>	
MEC480 Drawing Office Practice I	3
Electives— <i>TWO</i> of	
EEC470 Electronics I	
EEC452 Plant Layout (Com.)	
EEC451 Plant Layout (Power)	6
EEC440 Electrical Power	
<i>Fifth Year</i>	
MEC580 Drawing Office Practice II	3
Electives— <i>TWO</i> of	
MEC572 Production Planning	
CCE550 Structures	6
SVC314 Engineering Surveying	
MEC410 Applied Mechanics II	
MEC522 Drawing Office Practice (Elec.)	

**CERTIFICATE COURSE FOR INSTRUMENTATION AND CONTROL
TECHNICIAN**

FIVE (5) YEARS PART-TIME EVENING STUDY

Students must obtain employment in suitable engineering work no later than the beginning of the second year of the course and must furnish evidence to this effect to the Institute.

Students must be so employed throughout the remainder of the course under the supervision of suitably qualified engineering personnel.

At the end of each year, students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before being granted the Certificate, students must produce evidence of being employed in an approved engineering capacity.

Entrance Requirements: Junior—English, Mathematics B, Science B and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
LSC101 English	1 $\frac{1}{2}$
CHC195 Chemistry I	1 $\frac{1}{2}$
MAC191 Mathematics I	3
MEC120 Engineering Drawing I	3
<i>Second Year</i>	
EEC300 Electrical Engineering	1 $\frac{1}{2}$
MEC210 Engineering Mechanics	1 $\frac{1}{2}$
MAC491 Mathematics II	3
PHC450 Certificate Physics	3
<i>Third Year</i>	
EEC470 Electronics I	3
EEC400 Circuit Analysis	3
EEC310 Instrumentation Technology I	3
<i>Fourth Year</i>	
EEC445 Electronic Systems	3
EEC420 Control Systems I	3
EEC410 Instrumentation Technology II	3
<i>Fifth Year</i>	
EEC520 Control Systems II	3
EEC150 Instrumentation Technology III	3
<i>Elective Subject</i> —one of:	
EEC572 Computer Electronics	
EEC590 Computer Programming	
EEC560 Telecommunications I	3
EEC570 Electronics II	

DEPARTMENT OF MECHANICAL ENGINEERING**GRADUATE DIPLOMA COURSE IN AUTOMATIC CONTROL**

This course will commence in 1973 and will be operated by the Department of Electrical Engineering.

Students with a suitable tertiary qualification in Mechanical Engineering will be eligible to enrol.

Details of entry requirements for this course, together with details of suitable qualifying subjects, are given on page 230 of this handbook.

FELLOWSHIP DIPLOMA COURSE IN MECHANICAL ENGINEERING

Four (4) years full-time day study.

Completion of the course entitles the graduate to a Fellowship Diploma and the use of the letters FQIT(Eng).

The Fellowship Diploma is recognised by the Institution of Engineers Australia for admission to Graduate membership.

Entrance Requirements: Senior—English, Mathematics I, Mathematics II, Chemistry, Physics. (See pp. 23-25 for subject entry standards and conditions).

<i>Subject</i>		<i>Hours per week</i>
<i>First Year</i>		
MAF191	Engineering Mathematics I—Pure	4
MAF193	Engineering Mathematics I—Applied	3
PHF130	Engineering Physics I	4
LSA101	English Expression I	1
MEF120	Engineering Drawing I	4
CEF190	Strength of Materials I	4½
CEF100	Civil Engineering I	1½
MEF100	Mechanical Engineering I	1½
EEF100	Electrical Engineering I	2
MEF140	Materials and Processes I	4½
<i>Second Year</i>		
MAF491	Engineering Mathematics II	4
PHF430	Engineering Physics II	3
CEF250	Structural Engineering I	2½
EEF200	Electrical Engineering IIA	4
MEF280	Mechanical Engineering Design I	4
CEF290	Strength of Materials II	3½
MEF210	Applied Mechanics I	3½
MEF200	Engineering Thermodynamics I	2½
LSA102	English Expression II	1
<i>Third Year</i>		
MAF791	Engineering Mathematics III	2
LSA130	Social Science I	2
MEF341	Materials and Processes II	4
EEF304	Electrical Engineering IIIM	3
MEF380	Mechanical Engineering Design II	5
MEF360	Fluid Mechanics and Heat Transfer	4
MEF310	Applied Mechanics II	3
EEF320	Instrumentation and Control	3
<i>Fourth Year</i>		
MEF471	Industrial Engineering	2
LSA131	Principles of Management for Engineers	2
MEF480	Mechanical Engineering Design III	8
MEF460	Fluid Mechanics II	1½
MEF473	Metrology	1½
MEF485	Seminars	1
MEF482	Projects	4
MEF487	Industrial Visits	—

Fellowship Diploma Course in Mechanical Engineering—continued

<i>Subject</i>		<i>Hours per week</i>
	<i>Electives—TWO of</i>	
MEF452	Power Plant	2
MEF451	Air Conditioning	2
MEF470	Production Technology	2
MEF461	Fluid Control Circuit Design	2

ASSOCIATE DIPLOMA COURSE IN MECHANICAL ENGINEERING

Six (6) years part-time evening study.

Students may not attend for more than 12 hours per week, but may enrol for less than this total. The course timetable is arranged as follows.

First year: four (4) evenings per week *OR* three (3) evenings per week and one (1) afternoon per week.

Second and subsequent years: three (3) evenings per week and one (1) afternoon per week.

For the second and subsequent years, one subject will be offered for study only at day classes. To accommodate students unable to obtain day release, the day subject will be alternated from year to year.

Completion of the course entitles the graduate to an Associate Diploma and the use of the letters AQIT(Eng).

This Associate Diploma is recognised for Graduate membership of the Institution of Engineers, Australia.

For those students who have not completed the course by the 1979 examinations, transition subjects will be made available to enable transfer to a new course now being prepared.

Before commencing the Associate Diploma course, prospective students must obtain employment in suitable engineering work, and must be so employed throughout the course under the supervision of suitably qualified engineering personnel.

At the end of each year students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before a student is granted an Associate Diploma of the Institute, he must produce evidence that he is engaged in an approved engineering capacity.

Subject entrance requirements: Senior—English, Mathematics I, Mathematics II, Chemistry, Physics. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
MEA120 Engineering Drawing I	3
PHF130 Engineering Physics I	3
MAA191 Engineering Mathematics I	3
MEA140 Engineering Materials I	3
<i>Second Year</i>	
MEA220 Engineering Drawing II	3
MAA193 Engineering Mathematics II	3
MEA210 Applied Mechanics	3
PHA136 Physics IIE	3
<i>Third Year</i>	
EEA300 Electrical Engineering I	3
MEA300 Mechanical Engineering I	3
CEA390 Strength of Materials	3
MAA491 Engineering Mathematics III	3

Associate Diploma Course in Mechanical Engineering—continued

<i>Subject</i>		<i>Hours per week</i>
	<i>Fourth Year</i>	
MEA480	Engineering Design I	3
EEA400	Electrical Engineering II	3
MEA400	Mechanical Engineering II	3
MEA460	Fluid Mechanics and Heat Transfer	3
	<i>Fifth Year</i>	
MEA541	Engineering Metallurgy	3
MEA580	Engineering Design II	3
CEA551	Theory of Structures	3
MEA510	Theory of Machines	3
	<i>Sixth Year</i>	
MEA671	Industrial Engineering and Administration	3
MEA680	Mechanical Engineering Design	3
MEA600	Mechanical Engineering III	6

CERTIFICATE COURSE IN MECHANICAL ENGINEERING

**FOUR (4) YEARS—TWO YEARS FULL-TIME STUDY.
TWO YEARS PART-TIME EVENING STUDY.**

This course is available for—
 Mechanical Engineering Technician
 Production Technician
 Design Office Technician

This course is recognised by the Institute of Draftsmen, Australia as satisfying the academic qualifications for those seeking admission to membership.

Entrance Requirements: Junior—English, Mathematics B, Science B and one other subject. (See pp. 23-25 for subject standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
First and Second Years are full-time day study and are common to all the above Certificate courses.	
<i>First Year</i>	
LSC101 English	3
MAC191 Mathematics I	5
CHC195 Chemistry I	3
MEC120 Engineering Drawing I	6
MEC140 Engineering Materials I	2
MEC286 Production Practice	4
MEC270 Workshop Processes	2
<i>Second Year</i>	
MAC491 Mathematics II	5
PHC450 Certificate Physics	4
MEC320 Engineering Drawing II	6
MEC310 Applied Mechanics I	3
EEC300 Electrical Engineering	4
MEC300 Mechanical Engineering	3

After successful completion of the full-time portion of the Certificate course, students will be awarded a Certificate in Engineering Studies. To gain the Certificate in Engineering they must obtain employment in suitable engineering work and must be so employed throughout the remainder of the course under the supervision of suitably qualified engineering personnel.

At the end of each part-time year, students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

On completion of the course, a student must produce evidence that he is engaged in an approved engineering capacity before being granted the Certificate.

Certificate Course in Mechanical Engineering—continued

<i>Subject</i>	<i>Hours per week</i>
Mechanical Engineering Technician	
<i>Third Year</i>	
MEC410 Applied Mechanics II	3
MEC480 Drawing Office Practice I	3
MEC460 Fluid Mechanics and Heat Transfer	3
<i>Fourth Year</i>	
Electives— <i>THREE</i> of	
MEC551 Air Conditioning	
MEC552 Thermal Plant	
MEC570 Machine Control	9
EEC590 Computer Programming	
MEC553 Fuels Testing	
MEC433 Materials Testing	
MEC542 Process Plant	
Production Technician	
<i>Third Year</i>	
MEC410 Applied Mechanics II	3
MEC480 Drawing Office Practice I	3
MEC433 Materials Testing Home Assignments	3
<i>Fourth Year</i>	
MEC572 Production Planning	3
MEC573 Metrology and Machine Tools	3
MEC541 Engineering Metallurgy Home Assignments	3
Design Office Technician	
<i>Third Year</i>	
MEC410 Applied Mechanics II	3
MEC480 Drawing Office Practice I	3
MEC420 Engineering Graphics	3
<i>Fourth Year</i>	
MEC580 Drawing Office Practice II	3
CEC550 Structures	3
Electives— <i>ONE</i> of	
MEC572 Production Planning	
SVC314 Engineering Surveying	3
MEC433 Materials Testing	

CERTIFICATE COURSE IN MECHANICAL ENGINEERING

FIVE (5) YEARS PART-TIME EVENING STUDY.

This course is available for—
 Mechanical Engineering Technician
 Production Technician
 Design Office Technician

Students must obtain employment in suitable engineering work no later than the beginning of the second year of the course and must furnish evidence to this effect to the Institute.

Students must be so employed throughout the remainder of the course under the supervision of suitably qualified engineering personnel.

At the end of each year, students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before being granted the Certificate, students must produce evidence of being employed in an approved engineering capacity.

This course is recognised by the Institute of Draftsmen, Australia as satisfying the academic qualifications for those seeking admission to membership.

Entrance Requirements: Junior—English, Mathematics B, Science B and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
The First, Second and Third Years are common to all the above Certificate courses.	
<i>First Year</i>	
MAC191 Mathematics I	3
MEC120 Engineering Drawing I	3
CHC195 Chemistry I	1½
MEC140 Engineering Materials I Home Assignments	1½
<i>Second Year</i>	
MAC491 Mathematics II	3
PHC450 Certificate Physics	3
LSC101 English	1½
MEC270 Workshop Processes Home Assignments	1½
<i>Third Year</i>	
MEC310 Applied Mechanics I	3
EEC300 Electrical Engineering	1½
MEC300 Mechanical Engineering	1½
MEC320 Engineering Drawing II Home Assignments	3
Mechanical Engineering Technician	
<i>Fourth Year</i>	
MEC410 Applied Mechanics II	3
MEC480 Drawing Office Practice I	3
MEC460 Fluid Mechanics and Heat Transfer	3

<i>Subject</i>	<i>Hours per week</i>
Mechanical Engineering Technician—continued	
<i>Fifth Year</i>	
Electives— <i>THREE</i> of	
MEC551	Air Conditioning
MEC552	Thermal Plant
MEC570	Machine Control
EEC590	Computer Programming
MEC553	Fuels Testing
MEC433	Materials Testing
MEC542	Process Plant
Production Technician	
<i>Fourth Year</i>	
MEC410	Applied Mechanics II
MEC480	Drawing Office Practice I
MEC433	Materials Testing
	Home Assignments
<i>Fifth Year</i>	
MEC572	Production Planning
MEC573	Metrology and Machine Tools
MEC541	Engineering Metallurgy
	Home Assignments
Design Office Technician	
<i>Fourth Year</i>	
MEC410	Applied Mechanics II
MEC480	Drawing Office Practice I
MEC420	Engineering Graphics
<i>Fifth Year</i>	
MEC580	Drawing Office Practice II
CEC550	Structures
Elective— <i>ONE</i> of	
MEC572	Production Planning
MEC433	Materials Testing
SVC314	Engineering Surveying

CERTIFICATE COURSE IN INDUSTRIAL METALLURGY

FIVE (5) YEARS PART-TIME EVENING STUDY.

Students must obtain employment in approved work no later than the beginning of the second year of the course and must furnish evidence to this effect to the Institute.

Students must be so employed throughout the remainder of the course under the supervision of suitably qualified personnel.

At the end of each year, students shall be required to produce documentary evidence in support of their claimed practical experience. This evidence shall be provided in the form of a log book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before being granted the certificate, students must produce evidence of being employed in an approved capacity.

Entrance Requirements: Junior—English, Mathematics B, Science B and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
MAC191 Mathematics I	3
MEC120 Engineering Drawing I	3
CHC195 Chemistry I	1½
MEC140 Engineering Materials I	1½
<i>Second Year</i>	
MAC491 Mathematics II	3
PHC450 Certificate Physics	3
LSC101 English	1½
MEC234 Physical Metallurgy I	1½
<i>Third Year</i>	
CHC102 Analytical Chemistry I	3
MEC433 Materials Testing	3
MEC334 Physical Metallurgy II	3
<i>Fourth Year</i>	
CHC404 Analytical Chemistry II	3
MEC434 Physical Metallurgy III	3
MEC430 Metallurgical Processes I	3
<i>Fifth Year</i>	
MEC530 Metallurgical Processes II	3
MEC571 Industrial Organisation	1½
MEC533 Metallography	1½
Elective— <i>ONE</i> of	
MEC531 Advanced Foundry Technology	3
MEC532 Advanced Welding Technology	3

SURVEYING SECTION**CERTIFICATE COURSE IN CARTOGRAPHY****FIVE (5) YEARS PART-TIME EVENING STUDY.**

Students must obtain employment in approved technical work no later than the beginning of the second year of the course and must furnish evidence to this effect to the Institute.

Students must be so employed throughout the remainder of the course under the supervision of suitably qualified personnel.

At the end of each year, students shall be required to produce documentary evidence in support of their practical experience. This evidence may be provided in the form of a log-book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before being granted the Certificate, students must produce evidence of being employed in an approved capacity.

This course is recognized by the Australian Institute of Cartographers as satisfying the academic qualification for corporate membership.

Entrance Requirements: Junior—English, Maths B, Science B and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
MAC191 Mathematics I	3
SVC126 Drafting Practice I	3
ESC143 Geology For Cartographers	3
<i>Second Year</i>	
MAC491 Mathematics II	3
SVC226 Drafting Practice II	3
LSC101 English	1½
SVC236 Photogrammetry I	1½
<i>Third Year</i>	
SVC336 Photogrammetry II	3
SVC367 Spherical Trigonometry and Astronomy	3
SVC326 Cartographic Drafting	3
<i>Fourth Year</i>	
SVC457 Geodesy	3
SVC406 Surveying for Cartographers	3
SVC456 Map Projections	3
<i>Fifth Year</i>	
SVC526 Map and Plan Reproduction	3
SVC576 Land Laws and Regulations	3
SVC586 Survey Computations	3

CERTIFICATE COURSE FOR SURVEYING TECHNICIAN

FIVE (5) YEARS PART-TIME EVENING STUDY.

Students must obtain employment in approved technical work no later than the beginning of the second year of the course and must furnish evidence to this effect to the Institute.

Students must be so employed throughout the remainder of the course under the supervision of suitably qualified personnel.

At the end of each year, students shall be required to produce documentary evidence in support of their practical experience. This evidence may be provided in the form of a log-book which will contain essential details of the work done by the student and shall be certified by the student's employer prior to submission to the Institute.

Before being granted the Certificate, students must produce evidence of being employed in an approved capacity.

This course is recognised by the Institution of Engineering Surveyors, Qld. as satisfying the academic qualifications for those seeking admission to membership.

Entrance Requirements: Junior—English, Mathematics B, Science B and one other subject. (See pp. 23-25 for subject entry standards and conditions.)

<i>Subject</i>	<i>Hours per week</i>
<i>First Year</i>	
MAC191 Mathematics I	3
PHC450 Certificate Physics	3
LSC101 English	1½
CHC195 Chemistry I	1½
<i>Second Year</i>	
MAC491 Mathematics II	3
SVC205 Surveying I	3
SVC285 Computations I	1½
SVC275 Land Utilisation	1½
<i>Third Year</i>	
SVC305 Surveying II	3
SVC385 Computations II	1½
SVC325 Survey Drafting Practice	3
SVC375 Forestry	1½
<i>Fourth Year</i>	
SVC405 Surveying III	4½
SVC435 Aerial Surveying	3
SVC485 Survey Mathematics	1½
<i>Fifth Year</i>	
SVC367 Spherical Trigonometry and Astronomy	3
SVC119 Engineering Geology	3
SVC457 Geodesy	3

Practical and Oral Test at the end of the Fifth Year.

SYNOPSIS OF SUBJECTS

- CEA600 *Administration and Building Construction*
A series of lectures on the administration aspects of engineering including specifications and contracts, engineering law and economics, industrial organization and management, personnel control etc. The latter half of the year is devoted to a study of building standards, methods and techniques.
- MEC531 *Advanced Foundry Technology*
Advanced practical foundry technology is dealt with, including the melting and control of the important casting alloy, foundry sand control, and defect analysis.
- CEC588 *Advanced Laboratory Practice*
The responsibilities of laboratory staff, accuracy of results and statistical reliability is considered, together with theoretical and practical work on the principles of operation of various testing machines, processes and special forms of tests on various materials.
- MEC532 *Advanced Welding Technology*
The advanced metallurgy of the major welding methods applied to the important metals, weld defects and remedies and inspection methods and testing are covered in series.
- SVC435 *Aerial Surveying*
A course of lectures and practical work covering characteristics of aerial surveys, the use of photo interpretation in mapping, characteristics of single photographs, flying specifications, stereoscopy, stereoscopic reconstruction, graphic triangulation, geometry of the aerial photograph, ground control surveys, principles and practice of stereoscopic plotting machines.
- MEF451 *Air Conditioning*
Lectures are given on refrigeration with discussion on performance and choice of the various components and refrigerants. Air conditioning is subdivided into the topics of psychrometry, enthalpy potential, cooling, heat load, air handling systems, noise control, and control of the systems.
- MEC551 *Air Conditioning*
Descriptive lectures and introductory mathematical treatment of vapour compression, refrigeration cycles and equipment, air cycle, steam jet and absorption refrigeration, liquefaction of gases, psychrometry, fans and ductwork, and noise levels. An associated series of laboratory exercises is also included.
- CEP270 *Air Pollution II*
Stable and unstable air conditions, lapse rate. Dilution and dispersion calculations. High level inversions, ground and valley inversions. Chemical and biological effects of pollution including radiological airborne pollution. Monitoring and design and operation of control measures.
- EEP722 *Analogue/Hybrid Computing*
A series of lectures and tutorials covering the programming of analogue computers for equation solution and simulation, parallel-hybrid computer hardware and programming, programming of interfaced digital computers, and special purpose computers and simulators.
- CHC102 *Analytical Chemistry I*
A course in the basic principles of analytical chemistry including a study of the behaviour of common substances in solution, an intro-

duction to the principles of qualitative analysis and practice in the fundamental techniques of titrimetric analysis and gravimetric analysis.

CHC404 *Analytical Chemistry II*

A continuing course giving practice in qualitative analysis, including an introduction to semi-micro qualitative analysis, and further practice in the basic techniques of volumetric and gravimetric analysis. Introduction to industrial analytical techniques.

CEA560 *Applied Hydraulics*

Lectures and practical experiments considering such factors as hydrology, the hydraulics of open channels, hydraulic model testing, moveable bed hydraulics, and general design and analysis for hydraulic structures such as dams, spillways etc. A treatment of water supply and waste disposal is also given.

MEA210 *Applied Mechanics*

Lectures and practical work on statics—composition and resolution of force systems, shearing force and bending moment, Moment of Inertia, shear stress and shear strain and torsional stress; and dynamics—friction, screw threads, centripetal and centrifugal forces, clutches, gears, inertia, efficiency of machines, flywheels and the principles of conservation of energy and momentum.

MEC310 *Applied Mechanics I*

Considerations of force and its effects, equilibrium of forces, moments, section properties, strain and elasticity, shearing force and bending moments, work and power, introduction to simple machines, hydrostatic pressures, etc.

MEC410 *Applied Mechanics II*

Lectures and practical work following Applied Mechanics I and including torsion, combined stress, friction, centrifugal force, toothed gearing, cams, pulleys, mechanical advantage and efficiency, vibration isolation, elementary structures, columns and sizes of beams.

MEF210 *Applied Mechanics I*

Kinematics; motion of links; gears; velocity and acceleration of points in mechanics; friction drives including centrifugal effects in Vee-belts; dynamics of machines; flywheels and governors; linear and torsional vibration of systems, including geared systems; brief introduction to mechanics of fluids; measurement of static and dynamic quantities, such as force, velocity etc. Operation and application of analogue computers.

MEF310 *Applied Mechanics II*

Further lectures and practical work on applied mechanics covering advanced cases of acceleration in links, further work on vibration, analysis of statically indeterminate structures and experimental stress analysis, balancing, analogue computer solutions, and reciprocating engines.

CEF420 *Architecture, Town and Regional Planning*

A series of lectures on the principles involved in Architectural Design, Landscaping, Civic Design and planning; their inter-relationships in creating urban and rural environments. Planning legislation in Queensland.

EEP721 *Automation Practice A*

A series of lectures and tutorials covering the application of closed-loop control systems to industrial plant, pneumatic control systems, fluidics, sequency control, hydraulic control systems, avionic systems, reliability engineering and failure survival.

- EEP821 *Automation Practice B*
A series of lectures and tutorials covering process control systems, digital control systems, on-line computer control, telemetry, indication, recording, and logging of process data, machine tool control systems, electrical control systems.
- CEF331 *Building Construction*
A series of lectures covering the traditional building and civil engineering construction, materials and methods of construction, fireproofing, multi-storey buildings, warehouses and factories, Codes of Practice, health regulations and various associated Acts.
- CEF431 *Building Design*
A series of lectures covering the aspects of detail, advanced design and analysis of multi-story buildings, deep excavations, retaining structures, the provision of services and the effect of local government ordinances.
- SVC326 *Cartographic Drafting*
A series of lectures covering drafting methods, techniques and materials, plotting, map and chart construction, special purpose mapping, tiling and map reproduction preparation.
- PHC450 *Certificate Physics*
Measurement, kinematics, mechanics, properties of matter, heat, sound, light, electrostatics, current electricity, electromagnetism, electronics etc.
- CHC195 *Chemistry I*
An introductory course dealing with atoms, compounds, solids, liquids, gases, valency, acids, bases, salts, the basic laws of chemical combination and the classification of the elements.
- CHC496 *Chemistry II*
More advanced work in chemistry covering the general field of Chemistry I and including study of the periodic groups etc.
- EEC400 *Circuit Analysis*
Lectures and practical work on electrical circuit theory covering three phase and single phase active and reactive power, the j operator and complex algebra, voltage drop and resonance, Kirchhoff's Laws, superposition theorem, unbalanced polyphase systems, and solutions of R.L. and R.C. networks for applied d.c., sine waves and pulses.
- MEC327 *Civil Drawing I*
Preparation of nomograms.
Development: surfaces of irregular shapes; lines of intersection and interpenetration. Plotting from field book and level book; longitudinal and cross section; contour plans from grid. Preparation of civil drawings; site and survey plans; mass haul diagrams; sounding and grading diagrams. Structural drafting and dimensioning; pipe work layouts; reinforced concrete.

- MEC521 *Civil Drawing II*
Drawings related to major civil projects, including detailing of structural steelwork; reinforced and pre-stressed concrete; timber structures; brick, masonry and mass concrete. Test-pit and bore-hole surveys, survey plans to cover water supply, drainage, harbours and general construction.
- CEC300 *Civil Engineering I*
A series of lectures covering the Elements of Highway Engineering and Roadway Construction, Properties, Uses and Production of Concrete, Properties and Classification of Soils, Introduction to Supervision and Inspection of Engineering Projects, Principles and Uses of Various Surveying Instruments, Simpler Survey Problems. Full-time students will be assessed on their practical exercises in Surveying, Concrete and Soil Testing etc.
- CEC400 *Civil Engineering II*
Lectures on building design, construction, aesthetic and functional features, road, rail and airport systems, dams, bridges, tunnels and maritime structures.
- CEF100 *Civil Engineering I*
An introductory course on the concept and scope of Civil Engineering, engineering problems, techniques and design approaches. The course includes elementary design in structures, foundations, hydraulics, construction, civil engineering materials, transportation and surveying. The lectures are supplemented by assignments and practical exercises which are assessed for student performance.
- CEA680 *Civil Engineering Design*
Design projects in which the student will prepare and submit the design, detail drawings, schedule of quantities, specifications and an outline of erection procedure for a number of civil engineering projects.
- CEF280 *Civil Engineering Design I*
Part A—Reinforced Concrete
The design of beams for moment, shear and torsion. Design of slabs, columns, composite members, limit and ultimate load design.
Part B—Steel Design
The design of steel members for tension, compression and bending. Elastic and plastic design of members to ASCAI. Design of connections.
Part C—General
Design criteria, design philosophy, loads, statistical approach to design.
- CEF380 *Civil Engineering Design II*
Design projects in which the student will prepare and submit detailed drawings, schedule of quantities, specification and outline erection procedure for a number of small civil engineering projects such as a retaining wall, industrial building, bridge structure, etc.
- CEF480 *Civil Engineering Design III*
Design projects in which the student will prepare and submit the design and details for a number of civil engineering projects. The projects will be larger in magnitude and treated in greater depth than the designs in previous years.
- CEF401 *Civil Engineering Practice and Management*
A series of lectures on plant, equipment, special construction tech-

niques, construction planning and control used on civil engineering works; specialist lectures in different fields of civil engineering; lectures on aspects of administration, including economics, planning, contract documents, engineering law, site management etc.

- EEF420 *Closed Loop Control Systems*
System performance. Compensation techniques. System design. Root-locus methods. Non-linear systems analysis, simulation techniques. Analogue computer techniques.
- CEF461 *Coastal Engineering*
A series of lectures, and tutorials, following Hydraulic Engineering I, and including wave, tide and surge theory; sediment transport; beach forms, estuaries; hydraulic model applications; design and construction of coastal structures such as breakwaters, groynes etc.
- EEF360 *Communications Theory*
A series of lectures comprising an introduction to information theory, further development of the communication system and a detailed study of modulation methods and parameters.
- EEF460 *Communication Theory*
This course of lectures and practical work develops information theory further and introduces topics from statistical communication theory. Modulation for digital transmission, including coding, is studied and various modulation systems are compared.
- SVC285 *Computations I*
A course of lectures and tutorials covering office computing techniques, computation and adjustment of traverse, computation of areas, road secant, side and intersection calculations, calculation of circular curve components and problems involving solution of plane triangles.
- SVC385 *Computations II*
A course of lectures and tutorials covering hydraulic computation of flow and discharge of water courses, open channels and pipes, discharge by weir methods, the analytical, graphical and semigraphical solutions of the three point problem, earthworks and curve computation for roads and railways, mine surveying computation and the principles and use of the electronic computer.
- EEC572 *Computer Electronics*
Introductory lectures with associated practical work on computer electronics covering the functions of a computer, logic circuitry, digital circuitry, computer organisation, input and output circuits, memory devices, control units and arithmetic units.
- EEC590 *Computer Programming*
Lectures and practical work on basic computer principles and facilities, a programming course for scientific and business problems using general, scientific and commercial languages.
- CEC430 *Concrete Practice*
A course designed to give an understanding of the chemical and physical properties of concrete together with the tests necessary to give quality control of cement. The design of concrete mixes, specifications, production and the effect of additives is also considered.
- CEA430 *Concrete Technology*
Lectures and practical work covering the properties and characteristics of cement, aggregates, impurities and additives, design and specifica-

tion of concrete mixes, production and placement of concrete, repair of concrete and the design of reinforced and prestressed concrete structures.

- CEF330 *Concrete Technology and Design*
Lectures and practical work will cover the properties of cements, aggregates and hardened concrete. Discussion of all factors in the production, control and design of high quality mixes including plant for mixing, transportation and placing. Properties and types of lightweight concrete; formwork design and surface finishes. A series of lectures on the design of prestressed concrete elements and yield line theory for slabs.
- CEC501 *Construction Principles*
Consideration is given in this subject to the problems met on construction sites together with the equipment and techniques available for their solution. The principles of specification interpretation and job inspection procedures in many fields of Civil Engineering are also emphasised.
- CEC503 *Contract Administration*
Lectures on the control and administration of civil engineering construction procedures including selection of site areas, offices, material storage, provision of temporary services, clerical duties, hourly records etc., relationship of sub-contractors, architects, engineers, labour force, wages, various awards and Acts.
- EEC420 *Control Systems I*
A series of lectures and practical work dealing with the representation and analysis of linear systems. Methods include Laplace and Fourier transforms, Bode diagrams, Nicholls Charts and Polar Plots, the application of the analogue computer and methods of dealing with instability in control systems. Components used in control systems are included.
- EEC520 *Control Systems II*
A course of lectures and practical work covering:— Advanced linear systems theory; Controller types and characteristics, non linearity, logic and sampled data, simulation, optimisation and commissioning of processes.
- EEF380 *Design*
(a) Power:— Reactors, transformers, A. C. machinery, cables, circuits, and supply, rectification, protection.
(b) Electronics:— Amplifiers, voltage controlled oscillators, multipliers, filters, modulators and demodulators and pulse circuits.
- EEF481 *Design (Electronics and Communication)*
Lectures and design exercises covering all aspects of electronic circuitry and communications systems.
- EEF483 *Design (Power)*
Preparation of specifications and estimates, overhead line design, system computations, substation design, industrial installations, underground cable systems, design of machinery and transformers, audio frequency control systems, illumination.
- EEP822 *Digital Computing*
A series of lectures and tutorials covering Fortran programming, use of the computer for simulation and system studies, programming of on-line computers, and interfacing.

- SVC126 *Drafting Practice I*
Use and care of instruments, formation of letters, lettering with brush and script pen, colours and colouring, enlargement and reduction of plans. Plotting of simple plans by bearing and distance and rectangular co-ordinates, tracing and photo copying of plans.
- SVC226 *Drafting Practice II*
Compilation of cadastral plans from surveyors' field books to Survey Office, Titles Office and Mines Department specification. Complication of engineering surveying plans of working survey, contour survey and sewerage detail survey. Complication of special plans. Critical appreciation of plans.
- MEC480 *Drawing Office Practice I*
Drawing methods, codes and standards. Drawing materials. Basic engineering components. Use of handbooks, codes and rolled steel section tables in determining proportions of simple elements. Guided design in application of simple elements forming part of larger designs.
Working drawings—preparation of pencil negatives of details and assemblies. Survey drawing—plotting from field book, notes and sketches; plans, locality plans, site plans, contour plans; longitudinal and cross sections.
- MEC580 *Drawing Office Practice II*
Drawing office organisation and equipment; plan storage; reproduction methods. Diagrammatic, illustrative and descriptive drafting. Structural drafting—simple reinforced concrete work, structural details and built up members. Mechanical drawing—set drafting project, including simple design of minor components, prepared from engineer's rough sketches and overall design; jigs and fixtures.
- MEC522 *Drawing Office Practice (Elec.)*
A course of lectures, illustrations, sketches and drawings covering electrical power and electronic equipment viz. Symbols, Rules and Regulations. Circuits for Domestic and Commercial Buildings, Industrial Installations, Manufacturing Drawings. Supply Authority equipment, Control circuits and electronic applications.
- EEC300 *Electrical Engineering*
Electric Shock, Resuscitation, Regulations and S.A.A., DC and AC Circuits, Power and Energy, Magnetic Circuits, Instruments, Introduction to DC and AC Machinery and Transformers, Power Measurement in Three Phase Circuits. AC Supply Systems, Earthing, Tariffs, Protection, Elementary Electronics.
- EEA300 *Electrical Engineering I (Electrical and Mechanical)*
A series of lectures and tutorial work covering:— Network theory and circuit theorems; electric and magnetic fields, measuring instruments, D.C. machinery, distribution systems, direct energy conversion, and introduction to the communication system, transducers signals and links, semi-conductors, rectification and the basic amplifier.
- EEA304 *Electrical Engineering Ia*
An introductory series of lectures and practical work covering Kirchoff's Laws for D.C. and A.C. circuits, vector diagrams, magnetic circuits, lifting-magnets and solenoids, measuring instruments, batteries, D.C. and A.C. machines, transformers, A.C. supply systems, voltage drop and power calculations, emergency supply, switching and protective devices, tariffs, power factor correction, elementary electronics, illumination, regulations and safety precautions.
- EEA400 *Electrical Engineering II (Electrical and Mechanical)*
A series of lectures and practical work covering:—
Further network theory, transfer functions, network topology,

graphical, matrix and transform methods and three phase circuits. Transformers, A.C. Machinery, starters and control equipment, rectification, A.C. transmission and distribution, L.V. circuit breakers, fuse and motor protection, industrial supply, A.C. measuring instruments, elementary production economics and illumination. Further analysis of amplifier circuits, introduction to non-linear circuits; electronic applications in industry; analogue computer principles.

- EEA500 *Electrical Engineering III* (Electrical)
This course of lectures and practical work comprises a more advanced and generalised treatment of networks; a thorough coverage of pulse and timing circuits, boolean algebra and logic circuitry leading to digital computers and programming principles; a thorough analysis of r.f. transmission lines and components; parameters, equivalent circuits and circle diagrams of power transmission lines and the representation of a power system introducing per unit notation.
- EEA541 *Electrical Engineering IIIa* (Power)
Characteristics of overload lines and underground cables, transformers and A.C. machinery, steady state and transient stability, symmetrical components and fault analysis, neutral earthing, co-ordination of power and communication systems, harmonics, digital and network analysers.
- EEA570 *Electrical Engineering IIIb* (Electronics and Communication)
A series of lectures and practical work covering all modulation and multiplexing methods, noise, information theory and the detailed analysis of pulse and modulation circuits.
- EEA650 *Electrical Engineering IVa* (Power)
Electrical Power Plant, Protection, Operation and Control, Surge Phenomena.
- EEA645 *Electrical Engineering IVb* (Electronics and Communication)
A course of lectures, practical and design work comprising all aspects of communication and radar technology, e.m. theory, wave guides and aerials, solid state electronics, modern devices and computer design and organization.
- EEF100 *Electrical Engineering I*
Two hours per week including tutorial work—a general introduction to electrical engineering for all engineering students covering:— electric circuits, magnetic circuits, measuring instruments, batteries, electrical plant, power supply systems, electrical equipment in buildings, tariffs, cost of supply, illumination and electronics.
- EEF200 *Electrical Engineering IIA* (Mechanical and Electrical)
A series of lectures and practical work covering:— Network theory and circuit theorems, matrix methods; frequency, power and transient behaviour of networks, an introduction to electronic systems; communications, radar and navigation, instrumentation and computers, semiconductors and valves; the basic amplifier and power supply.
Electric and magnetic fields, D.C. Machinery and single phase transformers.
- EEF202 *Electrical Engineering IIB* (Electrical)
An extension of Electrical Engineering IIA providing the necessary design and laboratory work arising from that subject and developing the electronics further, including design and analysis of transistor amplifiers and oscillators, analysis of distributed networks and the uniform transmission line, the basic analytical treatment of periodic and aperiodic signals and the response of linear and non-linear circuits to signals.

- EEF304 *Electrical Engineering IIIM*
A series of lectures and practical work covering network theory, three phase circuits, A.C. electrical machinery, rectification, L.V. circuit breakers and protection, measurements, elementary production economics, illumination, further work in electronic theory, signalling, pulse circuitry and industrial applications.
- EEA480 *Electrical Laboratory and Design (Electrical)*
This course of design and experimental work supports and reinforces the work covered in Electrical Engineering I, II and Electronic Engineering. It includes design and practical work on all aspects of electrical power and electronic devices, circuits and equipment dealt with in those subjects.
- EEC450 *Electrical Machines I*
Lectures with associated practical work covering construction, control, application and characteristics of D.C. machines, alternators, and synchronous motors, the transformer and the induction motor.
- EEC550 *Electrical Machines II*
Further lectures and practical work on electrical machines including rotating and magnetic amplifiers, variable speed A.C. machines, controlled rectifiers for C.C. machines, synchronous machines including transient operation (descriptive), design of transformers, induction motors and the installation and commissioning of machines.
- EEC511 *Electrical Measurements*
Lectures with associated practical work on electrical measurements covering accuracy and errors, units, standards, D.C. and A.C. instruments, waveform analysis, instrument transformers, measurement of capacitance, inductance, temperature and magnetic fields, frequency and phase, high voltage and high frequency measurements.
- EEC440 *Electrical Power*
Lectures and associated practical work covering current practice in the Electrical supply industry including generation, transmission, transformers, switchgear, distribution, relaying and utilization.
- EEF350 *Electrical Power Plant*
A series of lectures and tutorial work based on three phase transformers, A.C. machinery, rectification and inversion, distribution systems, basic protective equipment and measuring inversion.
- EEF450 *Electrical Power Systems*
A series of lectures, tutorials and practical work covering:— electrical machinery, generation, excitation systems, power stations, machine theory, power system planning and economics, power station auxiliaries, control centres, substation layout, capacitors, insulators, cables, line equipment, transformers, illumination, electric traction and advanced measurements.
- EEF370 *Electronic Circuits*
A course of lectures in the analysis and design of all types of amplifier, modulation, pulse and logic circuits.
- EEA470 *Electronic Engineering (Electrical)*
This subject develops the electronics dealt with in Electrical Engineering I and II. It comprises detailed analysis of amplifiers and oscillators; valves and their applications, linear modulation, frequency multiplexing and the relevant circuits.
- EEC470 *Electronics I*
Introductory lectures with associated practical work revising Electrical Technology I and including transformer theory, electron tubes, semi-

conductors, power supplies, amplifiers including audio, R.F. and D.C., and basic feedback theory.

EEC570 *Electronics II*

A follow on from Electronics I, covering audio, video and tuned amplifiers, feedback, oscillators, pulsing circuits, modulators and detectors.

EEC670 *Electronics III*

Further lectures and practical work on electronic apparatus including V.H.F. equipment and equipment for the generation and measurement of distortion, noise, voltage, current, frequency and power.

EEC445 *Electronic Systems*

A series of lectures and practical work dealing with electronic devices and systems of importance in instrumentation. Topics include:—thyratrons, thyristors and associated devices, including control and applications; Boolean algebra and logic circuits; pulse and digital circuits; information handling and information processing systems.

EEF445 *Electronic Systems and Technology*

A series of lectures on communications, radar and computer systems. All aspects of these systems are covered and the practical realization of the various sub-systems is emphasized.

MEA480 *Engineering Design I*

Lectures and design work with detail and assembly drawings of simple machines and machine parts, elementary design of joints, pulleys, belts gears, clutches and brakes, and an introduction to electrical design.

MEA580 *Engineering Design II*

Further lectures and design work on machines covering couplings, shafts, bearings, gears, valves, machine frames and including tolerances.

MEA120 *Engineering Drawing I*

Introduction—use and care of instruments standard lettering and format—Australian Standard Drawing Practice AS CZ1—1966. Geometrical constructions—polygons—circles in contact—conic sections—involute—mechanical drawing—first and third angle—sections—dimensions. Pictorial views—oblique and isometric. Descriptive Geometry—inclined planes—true shapes. Hand sketching of common engineering components.

MEA220 *Engineering Drawing II*

Perspective drawing by plan method. Descriptive geometry—further inclined plane work—intersection and surface developments. Spiral curves, cams, spur gear profiles. Civil Drawing—plotting from field book—contour plant from grid—structural drawing details—reinforced concrete drawings and steel schedules—timber joint details. Electrical Drawing—circuit and wiring diagrams—motor casings—transformers. Hand Sketching.

MEC120 *Engineering Drawing I*

Introduction—use and care of instruments; geometrical constructions; conic sections; loci problems. Mechanical Drawing—projection in first and third Dihedral angle; engineering drawing related to current Australian Standard Drawing Practice. Pictorial views—iso-metric and oblique parallel projection. Descriptive Geometry—inclined planes; objects on or cut by inclined planes. Hand sketching and written work—on engineering components.

- MEC320 *Engineering Drawing II*
Pictorial views—perspective using plan method. Mechanical Drawing—detail and assembly drawings—first and third angle—sectional views. Electrical Drawing—electrical circuit drawings and block diagrams—simple schematic and wiring diagrams—plant or component layout drawings.
- MEF120 *Engineering Drawing I*
Principles of orthographic projection, dimensioning, sectioned and auxiliary views, isometric, oblique parallel drawing and freehand sketching. Oblique planes, sections and surface development.
- ESC119 *Engineering Geology*
Lectures and associated practical work dealing with geological history and principles, geomorphology, structural geology, mineralogy and petrology of common materials, geological mapping and the principles of engineering geology and its applications.
- MEC420 *Engineering Graphics*
Descriptive Geometry—oblique plane—primary and secondary auxiliary projections. Surface Development—intersection & interpenetration. Spiral Curves—Cams—Construction of Nomographs. Graphical Analysis—differentiation & integration—second moment of area by graphical means—shear force and bending moment diagrams—forces in framed structures.
- MEA140 *Engineering Materials I*
An introductory course on the properties and characteristics of engineering materials covering metals, concrete, timber, plastics, electrical materials, ceramics, lubricants and bituminous materials.
- MEC140 *Engineering Materials I*
A series of lectures and practical work dealing with the general properties of materials, service requirements, production and properties of materials, service requirements, production and properties of ferrous and non-ferrous metals and their alloys, testing procedures, plastics, ceramics and other materials.
- MEC340 *Engineering Materials II*
A series of lectures extending the subjects given in the earlier course on Engineering Materials I, with emphasis on practical applications such as welding etc.
- MAA191 *Engineering Mathematics I*
Analytical geometry of straight line and circle, differential calculus, maxima and minima, integral calculus, first order linear differential equations, vectors and scalars, motion in a straight line, mass, force energy, momentum, complex algebra.
- MAA193 *Engineering Mathematics II*
Analytic geometry of conic sections, determinants, matrix algebra, linear equations, sequences and series, expansions, partial differential equations, laplace transformation and its application, homograms.
- MAA491 *Engineering Mathematics III*
Numerical analysis, differentiation, integration etc., finite difference methods, introduction to computer methods in engineering problems, complex variable methods with trigonometric.
- MAF191 *Engineering Mathematics I—Pure*
Elementary vector analysis; kinematics; dynamics of particles; dynamics of a rigid body.
- MAF193 *Engineering Mathematics I—Applied*
Functions; differentiation and applications; integration and applications; polar coordinates; complex numbers; differential equations;

sequences and series; numerical analysis; linear algebra; elementary vector analysis; kinematics; dynamics.

- MAF491 *Engineering Mathematics II*
Matrices; differential equations; Fourier series analysis; vector field theory; statistical mathematics.
- MAF791 *Engineering Mathematics III*
Complex analysis; numerical analysis; partial differential equations.
- MEC210 *Engineering Mechanics*
Vectors in two dimensions; forces in two dimensions; equilibrium of a one dimensional body; hydrostatics; kinematics of a particle under constant acceleration; work and energy; momentum; elasticity; friction and engineering structural units.
- MEA541 *Engineering Metallurgy*
Lectures and practical work on the structure of metals and alloys, crystallography, mechanical deformation, phase diagrams, heat treatment, corrosion and corrosion protection and non-destructive testing.
- MEC541 *Engineering Metallurgy*
A descriptive lecture series on the metallurgy of metals and their alloys covering a selection of materials for engineering processes, working of metals, corrosion protection, heat treatment, tool material and foundry metallurgy.
- PHF130 *Engineering Physics I*
A course of lectures and laboratory work in modern physics including wave theory and its applications in acoustics and optics; field theory with reference to gravitational, electric and magnetic fields; special relativity and atomic and nuclear theory. The laboratory course emphasizes the modern approach to physical measurement.
- PHF430 *Engineering Physics II*
A course of lectures including an introduction to modern physics through wave mechanics, and extension of electromagnetic field theory to waveguide propagation. Kinetic theory, thermodynamics, and statistical mechanics are developed. The properties of semiconductors are related to electron bonding and energy band levels of the solid state.
- SVC314 *Engineering Surveying*
A series of lectures covering construction and use of surveying instruments. Theodolite, planetable and stadia surveying. Principles and practice of photogrammetric surveying. Route surveying. Computation and setting out of curves and other engineering works. Levelling and its application to contouring, working survey and earth work computation. Office plotting.
- MEF200 *Engineering Thermodynamics I*
Reversible and irreversible processes. The working fluid, phase change, use of charts, properties of mixtures. Combustion. Gas and vapour power cycles, such as Carnot, Otto, Diesel, Dual Combustion, Joule-Brayton, Rankine, Sterling and Ericsson. Supercharging. Reheat, regeneration. Simple and Compound steam engine. Steam plant. Nozzle flow, critical pressure ratio, areas. Positive displacement compressors. Refrigeration cycles, Coal Sampling and preparation.
- LSC101 *English*
An introduction to business communication: application of communication conventions and principles to essays, business letters, reports, speeches; improved reading techniques; meeting procedure; library.

- LSA101 *English Expression I*
An introduction to the principles of communication through the study of effective examples; application of these principles to reports, business letters, and research papers. Use of library. Student's results in English Expression I will be determined from assignments and tests set throughout the year.
- LSA102 *English Expression II*
Application of communication principles to the study of meeting procedure, committees, conferences, public speaking, learned articles, literary art forms. Student's results in English Expression II will be determined from assignment and tests work set throughout the year.
- BEP181 *Environmental Science I*
Chemical and physical properties of gases, liquids and solids. Properties of solutions, oxidation, reduction, Biochemical reactions of organisms. Nature of proteins, fats etc. Metabolic cycles. The lithosphere, hydrosphere, and biosphere, micro environments. Principles of classification.
- BEP182 *Environmental Science II*
Micro organisms, basic types. Aquatic habitats, sewerage and waste water. Host parasite relationships, pathogenicity, epidemics, chemical control. Bacteria, algae, fungi and protozoa, their classification and habitats.
- BEP481 *Environmental Science III*
Man, basic anatomy and physiology. Disease and its transmission. Man and the environment. Control of plant and animal populations. Agriculture, industry.
- MEF461 *Fluid Control Circuit Design*
Transfer functions and equations for controls in the electrical, mechanical and fluid mode, dynamic analogies and the selection of commercial components to build up a control system.
- CEA460 *Fluid Mechanics*
Lectures and practical work on hydrostatics, fundamental characteristics of fluid flow, similarity and dimensional analysis, pipe flow, open channel flow and hydraulic machines.
- CEF360 *Fluid Mechanics*
Lectures, tutorial and practical work on fundamental fluid properties, fundamental equations of fluid flow, fluid statics, similarity and dimensional analysis, pipe and open channel flow, and hydraulic machines.
- MEF460 *Fluid Mechanics II*
More advanced analysis is made of compressible flow as well as covering vorticity, lift, drag, and boundary layer theory. Turbo-machines are dealt with in detail. The subject also covers transient and control in fluid flow, non-newtonian fluids, and design of digital and analogue fluidic components.
- MEA460 *Fluid Mechanics and Heat Transfer*
A series of lectures and practical work covering conduction, incompressible fluid flow, dimensional analysis, convection heat transfer, rotodynamic machines, positive displacement fluid machines and radiation heat transfer. Analogue computer applications and other analogue methods.
- MEC460 *Fluid Mechanics and Heat Transfer*
Introduction to fluid mechanics and heat transfer, Bernoulli equation, pumps and other rotodynamic machines, flow and losses in pipelines,

compressible and incompressible fluid flow, water, oil, steam and gases in motion. Conduction through plane and cylindrical surfaces. Surface effects. Radiation. Free and forced convection. Combined modes. Fluidics, pneumatic and hydraulic applications. Fans. The dimensionless numbers, model studies. Flow over notches and weirs.

- MEF360 *Fluid Mechanics and Heat Transfer*
Topics under the heading of fluid mechanics include fluid properties, kinematics, steady flow energy equations, momentum equation, velocity diagrams, similitude and dimensional analysis, turbomachines, system matching, introduction to open channel flow, fluid measurements, introduction to compressible flow, and transmission and control of fluid power. The subject of heat transfer covers an introduction to Heat Transfer modes, rods and fins, analog methods, furnace heat transfer, boiling and condensation, and mass transfer.
- SVC375 *Forestry*
A series of lectures covering the utility of forests, afforestation, identification of timbers, forest surveys timber assessment, the economic timbers of Queensland.
- MEC553 *Fuels Testing*
An introductory lecture series with associated practical work on laboratory testing covering testing standards and criteria, for fuels, lubricating oils, special fluids such as transformer oil, and general laboratory procedure. General treatment of standard test procedures for solid, liquid and gaseous fuels. In addition to regular tests, some testing of lesser known substances will be performed.
- SVC457 *Geodesy*
A series of lectures covering geodetic instruments and definitions, the geodetic properties of the Earth, triangulations, geodetic levelling, determination of geodetic position, radii of curvature, convergence, spherical excess in geodetic surveying, arcs and parallels.
- ESA140 *Geology*
An introduction to geology covering the physical and chemical properties of geological materials used in engineering, foundation studies, rock mechanics, hydrologic studies and field exploration techniques.
- ESF146 *Geology*
A series of lectures and practical work giving an introduction to geology including introductory mineralogy, petrology, structural geology, geomorphology, historical geology. Engineering geology covering physical and chemical properties, foundation studies and exploration techniques, geologic considerations in rock masses and hydrologic studies.
- ESC143 *Geology for Cartographers*
A course of lectures and practical work covering basic geologic principles, geomorphology, structural geology, economic geology and historical geology.
- CEA610 *Highway and Bridge Engineering*
A series of lectures on highway engineering covering location, design, construction and maintenance of roads, traffic characteristics and surveys, and the general features, objectives, design and construction of bridges.
- CEF310 *Highway, Bridge and Traffic Engineering I*
A series of lectures covering the general design principles for urban and rural roads, intersection design, rigid and flexible pavement design and an introduction to the characteristics of traffic engineering.

- CEF410 *Highway, Bridge and Traffic Engineering II*
A series of lectures covering the materials, construction, improvement and maintenance aspects of highways; design considerations and construction details of structures associated with highways in urban and rural areas.
- CEF460 *Hydraulic Engineering I*
A series of lectures and tutorials on open channel flow, hydrology, water hammer, movable boundary hydraulics and hydraulic model testing.
- CEF560 *Hydraulic Engineering II*
A series of lectures and tutorials, following Applied Hydraulics I, and including advanced hydrology and movable boundary hydraulics.
- CEC460 *Hydraulics*
A lecture series covering properties of fluids, principles of continuity, measurement of flow, hydraulic turbines and centrifugal pumps; water hammer, rainfall and run-off. Practical work in the laboratory will cover measurement of flow and tests on hydraulic machinery.
- CEP272 *Hydrology I*
Water requirements—domestic and industrial, growth of water demand. Availability and distribution of water. Basic hydrology, estimation of water yield. Losses, catchment yield, river intake yield.
- MEA671 *Industrial Engineering and Administration*
A series of lectures on the industrial aspects and problems of engineering including specifications and contracts, engineering law and economics, industrial organisation and management, methods engineering, quality control, production engineering and personnel problems.
- MEF471 *Industrial Engineering*
The subject covers production planning and control, factory planning, productivity, work study synthesis and analysis, data processing, operation research, specifications and estimates, wage incentive schemes, and ethics.
- MEC571 *Industrial Organisation*
A general series of lectures covering human relations, works study and production planning and safety in the industrial environment is given in this subject.
- MEF487 *Industrial Visits*
Students are given specific projects in the form of questionnaires on each firm visited and have a discussion period in class after the visit. Several are in the Sydney, Newcastle area and one week is spent visiting these installations.
- EEA520 *Instrumentation and Control (Electrical)*
Principles of instrumentation, transducers, telemetering, recording equipment, transfer functions, stability criteria, transport delay, non-linear devices and analysis, describing functions and phase space concepts, statistical design of control systems, sampled data and adaptive control systems.

- EEF320 *Instrumentation and Control*
Surveys of control systems, transducers, amplifiers, controllers and drive elements. Instrumentation: Introduction to time, frequency, and complex domain methods of analysis.
- EEC310 *Instrumentation Technology I*
A series of lectures and practical work dealing with the application of mechanics, fluid mechanics and thermodynamics to instrumentation. Topics include simple harmonic motion; angular momentum; flywheels; gyroscopes; pressure measuring devices; flow measurement; laminar and turbulent flow; thermometry; laws of thermodynamics; thermodynamic cycles and efficiency; fluid flow measurement and control.
- EEC410 *Instrumentation Technology II*
A course of lectures and practical work including:— information systems and communication; accurate electrical measurements using bridge methods; electric transducers; temperature measurement; workshop practice.
- EEC510 *Instrumentation Technology III*
A course of lectures and practical work including:— photoelectrics; nucleonics; electric filters (active and passive); analytical measurements and sampling; integrated circuits; advanced electronic instruments.
- CEC504 *Job Organisation*
An introductory lecture series on typical organisations, construction planning and programming, records and control, industrial organisation, management of labour, incentive payments, contract system, presentation of technical data and basic job administration.
- CEC586 *Laboratory Projects*
Selected projects in various fields are proposed for which students must develop test techniques and analyse the results in the form of a laboratory report.
- EEP724 *Laboratory/Projects A*
A series of formal laboratory experiments and a project, to support subjects EEP721, EEP722, and EEP723.
- EEP824 *Laboratory/Projects B*
A series of formal laboratory experiments and a project, to support subjects EEP821, EEP822, and EEP823.
- SVC576 *Land Laws and Regulations*
A course of lectures covering the law of property, land registration systems, leasehold, land title descriptions, searching, rights and powers of the Crown, limited access, survey regulations, powers of the various State and Local authorities, law relating to accretion and erosion and copyright.
- SVC275 *Land Utilisation*
A course of lectures covering land forms, climatology, land management, stream control, the economics of land subdivision for development including land classification and feature surveys and the preparation of investigation reports.
- MEC570 *Machine Control*
A lecture series and associated practical work covering D.C. motors and generators, A.C. motors, Ward Leonard sets, selsyns, amplidyne, engines turbines and drives, centrifugal clutches, hydraulic drives, gear boxes, simple feed back systems, governors and speed controllers, and elementary treatment of some common control systems.

- SVC456 *Map Projections*
A series of lectures and practical work covering the problem of map projections, properties of projections, main systems of map projections, characteristics and geometry of better known projections, choice of projections, Transverse Mercator and two standard parallel polyconic projections in detail, grid-projection conversion.
- SVC526 *Map and Plan Reproduction*
A series of lectures covering copying of maps and plans, camera work, colour theory, principles of lithography, proving off-set printing and letterpress printing.
- MEF140 *Materials and Processes I*
Materials Science—the solid state, phase changes, elementary metallography, equilibrium diagrams, deformation and fracture of material, strengthening mechanisms;
Materials Technology—polymeric materials, ceramics, metals, heat treatment, alloying, joining methods, corrosion, materials testing.
Production Technology—work study, costing methods, casting, welding, forming, metal cutting, inspection, safety.
- MEF341 *Materials and Processes II*
The topic of materials selection is covered using the principles of physical properties, mechanical properties, method of manufacture, behaviour in the environment, and economic factors. The subject also deals in detail with the principles and application of the four major metal working processes—casting, working, joining, powder metallurgy.
- MEC433 *Materials Testing*
An introductory lecture series and associated practical work covering standards and codes for testing, non-destructive testing, testing machines, surfaces, stress measurement and vibration analysis. An introduction to statistical methods used to analyse test results.
- MAC191 *Mathematics I*
Algebra—Indices, surds, logarithms, ratio and proportion, variation, progressions, permutations and combinations, binomial theorem.
Trigonometry—Ratios of angles, solution of triangles, compound angles, identities.
Geometry—Similar figures, ratio and proportion, triangles and circles.
- MAC491 *Mathematics II*
Algebra—Binomial theorem and applications.
Analytic Geometry—Straight line and circle.
Calculus—Differentiation, maxima and minima, integration, definite integral.
Trigonometry—Solution of triangles, equations, heights and distances.
- MEC300 *Mechanical Engineering*
An introductory series of lectures covering: *Basic Thermodynamics*—Boyle's and Charles' Laws, change of state, first and second laws of Thermodynamics, Processes and cycles. *Steam*—formation, properties, reciprocating and rotary steam engines, internal combustion engines, gas turbines, air compressors, refrigeration, solar energy and power generation.
- MEA300 *Mechanical Engineering I*
An introductory series of lectures and practical work on units, open and closed systems, laws of thermodynamics, entropy and ethalpy, internal combustion engines, steam generators, fuels, air compressors and refrigeration.

- ME A388 *Mechanical Engineering Ia*
Introductory lectures and practical work on thermodynamics covering open and closed systems, laws of thermodynamics, heat transfer, internal combustion engines, gas turbines, air compressors, and elementary design of simple machine parts.
- ME F100 *Mechanical Engineering I*
Construction, function and operation of diesel and petrol engines, gas and steam turbines, fans and pumps and steam boilers. Fuel analysis, combustion, air pollution. Thermal efficiency calculations of above plant. Measurement of performance and horsepower calculations. Engine test beds and improvement in engine performance. Introduction to application of laws of thermodynamics.
- ME A400 *Mechanical Engineering II*
A series of lectures and associated practical work in thermodynamics including fluid flow, heat engines, steam plant, measurement and control, gas turbines and combined cycles, nuclear reactors and special requirements, economy of power systems. I.C. engines real cycle analysis.
- ME A600 *Mechanical Engineering III*
Part A *Control Systems*, electric, pneumatic, and hydraulic controllers, elementary feed back theory, analogue computer.
Turbomachines, nozzles, lift, drag, boundary layer, wind-tunnels.
In addition the electives:
Part B *Metrology*, basic standards, gauge manufacture, optical methods, testing.
Either
Air Conditioning, heat loads, psychrometry, ventilation, cycles, component selection.
Or
Production Technology, type of chip, machine tool drives, production of threads and gears, milling, grinding, surface finish, production techniques.
- ME A680 *Mechanical Engineering Design*
A series of more advanced lectures and design work on mechanical items such as gear-boxes, hoisting equipment, brakes and clutches, hydraulic presses, steam and internal combustion engines, machine tools, and experimental stress analysis. At least one item shall be designed and drawn with reasonable detail.
- ME F288 *Mechanical Engineering Design Ia*
An introduction to mechanical engineering design covering connections, power transmission drives, bearings, and gears.
- ME F280 *Mechanical Engineering Design I*
An introduction to the principles and methods of mechanical design. Tolerancing of machine component dimensions. Design of basic machine elements; bolted and welded connections, keys and keyways, belt drives, power screws, shafts, couplings, bearings, plain spur and bevel gears. Projects in guided design. Cam profiles. Pipework layouts.
- ME F380 *Mechanical Engineering Design II*
A practical design project from industry is selected for each term and students submit designs and calculations. Lecture material covers design of brakes, clutches, theory of lubrication, design of flat plates, helical gearing, worm drives and more advanced structural steel design.
- ME F480 *Mechanical Engineering Design III*
Students undertake a major design project as a group producing drawings, co-ordinating manufacture, and finally testing the design. Lectures are given on design analysis for production, dealing with product quality and cost, designing for the production process, value

analysis, functional analysis, production analysis, planning a production process, layouts, standards, automation, and planned obsolescence. In addition there are lectures on applied elasticity and applied plasticity both of a more advanced form.

MEC533 *Metallography*

This subject is a practical one covering examination of service faults and failures and advanced metallography.

MEC430 *Metallurgical Processes I*

This course covers the principles of the major metal shaping processes of casting, welding metal working and powder metallurgy, as well as electro metallurgy and the general properties of fuels and refractories.

MEC530 *Metallurgical Processes II*

A more advanced series of lectures governing the application of the principles of metal shaping processes to industrial conditions is covered in this subject.

MEF473 *Metrology*

Limits and fits, surface finishes, basic standards of length, gauge manufacture, principles of gauging, measuring instruments, optical methods, and tool alignments are lectured on in some detail.

MEC573 *Metrology and Machine Tools*

A lecture series and associated practical work on Metrology and Machine Tools. Metrology will include basic standards of length, measuring equipment and methods, gauging and statistical quality control, while Machine Tools covers analysis of cutting action, types and uses of lathes, screw threads, milling, broaching, gear cutting, grinding, honing and lapping and special purpose machines, including numerically controlled machines.

EEF472 *Modern Devices and Digital Techniques*

An advanced and detailed course of lectures, with practical work, on logic circuits, pulse and digital techniques, all types of electronic amplifying and signal generating devices and integrated circuit techniques.

EEC591 *Navigational Aids*

A descriptive lecture series with associated practical work on navigational aids including non-directional beacons, automatic direction finding, radio range, Decca, Hyperbolic and Loran, R/O System Tacan, distance measuring equipment, radar and blind landing systems.

EEF303 *Network Analysis*

A series of lectures and tutorial work dealing with network topology and matrix applications, three phase circuits, transform methods and filters.

CHC463 *Organic Chemistry and Materials*

An introductory course in organic chemistry with an engineering bias, designed for technicians. The course includes a study of homologous series of compounds such as hydrocarbons, alcohols, acids, amines etc. The course will include materials of petroleum origin and polymer chemistry.

SVC236 *Photogrammetry I*

The place of aerial photographs in surveying. Flight specifications and processing, equipment, flight planning, development and fixing. Photo interpretation, introduction to stereoscopy, interpretation of

- physical and cultural detail from aerial photographs. Uses of aerial photographs and selection of control.
- SVC336 *Photogrammetry II*
Introductory mathematics, photogrammetric optics, geometry of aerial photograph, stereoscopy, vertical photographs, photocompilation, radialline method, mosaics and photomaps, field control, principles of construction and operation of stereo plotting machines.
- MEC234 *Physical Metallurgy I*
An introductory course covering the nature of metals, their structure and lattice defects. Simple phase diagrams and deformation theory are introduced.
- MEC334 *Physical Metallurgy II*
The subject consists of a series of lectures covering the physical metallurgy of the common alloy groups, their industrial application and use, and a series of practical exercises on the microscopic examination of metals.
- MEC434 *Physical Metallurgy III*
This subject covers the behaviour of metals under industrial conditions, and includes corrosion, behaviour of metals under static, impact and cyclic loads. A practical section on advanced microscopic examination and photography of microstructures is also included.
- PHA136 *Physics IIE*
A course of lectures and laboratory work involving three hours per week. The course deals with the properties of matter, surface tension and viscosity, thermodynamics, geometrical and physical optics, electricity and magnetism (including more advanced A.C. theory), course on electronics.
- EEC452 *Plant Layout (Com.)*
A course of lectures, demonstrations and exercises in layout of equipment for telephone exchanges, cabling, panel equipment, interconnection diagrams, trunk switching equipment and provision for future expansion.
- EEC451 *Plant Layout (Power)*
The lectures cover rules and regulations, domestic and industrial equipment layout and circuitry, supply authorities distribution equipment, power stations and substations.
- MEF452 *Power Plant*
Steam turbines, power station boilers, special applications, feed heating plant, power station installations, air compressors, gas turbines, nuclear plant, and solar energy.
- EEF441 *Power System Analysis*
A series of lectures, tutorial and practical work covering:— generation, power system control, transient stability, power co-ordination, surges, surge protection, corona, H.V. testing and insulation co-ordination.
- EEC540 *Power Systems I*
An introductory descriptive lecture series with associated practical work on electric power supply covering loading, cost of generation, review of generator principles, overhead lines and underground cables, transformers, circuit breakers, capacitors, protection, metering, power-stations, distribution, safety and maintenance.
- EEC640 *Power Systems II*
Further lectures and practical work following on Power Systems I and including electrical layout of power stations, system operation including stability protection from over-voltage and additional work on overcurrent protection.

- CES100** *Powers and Duties of a Municipal Engineer*
A postgraduate lecture series giving tuition for students intending to sit for the Local Government Engineer's examination. The course is conducted on the basis of sufficient enrolments.
- CEP170** *Principles of Environmental Engineering*
A review of the history, scope, development and future course of environmental engineering. Stress will be laid on the interdisciplinary nature of environmental engineering and control. Introduction to economic and planning aspects.
- LSA131** *Principles of Management for Engineers*
Management structures, business organisations, management functions and processes. Training, productivity, industrial relations and group behaviour.
- MEC542** *Process Plant*
Unit operations, mixing and separation processes, crushing, sizing, filtering, transport of solids.
- MEC572** *Production Planning*
A series of descriptive lectures and associated practical work covering time and motion study, methods study, productivity, layout of work area, plant layout, materials handling and production planning.
- MEC286** *Production Practice*
Production practice is an entirely practical subject consisting of work on machine tools and in welding laboratories and foundries. The student must manufacture various items to within specified tolerances and his progress is determined by marks allotted during the year for each project.
- MEF470** *Production Technology*
Types of chip produced, types of drives for machine tools, thread production, milling, grinding, gear cutting, shaping, planning, broaching, honing, automatic machines, transfer lines, multiple process single station machines.
- EEF482** *Project (Electrical Communications)*
Projects involving design, laboratory and construction work with appropriate submissions of reports taken from all areas of electronics and communications, including both circuit and system design.
- EEF484** *Project (Electrical Power)*
Students are required to investigate a particular problem/s and present a formal report for evaluation at the end of the year.
- MEF482** *Project (Mechanical)*
Students are required to investigate a particular problem/s and present a formal report for evaluation at the end of the year.
- CEF482** *Project*
Students are required to investigate a particular problem/s and present a formal report for evaluation at the end of the year.
- CEF470** *Public Health Engineering*
A series of lectures and assignments covering pollution and its control including water supply and treatment, treatment and disposal of waste waters, swimming pool design and operation, refuse and solid waste disposal, air pollution and radioactive waste problems.
- EEC592** *Radio and Television*
A series of lectures with associated practical work covering the super-heterodyne receiver, elements and frequency bands of a T.V. system, T.V. transmitter and T.V. receiver, audio sections, synchronising, A.G.C. picture tubes and their circuits and antennas.

- CEF485 *Seminar*
Students will prepare and give a seminar on a suitable engineering topic or other subject as approved by the Head of the Department. Discussion is invited and students must be prepared for questions from the audience.
- EEF485 *Seminars (Electrical)*
Students will prepare and give a seminar on a suitable engineering topic or other subject as approved by the Head of Department. Discussion is invited and students must be prepared for questions from the audience.
- MEF485 *Seminars (Mechanical)*
Students will prepare and give a seminar on a suitable engineering topic or other subject as approved by the Head of Department. Discussion is invited and students must be prepared for questions from the audience.
- EEF430 *S.H.F. Techniques*
A course of lectures and practical work on waveguides, waveguide components and techniques, aerial theory and microwave valves.
- LSA130 *Social Science I*
Lectures and discussions on basic economic systems, social systems, the individual in society and the complex interactions of society on the environment at large.
- CEA540 *Soil Mechanics*
Lectures and practical work on the properties, types, classification and characteristics of soils, disturbed and undisturbed samples, and the application of soil mechanics to problems of compaction, stability of slopes, foundations, partially storable soils, and field testing.
- CEC440 *Soil Mechanics I*
An introduction to the principles of Soil Mechanics with the consideration of soil types, properties and the simpler soil tests. An introductory treatment also of the development of field techniques, compaction, stabilisation and road-making aggregates.
- CEF340 *Soil Mechanics I*
A series of lectures and practical work on the types, physiochemical properties and classification of soils. The engineering properties of stress/strain relationships, permeability, compaction, earth pressure, and compressibility. Application to earth retaining structures, and shallow foundations. Introduction to slope stability, rock mechanics and foundation investigations; sampling techniques.
- CEC540 *Soil Mechanics II*
Further development of the principles of Soil Mechanics and Soil Chemistry, including settlement analysis and testing, the triaxial test, etc. Elementary design of slopes, pavements, etc. will be done as class projects.
- CEF440 *Soil Mechanics II*
A series of lectures studying soil mechanic theories appropriate to foundation design and slope stability. Further properties of saturated and unsaturated soils; their laboratory and field measurement. Network analysis of flow nets and pore water pressure dissipation. Field testing and sampling.
- CEF540 *Soil Mechanics and Foundations*
The elective will cover more advanced design of embankments and foundation treatment; instrumentation for earth Dams; the design of

deep foundations and foundations for dynamic loadings; additional work in rock mechanics.

- CEP374 *Solid and Toxic Waste Disposal*
Nature and origins of wastes—domestic, industrial, radioactive. Collection and transportation. Disposal by (a) controlled tipping (b) incineration (c) salvage and reuse (d) composting with and without sewerage sludge (e) disposal of solid and concentrated liquid industrial wastes.
- CEC502 *Specifications and Estimates*
A series of lectures and some practical work on the writing of specifications including measurement of materials, variations and adjustments, Prime Cost and provisional items, payments, analysis of tenders and relation to estimates.
- SVC367 *Spherical Trigonometry and Astronomy*
The sphere, spherical triangles, development of formulae, solution of spherical triangles, spherical excess, applications of spherical trigonometry to astronomical and geodetic work in general. Introduction to astronomy, celestial sphere, astronomical triangle, time, establishment of position and meridian. Astronomical photography.
- CEA390 *Strength of Materials*
Lectures and practical work on the analysis of simple and compound plane stresses, deflection of beams, further bending theory, elementary theory of shear stress in beams, two-dimensional stress state, analysis of strain, resilience, thin and thick cylinders, fatigue, columns and stress concentrations.
- CEF190 *Strength of Materials I*
An introductory series of lectures and practical work covering the resolution of forces, analytical and graphical truss analysis, section properties, stress and strain concepts, Mohr's circles and elementary torsion and bending theory. The application of this work to the analysis of shrink fits, thick and thin cylinders and helical springs.
- CEF290 *Strength of Materials II*
A series of lectures and practical work following on from Strength of Materials I. Part A includes the theoretical analysis of columns, shearing stresses in beams, theories of elastic failure, composite beams and curved beams as well as fatigue, photo-elastic stress analysis, laboratory testing machines, strain gauges and load measuring devices. Part B introduces the student to the operation and programming of a digital computer.
- CEA350 *Structural Engineering I*
Lectures and practical work giving a formal introduction to civil design covering analysis of plane frames, influence lines for determinate beams and trusses, design of members, connections and timber structures.
- CEF250 *Structural Engineering I*
Lectures and practical work in elementary structural analysis including work on influence lines, deflection analysis, energy concepts and theorems, moment distribution and superposition methods for simple indeterminate structures, plastic analysis of simple beam structures and stability theory.
- CEA450 *Structural Engineering II*
Lectures and practical work on deflection analysis, indeterminate structures, influence lines for indeterminate structures, determinate

arch analysis, determinate three-dimensional truss frame work, buckling. Approx. one half of the year will be devoted to design of small structures and elements in steel and timber.

- CEF350 *Structural Engineering II*
Lectures and practical work extending the work of Structural Engineering I. Further work on moment distribution, beams on yielding supports, three dimensional trusses, arch and cable analysis, influence lines by Mueller-Breslau method, model analysis.
- CEA550 *Structural Engineering III*
Further work on moment distribution and superposition equations, non-prismatic members, arch analysis, analysis of grid structures, plastic design of steel structures, matrix methods. Design work in steel, concrete and timber will occupy second half of the year.
- CEF450 *Structural Engineering IIIA*
Lectures and tutorial work on approximate design of multistory frames, analysis of simple grid structures, plastic design with examples for simple buildings.
- CEF550 *Structural Engineering IIIB*
Lectures and tutorial work on structural applications of matrix arithmetic and algebra, force and displacement methods, plane and space frames, grids. Numbering structure nodes, use of substructures. Practical exercises in the use of the computer for solving structural problems. Classical theory for the bending of thin plates, Navier and Levy solutions.
- CEC550 *Structures*
A lecture series covering system of forces, bending moment and shearing force, states of stress and strain at a point, Mohr's circle diagram, theory of failure, elementary fatigue theory, types and functions of structures, pin jointed trusses, deflections, columns, reinforced concrete, influence lines of beams and trusses, design of concrete and steel structures.
- SVC586 *Survey Computations*
A course of lectures covering computing methods, closes, areas, roads, earth works, curves, resections, the slide rule and use of desk calculating machines and general treatment of the application of computer techniques to survey drafting offices procedure.
- SVC325 *Survey Drafting Practice*
Use and care of instruments, lettering standards and practice, enlargement and reduction of plans, plotting by bearing and distance and co-ordinates, compilation of engineering surveying plans, elementary cartographic drafting, cadastral drafting of simpler plans.
- SVC485 *Survey Mathematics*
Approximations in applying trigonometry and series expansions to surveying, solid geometry of lines and planes, curvature, total and partial differentials, the elementary theory of error.
- SVA404 *Surveying I*
A series of lectures and practical work covering the history and development of surveying, linear and angular measurement and its application to theodolite, compass and elementary stadia surveys. Levelling, contours, sections and earth works computation. Route surveys, horizontal and vertical curves, transition curves. Hydrographic surveying and mine surveying.

- SVC205 *Surveying I*
A course of lectures and practical work covering the principles of surveying the concepts of survey control, linear and angular measurement, theodolite and compass traversing, levelling, tacheometrical surveying and contour surveys.
- SVF304 *Surveying I*
Lectures and practical work in theory of error, principles of control in surveying technology. Surveying instrumentation and techniques. Engineering triangulation. Precise levelling. Trilateration—Precise traverse combination. Engineering levelling and detail surveying. Route surveys. Hydrographic surveying. Mine surveying. Topographical surveying.
- SVA504 *Surveying II*
A further series of lectures and practical work covering modern surveying instrumentation and its application to engineering surveys. Geodetic surveying. Photogrammetric surveying. Elementary field astronomy.
- SVC305 *Surveying II*
A course of lectures and practical work covering elementary hydraulics, hydrographic surveys including soundings and location of soundings, topographic surveys including plane table surveys, investigation surveys, road and railway working surveys, setting out of vertical and horizontal curves, setting out works, site control, elementary cadastral surveying, detail surveying, mine surveying, water supply and irrigation surveys.
- SVF404 *Surveying II*
Advanced topographical surveying. Geophysical surveying. Hydrographic surveying. Advanced cartography. Practical work on selected surveys.
- SVC405 *Surveying III*
A course of lectures and practical work covering the theory and setting out of transition curves, engineering survey control, minor triangulation, precise levelling control, precise traversing with tellurometer and geodimeter, use of the gyro theodolite, traffic engineering surveys, hydrographic survey control utilising Decca and Hydrodist systems, preparation of reports and maintenance of survey records, legal aspects of surveying.
- SVF334 *Surveying and Photogrammetry*
A series of lectures and practical work covering the principles of survey instruments, angular and linear measurement and its application to theodolite and compass surveys. Levelling and elementary stadia surveying. An introduction to the principles and practice of photogrammetry.
- SVC406 *Surveying for Cartographers*
A series of lectures and practical work covering the fundamental concepts of surveying, principal instruments, linear measurement, traversing with theodolite and compass, levelling, hydrographic surveying, elementary mining surveying, elements of engineering surveying, preparation of field instructions.
- EEF442 *Switchgear and Protection*
A series of lectures, tutorial and practical work covering:—symmetrical components, sequence networks, fault analysis, earthing, switching, phenomena, switchgear power system and industrial protective equipment and schemes, current voltage transformers, fusegear and heavy current testing.

- EEC542 *System Protection*
A lecture series with associated practical work on power system protection covering types of relays and protection systems for generators, transformers, distribution and transmission lines and system earthing.
- EEP723 *Techniques of Systems Analysis and Design A*
A series of lectures and tutorials covering electrical analogues, diagrams and transfer-functions for process loops, block diagram manipulation and signal flow graphs, non-linear system design techniques, design of multiple-loop and carrier control systems, parameter identification, and statistical design techniques.
- EEP823 *Techniques of Systems Analysis and Design B*
A series of lectures and tutorials covering root loci, sampled-data systems, optimization, sensitivity, state variables, the design of self-optimizing, self-adaptive, self-organizing, digital, and multivariable control systems, variational calculus, and dynamic programming.
- EEC560 *Telecommunications I*
An introductory lecture series with associated practical work covering transmission theory, line propagation and loading, interference from power lines, simple treatment of telephony and telegraphy, modulation systems, carrier telephone systems, frequency co-ordination, and the design of lightning protection equipment.
- EEC660 *Telecommunications II*
A further series of lectures and practical work following on from Telecommunications I covering transmitters, receivers, propagation from aerials and along transmission lines, microwave techniques, and transducers such as loudspeakers, microphones, measuring devices, sonar, etc.
- MEA510 *Theory of Machines*
Kinematics—up to Coriolis acceleration—reciprocating engine mechanisms—balancing governors—cams—epicyclic gears—clutches—inertia of geared systems. Vibrations—free vibrations of multi mass systems—torsional vibration of geared systems—forced and damped vibrations—vibration isolation and measuring equipment.
- CEA551 *Theory of Structures*
Lectures and practical work on deflection analysis, indeterminate structures, influence lines for determinate and indeterminate structures, determinate arch analysis, determinate three-dimensional truss frame work and buckling.
- MEF352 *Thermal Plant*
Construction and operation of steam and gas turbines. Governing, performance, loss, improvements, Nozzles, Condition line. Power Station boiler plant, natural and assisted circulation. Firing methods. Pulverised coal mills. Auxiliary plant. combustion. Reciprocating and rotary compressors. Siting power stations, economics, testing and commissioning. Relevant Codes. Nuclear generation, Solar energy, Pollution, Precipitator, dust and grit extraction. Practical work related to the above.
- MEC552 *Thermal Plant*
A descriptive and introductory mathematical treatment and associated practical work following on from MEC300 Mechanical Engineering and including working cycles, entropy and enthalpy, fuels, properties of steam, steam boilers and engines, internal combustion engines, gas turbines and refrigeration, Power Station Installations, Air Compressors, Nuclear Plant and Solar Energy.

- CES120** *Town and Regional Planning*
A postgraduate series of lectures ($1\frac{1}{2}$ hrs/week) giving tuition for students intending to qualify as Local Government Engineers. The course is conducted on the basis of sufficient enrolments.
- EEF330** *Transmission and Propagation*
A series of lectures and tutorial work dealing with:—
(a) *Power Frequency*:— parameters of lines and cables, power transmission line theory, A.B.C.D., constants, power charts, power co-ordination, per unit system and introduction to fault analysis.
(b) *High Frequency*:— waves in lines, Smith chart, discontinuities, Maxwell's equations, high frequency attenuation, wave impedance, propagation in dielectrics and plasma, refraction, reflection and polarization.
- CEF421** *Transportation Engineering*
A series of lectures on traffic engineering, planning and computer applications, including basic characteristics of traffic, traffic system simulation, traffic estimation and prediction, transportation planning and related aspects of town planning.
- CEP171** *Waste Water Treatment I*
Effects of discharges upon receiving waters. Collection and transportation of liquid wastes, pumping, syphons, etc. The preliminary and primary treatment of sewerage screening, grit removal, grease removal, air flotation, preaeration, sedimentation theories of settlement. Introduction to secondary treatment.
- CEP271** *Waste Water Treatment II*
Percolating filters, single, double and alternating double filtration. High rate filters, recirculation. Specialised filters for specific industrial wastes. Activated sludge process. Step aeration, tapered aeration etc. "Package" aeration processes. Extended aeration. Contact stabilisation. Aerobic digestion. Tertiary treatment processes, sand filters, microstrainers etc. Oxidation ponds, effluent lagoons. Sludge treatment and disposal. Effluent disposal. Small plant design. Trade waste pretreatment plants. Reuse of effluent and sludge. Hydraulic design. Plant and equipment.
- CEP372** *Water Supply and Treatment*
Dams, general principles of design. Outlet and overflow design, earth, concrete and rockfill dams. Maintenance, silting etc. Wells and boreholes. Pumping plant. River intake works. Screening, sedimentation (with and without chemicals). Slowsand filtration. Rapid gravity filtration. Primary filters, pressure filters. Sludge disposal. Water softening, ion exchange processes. Fluoridation. Detergent removal. Aeration, taste and odour control. Corrosion prevention, sterilisation, chlorine, ozone, ultra violet radiation. Hydraulic design. Service reservoirs. Pumping plant. Swimming pools. Distribution of treated water. Irrigation.
- CEP373** *Water System Management*
The control and management of river systems. Abstraction and discharge. Ground water recharge. Standards for abstraction and discharge. Control and legislation. Trade waste control policy. Economic implications of controls. The management and operation of water and waste water treatment and distribution processes.
- MEC270** *Workshop Processes*
A brief descriptive lecture series on materials covering iron, steel, heat treatment, non-ferrous metals and their alloys, alloy steel and cutting materials, and on processes including foundry work, hot and cold working of metals, presswork, welding metal cutting and measuring.

LIST OF GRADUATES

Tertiary Courses

ABBISS, Heather Esme	AQIT (OPTM)	1968
ADAMS, Samuel Raymond	DQIT (T&CP)	1969
ALFREDSON, Rodney Walter	AQIT (ACCTCY)	1971
ALLAN, Thomas Richard	FQIT (ENG)	1971
ALLEN, Robert Walter	AQIT (IND CHEM)	1971
ANDERSEN, Anthony James	FQIT (ENG)	1971
ANDERSON, George Kenneth	DQIT (LAND ARCH)	1970
ANDERSON, Thomas Peter	AQIT (IND CHEM)	1969
ANDRADO, Lindsay George	DQIT (LAND ARCH)	1969
APPLEGARTH, Carolyn Margaret	AQIT (MED TECH)	1969
ASCOUGH, John Sutton	AQIT (MED TECH)	1971
ASHDOWN, Leslie Richard	AQIT (MED TECH)	1971
AUSTIN, Arthur John	AQIT (IND CHEM)	1970
AVERY, Beris Veronica Ruth	AQIT (MED TECH)	1969
BAILEY, Neville Lawrence	AQIT (IND CHEM)	1970
BAKER, James Leonard	AQIT (IND CHEM)	1971
BAKER, Joshua William	FQIT (ENG)	1971
BAKER, Lawrence John	AQIT (IND CHEM)	1969
BAKLAS, Peter	AQIT (MED TECH)	1971
BAMPTON, Peter Maxwell	AQIT (QTY SURV)	1971
BANGE, Raymond Fabian	DQIT (BUS ADMIN)	1971
BANNISTER, Paul Louis	AQIT (SC)	1969
BAPTY, Gregory Lionel	AQIT (MED TECH)	1970
BARBER, Christine Jean	AQIT (MED TECH)	1971
BARBER, Paul Douglas George	DQIT (BUS ADMIN)	1971
BARFF, John Graham	AQIT (ENG)	1971
BARLOW, Kay Jeanette	AQIT (MED TECH)	1970
BARNES, Charles Allen	AQIT (SC)	1971
BARNES, James William	AQIT (IND CHEM)	1971
BARNES, Jill Maree	AQIT (MED TECH)	1970
BARNETT, Warwick William	FQIT (ENG)	1970
BARTELS, Wadim	DQIT (BUS ADMIN)	1971
BARTLETT, Michael Robin	FQIT (ENG)	1970
BARTRUM, John	AQIT (IND CHEM)	1970
BASILE, Mario	DQIT (T&CP)	1967
BAZLEY, Kelvin Roy	FQIT (ENG)	1970
BEALIN, Alan Charles	FQIT (ENG)	1969
BEAUMONT, Donald David	AQIT (OPTM)	1970
BECKER, Roy William	AQIT (SC)	1969
BELL, Spencer Edward	FQIT (ENG)	1970
BELLION, William Gordon	AQIT (QTY SURV)	1971
BENNETT, Susan McGregor	AQIT (IND CHEM)	1970
BERESFORD, Ian Rodney	AQIT (MED TECH)	1967
BEVAN, Jennifer Diane	AQIT (OPTM)	1968
BILLING, Geoffrey	DQIT (T&CP)	1969
BINNINGTON, Keith Charles	AQIT (MED TECH)	1971
BISHOP, Adrian John	AQIT (IND CHEM)	1971
BLAZAK, George	AQIT (IND CHEM)	1970
BLOM, Victor George	FQIT (ENG)	1971
BOEGHEIM, Willem Cornelis	AQIT (IND CHEM)	1971
BORCHARDT, Alan Paul	FQIT (ENG)	1971
BOURNE, Alan James	AQIT (IND CHEM)	1971
BOURNE, Garry George	AQIT (MED TECH)	1970
BOWDEN, Robert Stanley	AQIT (OPTM)	1970
BOYD, Stewart Leonard	AQIT (ENG)	1970
BOYLE, Catherine Anne	AQIT (MED TECH)	1970

BRAKE, Ian Raymond	AQIT (IND CHEM)	1971
BRENNAN, Katherine Ellen	AQIT (MED TECH)	1970
BRIMSON, Thomas Arthur	FQIT (ENG)	1969
BROWN, Glenn John	FQIT (ENG)	1969
BROWN, Jeffrey Pierce	FQIT (ENG)	1970
BUCKLEY, Terence John	AQIT (SC)	1969
BULLPITT, Maxwell Lawrence	AQIT (IND CHEM)	1969
BUNDERSON, Peter John	AQIT (MED TECH)	1970
BUNNING, Clifford Robert	AQIT (BUS STUD)	1970
BYERS, Kenneth John	DQIT (BUS ADMIN)	1970
CAIRNS, John Douglas	AQIT (MED TECH)	1970
CAITHNESS, Bruce Archibald	AQIT (SC)	1969
CALDWELL, Geoffrey John	FQIT (ENG)	1969
CALLAGHAN, Leslie David	AQIT (ENG)	1971
CAMERON, Ian Robert	FQIT (ENG)	1971
CAMPBELL, Clyde James	AQIT (SC)	1970
CAMPBELL, Malcolm Alan	AQIT (SC)	1970
CAMPBELL, Peter James	AQIT (SC)	1970
CARFOOT, Eric George Leslie	AQIT (QTY SURV)	1971
CARROLL, Sr. Rosaleen Mary	AQIT (MED TECH)	1969
CARTAN, William James	FQIT (ENG)	1970
CASE, Colin Charles	AQIT (SC)	1969
CHEKALIN, Nicholas	FQIT (ENG)	1970
CHILVERS, Joy Diane	AQIT (MED TECH)	1967
CH'NG, Gerry Cheekeong	AQIT (ACCTCY)	1970
CHOULES, Peter Robert	AQIT (ENG)	1970
CLARK, Russell John	FQIT (ENG)	1971
COATES, Russell Charles	FQIT (ENG)	1968
COCKERILL, Russell Edward	FQIT (ENG)	1969
COCKS, Raymond	AQIT (IND CHEM)	1971
COLEMAN, Russell Charles	AQIT (ACCTCY)	1971
COLLINS, Russell John	AQIT (MED TECH)	1970
COLLINS, Ruth Margaret	AQIT (MED TECH)	1971
COLMAN, George	AQIT (ACCTCY)	1971
COLQUHOUN, Colin	FQIT (ENG)	1971
CONDIE, Marilyn Isabel	AQIT (MED TECH)	1971
CONDON, Denis Myles	FQIT (ENG)	1969
CONNELLY, Julian	AQIT (IND CHEM)	1970
CONOMOS, Con Theo	AQIT (ACCTCY)	1971
CONWAY, Wayne Roy	AQIT (SC)	1970
COOK, Lorraine Merle	AQIT (OPTM)	1969
COOPE, Anthony Edward	AQIT (IND CHEM)	1971
COOPER, Graham Edward	AQIT (OPTM)	1968
CORNWELL, Maurice John	AQIT (ENG)	1970
COSTELLO, Mervyn Douglas	AQIT (BLDG)	1971
COWEN, Kenneth James	AQIT (IND CHEM)	1970
CRAMER, Ross Alexander	DQIT (BUS ADMIN)	1971
CRANE, Ian Robert	AQIT (MED TECH)	1969
CRAVEN, Graham Stanley	AQIT (IND CHEM)	1967
CRAWFORD, Gregory Newell	FQIT (ENG)	1971
CRAWFORD, John Maxwell	DQIT (BUS ADMIN)	1970
CRIBB, Lindsay Foote	AQIT (MED TECH)	1970
CROFTS, Edward Wentworth Nicholson	DQIT (LAND ARCH)	1969
CRONE, Jeffrey Arnold	AQIT (IND CHEM)	1968
CRONIN, Helen Mary	AQIT (MED TECH)	1970
CUE, John Osbourne	DQIT (BUS ADMIN)	1970
CUMMINGS, Peter Anthony	AQIT (ACCTCY)	1971
CURTIN, Patrick Charles	AQIT (SC)	1971
CUTTLE, Kerry Jean	AQIT (MED TECH)	1971
CUTTLE, Terrance	FQIT (ENG)	1970

D'ALESSANDRO, Antonio	FQIT (ENG)	1971
DAMBITS, George Yuris	AQIT (IND CHEM)	1968
DANIEL, William Phillip	DQIT (T&CP)	1970
D'ARCY, Michael Edward	AQIT (IND CHEM)	1971
DAVIES, Malcolm Roy	AQIT (IND CHEM)	1969
DAVIS, Donald William	AQIT (IND CHEM)	1970
DAWES, Warren Alan	AQIT (IND CHEM)	1969
DAWSON, David John	AQIT (MED TECH)	1967
DAWSON, Joseph Keith	FQIT (ENG)	1968
DAWSON, Kenneth William	AQIT (SC)	1970
DAWSON, Peter John	AQIT (MED TECH)	1968
DEANS, Gordon Roy	AQIT (IND CHEM)	1969
DEEBLE, Victor Charles	DQIT (BUS ADMIN)	1971
DEIGHTON, Noel Frank Edward	AQIT (BUS STUD)	1970
DENNIS, Noel	FQIT (ENG)	1970
DESAI, Ramesh Bhai	AQIT (ACCTCY)	1971
DINES, Peter Charles	AQIT (MED TECH)	1971
DIVETT, Neil Graham	DQIT (T&CP)	1968
DIXON, Evalyn Joyce	AQIT (MED TECH)	1971
DIXON, Gloria Fay	AQIT (MED TECH)	1970
DODD, Adrian	FQIT (ENG)	1969
DONELEY, Margaret Ana	AQIT (MED TECH)	1967
DRILLIS, Axel	AQIT (SC)	1971
DRILLIS, Norbert	AQIT (IND CHEM)	1968
DUNCAN, Alexander Stuart	AQIT (SC)	1969
EAMES, Richard John	AQIT (MED TECH)	1970
EASTMAN, Peter Faulkner	AQIT (ACCTCY)	1970
ECKHARDT, Lynne Margaret	AQIT (IND CHEM)	1970
EDMONDSON, Trevor George	AQIT (ACCTCY)	1970
EDWARDS, Denys William	AQIT (ACCTCY)	1971
EDWARDS, Janet Gwendolyn	AQIT (MED TECH)	1970
EGLINGTON, John Thomas	DQIT (T&CP)	1970
EIBY, Susanne Elizabeth	AQIT (MED TECH)	1969
ELLIOT, David Anthony	AQIT (ACCTCY)	1970
ELLIS, Susan Lesley	AQIT (MED TECH)	1971
ELLIS, William Raymond	FQIT (ENG)	1970
ELSWORTH, Geoffrey William	AQIT (MED TECH)	1971
EMERY, Dorrell Barbara	AQIT (SC)	1971
ENGLISH, Brian Donald	AQIT (ENG)	1970
FANNING, Gregory John	AQIT (OPTM)	1970
FANNING, Lawrence John	AQIT (IND CHEM)	1970
FARRELL, Rosemary Tracy	AQIT (MED TECH)	1970
FAULKNER, Dennis Walden	AQIT (MED TECH)	1968
FERGUSON, Desmond John	DQIT (T&CP)	1971
FERRIS, Cecilia Margaret	AQIT (MED TECH)	1970
FETT, Leigh Gregory	AQIT (IND CHEM)	1971
FIELDING, James William	AQIT (SC)	1970
FISCHER, Warren Mazlin	DQIT (BUS ADMIN)	1971
FISHER, Helen Barbara	AQIT (MED TECH)	1970
FITZPATRICK, Geoffrey Noel	AQIT (OPTM)	1971
FLYNN, Pamela	AQIT (MED TECH)	1971
FORSTER, Trevor Henry	AQIT (MED TECH)	1971
FORSYTH, Trevor Alan	FQIT (ENG)	1971
FOX, Ian Boyd	FQIT (ENG)	1970
FRANCEY, Alan Gordon	AQIT (ENG)	1971
FRAZER, Cheryl	AQIT (MED TECH)	1971
FRENEY, Leo Charles	AQIT (MED TECH)	1970
FRIGO, Ronald Anthony	AQIT (ENG)	1971
GADEENE, David Leslie	AQIT (ACCTCY)	1970
GALETTO, John Luigi	AQIT (MED TECH)	1967

GALLIGAN, John Patrick	AQIT (MED TECH)	1970
GAN, Ah Lian	AQIT (IND CHEM)	1967
GARDINER, Sr. Judith Mary	AQIT (MED TECH)	1970
GARDNER, John Richard Greenough	FQIT (ENG)	1971
GARNSWORTHY, James Rothwell	AQIT (ACCTCY)	1970
GARSDEN, William Laurence	AQIT (IND CHEM)	1971
GATEHOUSE, Kerry Norman	FQIT (ENG)	1970
GAZZARD, Meriel Joy	AQIT (MED TECH)	1969
GIESS, Kenneth Cyril	AQIT (IND CHEM)	1970
GILBERT, Barry Vernon	AQIT (SC)	1970
GLASSCOCK, James Thomas Creed	DQIT (T&CP)	1967
GOAKES, Robert John	DQIT (T&CP)	1967
GOLDING, Gary Marsden	AQIT (IND CHEM)	1971
GOLDSWORTHY, Peter	AQIT (OPTM)	1971
GOODGER, Brian Vernon	AQIT (MED TECH)	1971
GOODWIN, Lee William	AQIT (BLDG)	1971
GOODWORTH, Christine Joy	AQIT (MED TECH)	1970
GOOEY, Beverly Ann	AQIT (MED TECH)	1968
GORE, Gregory Hunter	FQIT (ENG)	1969
GOSS, George William Paul	AQIT (IND CHEM)	1970
GOSS, Robert Leonard	AQIT (OPTM)	1969
GRANT, Clifford	AQIT (IND CHEM)	1971
GRANTHAM, Peter Richard	AQIT (MED TECH)	1967
GUGENBERGER, Karl Alexander	DQIT (BUS ADMIN)	1970
HADDRELL, Howard William	AQIT (SC)	1969
HAILEY, Louis Henry	DQIT (LAND ARCH)	1970
HALCROW, Robert Athol Hugh	FQIT (ENG)	1970
HALLETT, Raymond William	AQIT (SC)	1970
HAMILL, Peter Hugh	AQIT (IND CHEM)	1969
HANKS, Ian Victor	FQIT (ENG)	1971
HANSEN, William Ronald	AQIT (SC)	1971
HARDING, Margaret Anne	AQIT (MED TECH)	1971
HARDY, William Henry	AQIT (SC)	1970
HARMON, Graham John	AQIT (MED TECH)	1970
HARRISON, Keith Leslie	AQIT (MED TECH)	1970
HARVEY, John Warren	FQIT (ENG)	1970
HAUGHTON-JAMES, Katherine	AQIT (OPTM)	1970
HAWES, Graham William	DQIT (BUS ADMIN)	1969
HAYHOE, Robert Maitland	FQIT (ENG)	1970
HEALY, Peter John	AQIT (IND CHEM)	1968
HEATHWOOD, Peter Dickson	DQIT (T&CP)	1967
HEGARTY, John Joseph	AQIT (IND CHEM)	1968
HEGERTY, Kenneth Lawrence	FQIT (ENG)	1971
HEILBRONN, Robert Lee	AQIT (IND CHEM)	1971
HELMHOLD, Graham Douglas	AQIT (IND CHEM)	1968
HELMHOLD, Lynne Margaret	AQIT (MED TECH)	1971
HENDERSON, Allan Robert	AQIT (SC)	1969
HENDERSON, Barry Trevor	FQIT (ENG)	1968
HENDERSON, John Vincent	AQIT (ACCTCY)	1971
HENSTRIDGE, Norman Leigh	AQIT (MED TECH)	1968
HERRMANN, Neville Ronald	AQIT (MED TECH)	1967
HESS, Robert Frances	AQIT (OPTM)	1970
HESSE, Graham John	AQIT (ENG)	1970
HILL, Robert Vincent	DQIT (T&CP)	1970
HILLS, Robert Gregory	AQIT (ACCTCY)	1971
HOCKEY, Gregory James	FQIT (ENG)	1970
HOGAN, Ross Michael	FQIT (ENG)	1971
HOIBERG, Patrick	AQIT (ACCTCY)	1970
HOLLETT, Barry George	AQIT (ACCTCY)	1971
HOOMAN, Jackson Kee	AQIT (IND CHEM)	1968

HUDDY, Colin Victor	FQIT (ENG)	1971
HUDSON, Kenneth Arthur	FQIT (ENG)	1970
HUTT, Terrence Francis	AQIT (IND CHEM)	1970
IVES, Ronald Edward	FQIT (ENG)	1969
JAGER, Michael Frederick	AQIT (BUS STUD)	1971
JAMIESON, Ross Edward	AQIT (IND CHEM)	1967
JASKIEWICZ, Irena	AQIT (MED TECH)	1970
JENSEN, David Charles	AQIT (ACCTCY)	1970
JONES, Alan Robert	FQIT (ENG)	1969
JONES, Paul Forrest	FQIT (ENG)	1968
JORDAN, Graham John	FQIT (ENG)	1968
JOY, Gary Arthur	AQIT (IND CHEM)	1971
KAN, Joseph	AQIT (MED TECH)	1967
KANN, Cheryl Ann	AQIT (MED TECH)	1970
KAPITZKE, Alan William	FQIT (ENG)	1971
KARAKATSANIS, Michael George	AQIT (IND CHEM)	1969
KELLEHER, James Blake	AQIT (IND CHEM)	1970
KENNEDY, Robert Gordon	FQIT (ENG)	1971
KENNY, Graham Kevin	FQIT (ENG)	1968
KENNY, Justin Hugh	DQIT (BUS ADMIN)	1971
KENT, Ian Crawford	AQIT (OPTM)	1971
KIFF, Charles Graham	AQIT (ACCTCY)	1970
KINZBRUNNER, Richard Charles	FQIT (ENG)	1971
KIRBY, Joan Frances	AQIT (ACCTCY)	1970
KIRKPATRICK, Kenneth Samuel	AQIT (SC)	1971
KLARKOWSKI, Derryck Boleslaw	AQIT (MED TECH)	1970
KLATT, Evan Keith	AQIT (ACCTCY)	1971
KLEMM, John George	AQIT (IND CHEM)	1971
KLOKMAN, Dirk Jan	FQIT (ENG)	1971
KOPITZKE, Gregory John	AQIT (ENG)	1971
KREBS, Gary James	FQIT (ENG)	1971
LACHMAN, Rosa	AQIT (MED TECH)	1968
LAKE, Barry John	FQIT (ENG)	1971
LAMBKIN, Geoffrey Joseph	AQIT (MED TECH)	1971
LARGE, Graham James	FQIT (ENG)	1970
LARSEN, Russell Edward	AQIT (IND CHEM)	1971
LATIMER, Jeffrey Howard	AQIT (IND CHEM)	1971
LAWS, Richard	DQIT (T&CP)	1968
LEAR, Leonard John	AQIT (SC)	1970
LEDDY, Geoffrey Charles	AQIT (ENG)	1971
LEE, Kit Ming	AQIT (MED TECH)	1968
LEE, Peter	AQIT (SC)	1971
LEES, Robert James	AQIT (OPTM)	1969
LEMBRYK, Roman	DQIT (T&CP)	1970
LEONG, Victor	AQIT (ACCTCY)	1971
LEVERITT, Jacqueline Ruth	AQIT (MED TECH)	1971
LINTON, Geoffrey Raymond	AQIT (IND CHEM)	1971
LITTLEMORE, John	AQIT (IND CHEM)	1971
LIVERMORE, Leon James	AQIT (SC)	1971
LOCHRAN, Robert Alan	FQIT (ENG)	1971
LOSE, Lester John	AQIT (ACCTCY)	1969
LOSEBY, Garry Raymond	AQIT (IND CHEM)	1969
LOUGHREY, Blair Thomas	AQIT (IND CHEM)	1971
LOUIS, Leslie James	DQIT (BUS ADMIN)	1971
LOWE, Michael Sydney	AQIT (IND CHEM)	1968
LUKE, Ernest Stanis Peter	AQIT (MED TECH)	1970
LUTTON, Michael Anthony	FQIT (ENG)	1971
LYNCH, Brian John	DQIT (T&CP)	1970
MACARTHUR, Philip George	FQIT (ENG)	1971
MACDONALD, Barry Wayne	AQIT (MED TECH)	1971

MACFARLANE, Rosemary Jean	AQIT (MED TECH)	1968
MACKAY, Donald Angus	AQIT (SC)	1970
MACKEY, Padraic	AQIT (ACCTCY)	1971
MAJKUT, Joseph Stephen	FQIT (ENG)	1971
MANNING, Peter Eric	AQIT (BUS STUD)	1971
MARTIN, Ann Elizabeth	AQIT (MED TECH)	1970
MARTIN, Gregory Joseph	FQIT (ENG)	1971
MARTIN, Rodney Ian	AQIT (BLDG)	1971
MASEL, Pamela Carmel	AQIT (MED TECH)	1970
MATH, William	AQIT (ACCTCY)	1970
MATHER, Michael John	AQIT (IND CHEM)	1970
MATHEWS, Barbara Ann	AQIT (MED TECH)	1970
MATTHEW, Rosemary	AQIT (IND CHEM)	1970
MATTHEWS, Benjamin Charles	FQIT (ENG)	1968
MATTHEWS, John Leonard	FQIT (ENG)	1968
McANANY, Maurice Francis	FQIT (ENG)	1969
McCABE, David James	AQIT (MED TECH)	1969
McCARTHY, Bruce Leonard	AQIT (IND CHEM)	1970
McCARTHY, Kenneth William	FQIT (ENG)	1971
McDOUGAL, Mervyn James	DQIT (BUS ADMIN)	1970
McDOWELL, Ian Keith	AQIT (IND CHEM)	1970
McELNEA, Noel Eric	DQIT (BUS ADMIN)	1971
McGAHAN, Paul James	AQIT (IND CHEM)	1971
McKENNA, Michael Brian	FQIT (ENG)	1971
McLEOD, David Sim	AQIT (SC)	1970
McNAUGHT, Kenneth John	AQIT (IND CHEM)	1971
McOMISH, Gregory Thomas	FQIT (ENG)	1971
MEERTENS, John	AQIT (SC)	1969
MERRIN, Harold Thomas	DQIT (T&CP)	1967
MERRY, David Paul	AQIT (SC)	1970
MILLAR, Ann Mary	AQIT (MED TECH)	1969
MILLAR, Beverley June	AQIT (MED TECH)	1968
MILLER, Gregory John	AQIT (IND CHEM)	1968
MITCHELL, Gregory Ernest	AQIT (IND CHEM)	1968
MOFFAT, Alan Robert	AQIT (IND CHEM)	1971
MOLLER, Ian Scott	FQIT (ENG)	1970
MOLONEY, Michael William	FQIT (ENG)	1971
MOORE, Raymond Robert	DQIT (T&CP)	1971
MOORES, Kenneth James	AQIT (ACCTCY)	1969
MORGAN, Anthony Gregory	AQIT (IND CHEM)	1970
MOYNIHAN, Geoffrey Charles	AQIT (SC)	1970
MUCHA, John Anthony	AQIT (SC)	1971
MUHL, Arthur Sydney	DQIT (T&CP)	1967
MULA, Joseph Mary	AQIT (ACCTCY)	1971
MULLER, Robert John	AQIT (IND CHEM)	1970
MURPHY, Michael Xavier	AQIT (ACCTCY)	1971
MURRAY, Earl Harwood	AQIT (IND CHEM)	1971
MUSSO, Vincent	FQIT (ENG)	1970
NEILL, Philip John	AQIT (MED TECH)	1971
NEILSEN, Robert Garth	FQIT (ENG)	1969
NESTER, Marks Richard	AQIT (SC)	1971
NICHOLAS, Grantley Charles	AQIT (OPTM)	1970
NICHOLSON, Bruce Allan	FQIT (ENG)	1971
NICHOLSON, Rodney Ian	AQIT (SC)	1971
NIELSEN Larry	DQIT (T&CP)	1967
NOBLE, Robert Michael	AQIT (IND CHEM)	1970
NOBLE, Robyn Ruth	AQIT (MED TECH)	1970
NOLAN, Michael Patrick	AQIT (MED TECH)	1970
NORRIS, Geoffrey Warren	FQIT (ENG)	1971
NORTON, Jacky	AQIT (IND CHEM)	1970

O'BRIEN, Gregory Gerard	AQIT (IND CHEM)	1971
O'BRIEN, Janice Marie	AQIT (MED TECH)	1970
O'BRIEN, John Quillinan	AQIT (IND CHEM)	1970
O'BRIEN, Margaret	AQIT (ACCTCY)	1970
O'CONNELL, Terence Patrick	AQIT (IND CHEM)	1971
O'CONNOR, Denis John	DQIT (LAND ARCH)	1971
O'KEEFE, Michael Daniel	FQIT (ENG)	1971
O'KEEFE, Pauline Mary	AQIT (MED TECH)	1968
O'LOUGHLIN, Terence William	AQIT (IND CHEM)	1970
ORTALE, Gary John	AQIT (ACCTCY)	1971
O'SACHY, George Youry	DQIT (BUS ADMIN)	1970
OWEN, Evan Henry	AQIT (IND CHEM)	1971
PACK, Ralph Alfred	FQIT (ENG)	1969
PALMER, Gregory George	AQIT (MED TECH)	1971
PAPPIN, Lawrence Bruce	AQIT (ENG)	1971
PARKER, Ronald	DQIT (T&CP)	1970
PARNELL, Ronald John	AQIT (IND CHEM)	1970
PARRY, Philip	AQIT (ACCTCY)	1970
PASCOE, Ian Reginald	FQIT (ENG)	1971
PAVITT, Joy Elizabeth	AQIT (MED TECH)	1971
PEAKE, Barry Joseph	AQIT (ACCTCY)	1971
PEARCE, Bruce Stuart	FQIT (ENG)	1970
PENHALIGON, John William	AQIT (MED TECH)	1969
PETERS, Desmond James	AQIT (IND CHEM)	1970
PETERS, Edward Joseph	FQIT (ENG)	1970
PETTIFORD, Robert George	AQIT (ACCTCY)	1971
PHILLIPS, Linda Mary	AQIT (MED TECH)	1970
PICKETT, Barry Ian	AQIT (IND CHEM)	1971
PIDGEON, Stephanie Susan	DQIT (BUS ADMIN)	1971
PIE, Geoffrey William	DQIT (T&CP)	1968
PINNA, Robyn Jennifer	AQIT (MED TECH)	1971
PIZZATO, Maurizio Anthony	AQIT (ACCTCY)	1971
POLLOCK, James Ross	DQIT (BUS ADMIN)	1970
POOLE, Maxwell Gregory	DQIT (T&CP)	1968
POTTER, Paul Leonard John	AQIT (IND CHEM)	1969
POWELL, Stephen John	FQIT (ENG)	1968
POWELL, William Dean	AQIT (SC)	1969
POYSER, Bruce Stanley	FQIT (ENG)	1969
PRESTWOOD, Allan James	FQIT (ENG)	1971
PRIESTLY, Kenneth Wilfred	AQIT (IND CHEM)	1971
PROUT, Barry Thomas	AQIT (MED TECH)	1968
QUINN, Terence John	FQIT (ENG)	1971
RADLEY, Anthony Desmond	AQIT (OPTM)	1971
RAFTER, Colleen Roberta Miriam	AQIT (MED TECH)	1970
RAMMERATH, Robert	AQIT (IND CHEM)	1968
RANIE, Gregory William	FQIT (ENG)	1970
RANKIN, Ian David	FQIT (ENG)	1968
RAPKINS, Gregory Eric	AQIT (SC)	1970
RAVEN, Christopher Ian	AQIT (ACCTCY)	1970
REED, Charles George	FQIT (ENG)	1971
REES, David John	AQIT (OPTM)	1969
REILLY, Brian John	AQIT (ENG)	1971
RELF, Anne Lucia	AQIT (SC)	1971
RETSCHLAG, Barry Arthur	FQIT (ENG)	1970
RICHARDS, David Norman	FQIT (ENG)	1971
RISCHIN, Danny Harry	AQIT (ACCTCY)	1971
ROBINSON, Peter Bruce	FQIT (ENG)	1970
ROBINSON, Rodney James	AQIT (OPTM)	1970
ROBINSON, Royden Alexander	AQIT (IND CHEM)	1970
ROBINSON, Vincent James	AQIT (OPTM)	1971

RODGER, Gregory Arthur	AQIT (ENG)	1971
ROSE, Ian David	FQIT (ENG)	1968
ROSS, Peter William	AQIT (IND CHEM)	1969
ROSSOW, Leonard Keith	AQIT (OPTM)	1969
ROWLEY, Daniel Alexander	AQIT (MED TECH)	1970
RYNJA, Geoffrey Michael	AQIT (IND CHEM)	1967
SALECICH, Anthony John	AQIT (SC)	1971
SANDERS, Lawrence Patrick	AQIT (ARCH)	1971
SANDSTROM, Noel Malcolm	FQIT (ENG)	1971
SCHUBERT, Sydney	DQIT (BUS ADMIN)	1970
SCOTT, Alan George	FQIT (ENG)	1970
SCOTT, Trevor James	AQIT (MED TECH)	1971
SELLARS, Jayne Roseanne	AQIT (ACCTCY)	1971
SEXTON, John Gregory	AQIT (BUS STUD)	1970
SHAILER, Susan Joy	AQIT (MED TECH)	1969
SHAW, Glendon Reginald	AQIT (IND CHEM)	1971
SHEA, Christopher Noel	AQIT (SC)	1969
SHEPHERD, Penelope Gay	AQIT (MED TECH)	1968
SHERIDAN, Robert Anthony	AQIT (IND CHEM)	1969
SHIELD, Paul Gregory	AQIT (SC)	1971
SHINGLES, Gregory John	FQIT (ENG)	1970
SHORT, Patricia Anne	AQIT (MED TECH)	1969
SIM, Lawrence Henry	AQIT (SC)	1971
SIMONS, Peter John	FQIT (ENG)	1968
SIMPSON, David Allen	FQIT (ENG)	1970
SINCLAIR, John Harvey	AQIT (ACCTCY)	1970
SIRASUDHI, Manusan	AQIT (BUS STUD)	1971
SIVYER, Janice Dale	AQIT (MED TECH)	1969
SKINNER, Derek George	FQIT (ENG)	1968
SKJEMSTAD, Jan Otto	AQIT (IND CHEM)	1971
SLATER, Lindsay Gordon	FQIT (ENG)	1971
SMERDON, Lionel George	AQIT (ARCH)	1971
SMITH, Brian Patrick	AQIT (IND CHEM)	1969
SMITH, Colin Graham	DQIT (BUS ADMIN)	1970
SMITH, Elizabeth Alexia	AQIT (MED TECH)	1969
SMITH, Gavin Ross	AQIT (SC)	1971
SMITH, George Edwin	FQIT (ENG)	1970
SMITH, Glynn Allan Hedley	AQIT (ACCTCY)	1971
SMITH, Grace Evelyn	AQIT (MED TECH)	1968
SMITH, Helen Frances	AQIT (MED TECH)	1971
SMITH, Ian Bruce	AQIT (ACCTCY)	1970
SMITH, James Timothy	FQIT (ENG)	1970
SMITH, Neil Robert	AQIT (IND CHEM)	1971
SMITH, Ross Graeme	AQIT (BLDG)	1971
SPENCE, Peter Francis	AQIT (IND CHEM)	1971
SPENCER, Peter John	DQIT (BUS ADMIN)	1970
STALLYBRASS, Pamela Patricia	AQIT (MED TECH)	1971
STARK, Ian Howard	AQIT (ACCTCY)	1970
STEELE, Peter David	AQIT (ACCTCY)	1969
STEER, Robert Thomas	DQIT (BUS ADMIN)	1969
STEWART, Gary Laughlin	AQIT (OPTM)	1970
STEWART, James Robert	DQIT (T&CP)	1967
STEWART, Victor George	AQIT (IND CHEM)	1970
STUART, Gregory Norman	FQIT (ENG)	1970
STUMER, Lloyd John	AQIT (SC)	1970
SUMMERVILLE, Paul David	AQIT (IND CHEM)	1969
SUTHERLAND, Kenneth James	AQIT (ENG)	1971
SWIATEK, John Peter	AQIT (ACCTCY)	1969
TAPSALL, Peter Brendan	AQIT (ACCTCY)	1971
TAYLOR, Patricia Ann	AQIT (MED TECH)	1967

TEMPANY, Gregory Allen	AQIT (IND CHEM)	1969
TENNANT, Dennis George	FQIT (ENG)	1969
THAMS, Barry John	FQIT (ENG)	1971
THOMAS, Patricia Margaret	AQIT (MED TECH)	1970
THOMPSON, Brenton Alexis	FQIT (ENG)	1969
THOMPSON, Francis John	DQIT (LAND ARCH)	1969
THOMPSON, Ross Leonard	AQIT (MED TECH)	1967
THOMSEN, John Kevin	AQIT (ACCTCY)	1970
THOMSON, Neven Leu	AQIT (ACCTCY)	1971
THORPE, Douglas Edward	AQIT (ENG)	1970
TIMMS, Victoria Anne	AQIT (MED TECH)	1971
TINGLE, Neville Alan	AQIT (MED TECH)	1971
TODD, Kenneth Robert	DQIT (T&CP)	1968
TODHUNTER, Barrie James	AQIT (ARCH)	1971
TRETHOWAN, Ernest James	AQIT (IND CHEM)	1970
TUCH, Mena Carolyn	AQIT (MED TECH)	1968
TURNER, Gregory David	AQIT (ENG)	1971
TURNER, Peter Robert	FQIT (ENG)	1970
TURNER, Robert George	AQIT (ENG)	1971
VALLANCE, Peter James	DQIT (BUS ADMIN)	1971
VAN DEN BROEK, Barbara Ruth	DQIT (T&CP)	1967
VEAL, Basil Thomas	DQIT (T&CP)	1967
VEITCH, John Leslie	FQIT (ENG)	1971
VILLAUME, Peter Edwin	AQIT (ENG)	1971
VOSPER, Laurence Gordon	FQIT (ENG)	1971
WAITE, Kenneth Raymond	AQIT (SC)	1971
WALDER, Gary John	AQIT (IND CHEM)	1970
WALDER, Robert John	AQIT (IND CHEM)	1970
WALDRON, Colin Alexander	AQIT (OPTM)	1968
WALKER, Alan George	AQIT (BUS STUD)	1970
WALL, John Thomas	DQIT (BUS ADMIN)	1971
WALSH, Stanley Thomas Redmond	AQIT (MED TECH)	1967
WALTERS, Brian Anthony John	AQIT (MED TECH)	1969
WALTERS, Eric Norman	AQIT (ACCTCY)	1971
WATERHOUSE, Paul	AQIT (IND CHEM)	1971
WATERS, Ross Demond	AQIT (IND CHEM)	1968
WATSON, Kathleen	AQIT (MED TECH)	1971
WATTER, Ross	AQIT (SC)	1969
WAY, Peter James	AQIT (ENG)	1970
WEBB, Janice Pamela	AQIT (MED TECH)	1971
WEBER, David Thomas	FQIT (ENG)	1969
WENDT, Noel Wallace	AQIT (IND CHEM)	1969
WESTBURY, Keith Harry	AQIT (MED TECH)	1971
WEYCHARDT, Heinrich	DQIT (T&CP)	1967
WHEELER, Eion Alexander	FQIT (ENG)	1969
WHITE, Douglas Albert	FQIT (ENG)	1969
WHITE, Peter Ernest Vaughan	AQIT (IND CHEM)	1971
WHITE, Peter John	AQIT (ENG)	1971
WHYBIRD, Kenneth Walter	FQIT (ENG)	1969
WIENER, Michael David	AQIT (BUS STUD)	1970
WILKE, Michael Allen	AQIT (ENG)	1971
WILKE, Timothy John	AQIT (MED TECH)	1971
WILLIAMS, Francis Joseph	AQIT (BUS STUD)	1971
WILLIAMS, Lewis John	AQIT (OPTM)	1971
WILLIAMS, Lloyd Propert	DQIT (LAND ARCH)	1970
WILLIAMS, Philip Rollo Lloyd	AQIT (ENG)	1971
WILLIS, Anthony Gerard	AQIT (IND CHEM)	1969
WILSON, Darryl Garde	AQIT (OPTM)	1971
WILSON, Elizabeth Ann	DQIT (LAND ARCH)	1970
WILSON, Fergus William	DQIT (T&CP)	1971

WILSON, Lawrence James	AQIT (IND CHEM)	1968
WILSON, Margaret Mary	AQIT (OPTM)	1970
WILSON, Neroli Beatrice	AQIT (MED TECH)	1969
WINKS, Russell	AQIT (ACCTCY)	1971
WINTER, Anthony Charles	AQIT (SC)	1971
WITNALL, Spencer Bruce	AQIT (ENG)	1971
WOOD, David James	AQIT (MED TECH)	1967
WOODHOUSE, Ronald Harry	DQIT (T&CP)	1967
WRIGHT, Gordon James	FQIT (ENG)	1970
WRZOCHAL, George	AQIT (IND CHEM)	1971
YOUNG, David James Barclay	AQIT (SC)	1970
YOUNG, John Thomas	FQIT (ENG)	1971
ZANOW, Bevyn John	AQIT (IND CHEM)	1969