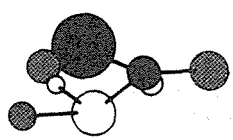
Handbook 1983

Applied Science

QUEENSLAND INSTITUTE OF TECHNOLOGY

School of Applied Science

Applied Geology
Biology and Environmental Science
Chemistry
Mathematics and Computer Science
Physics



Queensland Institute of Technology
George Street
Brisbane
phone 223 2111

P.O. Box 2434
Brisbane
Qld. 4001

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Cover Design by –

Kay Henderson,
E.R.D.U.
Q.I.T.

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School of Applied Science

Head of School:

R.B. Gardiner, MA, BSc(Hons), PhD(Edin), FInstP, FAIP.

The School of Applied Science consists of —

Department of Applied Geology
Department of Biology and Environmental Science
Department of Chemistry
Department of Mathematics and Computer Science
Department of Physics

Each Department conducts courses at the Bachelor's degree level within its area of interest. Courses at the Diploma or Associate Diploma level are conducted for the training of technicians in the areas of Biology, Chemistry, Physics and Radiography. Specialist training is provided by post-graduate courses in the fields of Applied Hydrogeology, Chemical Analysis, Environmental Studies and in Medical Physics.

All Departments within the School offer a Master of Applied Science by Research and Thesis. This degree enables students to pursue a research program, which makes a contribution to a particular aspect of applied science, under the supervision of academic staff.

In order to facilitate and promote liaison between the Institute, the professions, employers and allied groups on matters pertaining to the Institute's objectives, Advisory Committees have been established within the various departmental areas. These Committees provide the vehicle by which informed opinion may be brought to the attention of the School's Academic Board. They also exert an advisory influence on the aims and objectives of the Board in respect of the educational environment to be engendered. In addition, these Committees advise the Board on the relevance of educational programmes in respect of the educational requirements of industry and the professions.

A brief description of the characteristics and interests of each department is as follows —

The *Department of Applied Geology* produces graduates with the training and capabilities required by organisations primarily involved in mining or exploration for metals, fuels, construction materials and other natural resources.

A major area of expertise within the department is groundwater hydrogeology, with emphasis on the application of geophysics. With a view to serving both exploration organisations and environmental scientists, a similar development is occuring in the field of applied geochemistry.

The department has established strong industrial ties, including consultancy in hydrogeology and in geochemistry.

The *Department of Biology and Environmental Science* has a major aim that graduates from its courses should have a professional view of ecological problems. Its students are in receipt of a strong grounding in the ecological aspects of biology, including dynamics modelling and energetics of ecosystems.

The staff of the department are involved in consulting and applied research projects in aquatic and terrestrial ecology and, by such means, a definite interface with the community has been established.

A further activity of the department is the training of biological technicians with the wide range of technical skills appropriate to both laboratory and field work.

The *Department of Chemistry* has developed its main thrust in two well-defined directions –

(i) chemical analysis and advanced instrumental techniques
(ii) process chemistry and chemical technology

These aims are pursued in the post-graduate course in chemical analysis, and also in the undergraduate courses in which students are provided with a thorough grounding in the theory and practice of the modern techniques of analysis, process control and industrial chemistry. The department also conducts an Associate Diploma course for the training of chemical technicians in analytical chemistry and industrial analysis.

The department has earned a high reputation for its consulting work, especially in areas of industrial chemistry and environmental process technology.

The main emphasis of the *Department of Mathematics and Computer Science* is on the application of quantitative mathematical methods and techniques to various scientific, engineering and business situations.

A particular area of development within the department has been the application of mathematics to problems occuring in commerce. This has been demonstrated by the growth of activity in the area of operations research, and by the inclusion, in the mathematics major, of topics involving mathematical economics, actuarial mathematics and mathematics of finance.

The computing course is designed to equip graduates with the basic knowledge and the operational experience necessary to contribute to the wide diversity of fields in which modern computing techniques are employed.

The main areas of expertise within the department include applications in engineering, applied science, particularly in physics, and in commerce. In this respect, the department's reputation in operations research ranks highly.

The *Department of Physics*, in respect of both its staff and the courses it conducts, is noted for its activity in the sphere of medical physics. Areas of expertise within this field include medical ultrasonics, biomechanics, clinical measurement, radiation and instrumentation. Another developing area within the department is that of materials science, in particular, the properties and instrumental analysis of materials.

In addition, the department has a program of continuing education in selected topics such as noise measurement, experimental physics, electronics and medical ultrasonics.

With respect to the sphere of medical physics, the Department of Physics has gained widespread recognition through the medical physics course, through its consultancy activities and in the receipt of research grants. The value of the medical physics course has also achieved international recognition.

Calendar

JANUARY

S		2	9	16	23	30
M		3	10	17	24	31
T		4	11	18	25	
W		5	12	19	26	
T		6	13	20	27	
F		7	14	21	28	
S	1	8	15	22	29	

	1/1-2/2 Summer Recess
3	Public Holiday-New Year's Day
7	Closing date for lodgement of applications for review of Spring Semester 1982 examination results
7	Closing date for lodgement of re-enrolment forms and due date for payment of fees by all continuing students
14	Closing date for lodgement of applications for enrolment as unregistered students
31	Public Holiday — Australia Day

FEBRUARY

S		6	13	20	27
M		7	14	21	28
T	1	8	15	22	
W	2	9	16	23	
T	3	10	17	24	
F	4	11	18	25	
S	5	12	19	26	

	1/1/-2/2 Summer Recess
3-4	Orientation programme (except Nursing Studies: 2-4 Feb.)
7	Autumn Semester commences (except for Grad.Dip.Legal Prac. course)
7	Closing date for lodgement of enrolment and re-enrolment forms
18	Final date for late lodgement of enrolment and re-enrolment forms
21	Commencement date for Grad. Dip.Legal Prac. course

MARCH

S		6	13	20	27
M		7	14	21	28
T	1	8	15	22	29
W	2	9	16	23	30
T	3	10	17	24	31
F	4	11	18	25	
S	5	12	19	26	

5	Final date for changes in Autumn Semester subjects and for changes of courses
18	Final date for cancellation of Autumn semester subjects without prejudice to examination results
18	Final date for cancellation for entitlement to refund of Union fees
31	Final date for formal application to QIT Union for refund of union fees

APRIL

S		3	10	17	24
M		4	11	18	25
T		5	12	19	26
W		6	13	20	27
T		7	14	21	28
F	1	8	15	22	29
S	2	9	16	23	30

1 Public Holiday—Good Friday
4 Public Holiday—Easter Monday
1-10 Mid-semester recess
11-19 Graduation ceremonies (tentative)
25 Public Holiday—Anzac Day
26 Classes scheduled for Monday 25 April to be held
29 Final date for cancellation of full years subjects without prejudice to examination results

MAY

S	1	8	15	22	29
M	2	9	16	23	30
T	3	10	17	24	31
W	4	11	18	25	
T	5	12	19	26	
F	6	13	20	27	
S	7	14	21	28	

2 Public Holiday — Labour Day
12 Autumn Semester examination timetables placed on noticeboards
30 Autumn Semester ends
31/5-1/6
Examination Preparation

JUNE

S		5	12	19	26
M		6	13	20	27
T		7	14	21	28
W	1	8	15	22	29
T	2	9	16	23	30
F	3	10	17	24	
S	4	11	18	25	

31/5-1/6
Examination preparation
2-18 Autumn Semester examinations
13 Public Holiday—Queen's Birthday
19/6-24/7
Winter Recess
22 Closing date for lodgement of applications for deferred examinations and for special consideration of matters affecting examination performance - see General Examination Rules 15 & 15A

JULY

S		3	10	17	24	31
M		4	11	18	25	
T		5	12	19	26	
W		6	13	20	27	
T		7	14	21	28	
F	1	8	15	22	29	
S	2	9	16	23	30	

	19/6-24/7 Winter Recess
15	Closing date for new enrolments, Spring Semester
15	Closing date for changes in Spring Semester programme arising from results in Autumn Semester examinations (adjustments to this new programme possible until 19/8)
15	Closing date for lodgement of applications for review of Autumn Semester examination results
25	Spring Semester commences
29	Closing date for lodgement of applications for admission to post-basic nursing courses
29	Closing date for lodgement of applications to graduate

AUGUST

S		7	14	21	28	
M	1	8	15	22	29	
T	2	9	16	23	30	
W	3	10	17	24	31	
T	4	11	18	25		
F	5	12	19	26		
S	6	13	20	27		

17	Public Holiday—Exhibition Day (tentative)
19	Final date for changes in Spring Semester subjects and for changes of course
22-25	QIT-In-Action Career Evening Programme (tentative)
26	QIT-In-Action Open Day (tentative)
	29/8-16/9 Campus Interview Programme

SEPTEMBER

S		4	11	18	25	
M		5	12	19	26	
T		6	13	20	27	
W		7	14	21	28	
T	1	8	15	22	29	
F	2	9	16	23	30	
S	3	10	17	24		

	29/8-16/9 Campus Interview Programme
2	Final date for cancellation of Spring Semester subjects without prejudice to examination results
2	Final date for cancellation for entitlement to refund of Spring Semester Union fees
16	Final date for formal application to QIT Union for refund of union fees in Spring Semester
17-25	Mid-semester recess

OCTOBER

S		2	9	16	23	30
M		3	10	17	24	31
T		4	11	18	25	
W		5	12	19	26	
T		6	13	20	27	
F		7	14	21	28	
S	1	8	15	22	29	

5	Graduation Ceremony (tentative)
12	Closing date for lodgement of applications for quota entry to undergraduate courses in 1984 through QTAC (tentative)
26	Spring Semester examination timetables placed on noticeboards

NOVEMBER

S	6	13	20	27	
M	7	14	21	28	
T	1	8	15	22	29
W	2	9	16	23	30
T	3	10	17	24	
F	4	11	18	25	
S	5	12	19	26	

11	Spring Semester ends 12/11-15/11 Examination preparation 16/11-3/12 Spring Semester examinations

DECEMBER

S	4	11	18	25	
M	5	12	19	26	
T	6	13	20	27	
W	7	14	21	28	
T	1	8	15	22	29
F	2	9	16	23	30
S	3	10	17	24	31

	16/11-3/12 Spring Semester examinations
4-31	Summer recess
9	Closing date for applications for admission to postgraduate courses
25	Christmas Day
26	Public Holiday—Boxing Day
27	Public Holiday

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By-Laws of the Queensland Institute of Technology

BY–LAWS OF THE QUEENSLAND INSTITUTE OF TECHNOLOGY

HIS Excellency the Governor, acting by and with the advice of the Executive Council and in pursuance of the provisions of the *Education Act 1964–1974* 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.

BY–LAW NO. 1

Interpretation

1. *Application of By-laws.* 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. *Application 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 provisionsof 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 the 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.
   (c) For the purpose of this By-law 'staff' shall include –
      (i) all full-time employees of Council engaged as tutors, senior tutors, lecturers, senior lecturers, principal lecturers, Heads of Department, Heads of Schools;
      (ii) the Deputy Director and all full-time employees other than those referred to in (i) above who hold a salary classification equal to any of the classifications held by employees specified in (i) above;
      (iii) all part-time employees of Council engaged to teach an average of six (6) hours or more per week in the semester in which the election is held;

(iv) full-time employees of Council under the Professional and Technical Employees' Award – Colleges of Advanced Education who hold a classification with a minimum salary equal to or greater than the minimum salary prescribed for a Technician Division II;

(v) full-time employees of Council under the Clerical Staffs – Colleges of Advanced Education Industrial Agreement who hold a classification with a minimum salary equal to or greater than the minimum salary prescribed for an Administration Officer Grade IV.

2. *Rolls* –

(a) The Registrar shall keep separate rolls of –

(i) the members of the staff of the Institute as defined in clause 1(c); 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;

(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 pm. 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 its 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 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 if 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. *Voting Obligation.* Voting shall not be compulsory.

10. *Secret Ballot.* Voting shall be by secret ballot.

11. *Times for Voting.* The poll shall be conducted continuously from 9 am. to 9 pm. on the nominated day.

12. *Secrecy.* The Registrar or any scrutineer or other persons 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) failure to do any act at or by the required time;

(b) any defect in the appointment of a person who acts as scrutineer; or

(c) 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. *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 by resolution of the Council of the Queensland Institute of Technology on the fourteenth day of March, 1975.

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; and

   (b) between the time specified for the receipt of nominations and the nominated polling day: 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.

3. *Conduct of the Poll.* The Registrar shall conduct the poll at a central place on the nominated day. Ballot boxes shall be sealed immediately prior to being set out for the receipt of voting papers and shall remain sealed until counting commences. When a person presents himself at the poll the presiding officer shall verify that the person's name appears on the roll as an eligible elector. The presiding officer shall then issue one voting paper to the elector and initial the elector's name where appearing on the roll. Each voting paper shall be initialled by the presiding officer. A voter shall forthwith place the completed voting paper in the sealed ballot box.

4. *Method of Marking Ballot Paper.* A voter shall mark a voting paper by placing a cross in the square opposite the names of that number of candidates which are to be elected.

5. *Postal Voting.* An elector who —

   (a) will not throughout the hours of polling on polling day be within fifteen miles by the nearest practicable route of the polling place on that day for the purposes of an election; or

   (b) is seriously ill or infirm and by reason of such illness or infirmity will be precluded from attending to vote or, in the case of a woman, will by her approaching maternity be precluded from attending to vote; or

(c) is by reason of his membership of a religious order or his religious beliefs –
  (i) precluded from attending at the polling place; or
  (ii) precluded from voting throughout the hours of polling.

(d) in the opinion of the presiding officer presents good and sufficient reason why he will be precluded from attending at the polling place

may after the issue of notification of the election and before five o'clock in the afternoon of the day immediately preceding polling day, apply in the prescribed form to the returning officer for a postal vote certificate.

The application shall be signed by the applicant in the presence of and shall be declared before and attested by a person who is an authorised witness.

The following persons are authorised witnesses for the purposes of this clause – returning officer, justice of the peace or elector, or a duly qualified medical practitioner or duly qualified nurse who is in attendance on the applicant.

An application under paragraph (c) shall be accompanied by a certificate from a minister of religion of the religious denomination of which the applicant is a member.

6. *Counting of Votes.* Forthwith on the closure of the poll 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 initialled by the 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 counter-signed 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

Meeting 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 of class of matters concerning the Institute.

2. *Duties of 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 Directors.* 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 become 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 to 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 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 Bookshop 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 Department or if there be no appropriate such Head of Department the Registrar or the person for the time being acting as Registrar of the action taken. The Head of 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 or 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 equality 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.

BY–LAW NO. 10

The Queensland Institute of Technology Union

1. *The Union.* The Queensland Institute of Technology Union (in this By-law called 'the Union') shall be the recognised means of communication between —

    (a) the students or any section of them and the Institute;
    (b) the students of this and other colleges or other tertiary institutions;
    (c) student societies within the Institute and outside persons or bodies.

2. *Constitution.* Subject to this By-law and to any rules made hereunder, the Union shall have such powers and authorities and be subject to such obligations as are set out in the Constitution of the Union as approved from time to time by the Council.

3. *Annual Reports.* The Union shall in each year submit to the Council, through the Registrar, a copy of its annual general report, a copy of its balance sheet, and a statement of its income and expenditure duly audited.

4. *Appeal against disciplinary action.* Any student or body against whom any disciplinary action has been taken by the Union may within thirty days of the taking of such action appeal to the Council against any such disciplinary action and the Council shall have full power to deal with such appeal and to make any determination it considers necessary in the matter.

5. *The Council may make 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 nineteenth day of December, 1974.

BY–LAW NO. 11

Union Fees

1. *Union Fees Payable.* Each person whose application for enrolment as a student of the Institute is accepted shall pay fees (hereinafter called 'the Union Fees') for membership of the Queensland Institute of Technology Union (hereinafter called 'the Union'). The Union Fees shall be received on behalf of the Union by the Registrar or such other officer of the Institute as the Council may appoint or by the Union as the Council may from time to time direct.

2. *Union Fees.* The Union Fees shall be:

	Per Annum
Part-time External Students	$2.00
Part-time Internal Students	$20.00
Full-time Students	$40.00
All Other Members	$20.00
Sandwich Course Students	$20.00

3. *Refund of Fees.* Subject to such Rules as the Council may make from time to time the Union Fees paid by a student whose application for enrolment is cancelled or withdrawn at any time shall be refunded in whole or in part as the Union may determine.

4. *Exclusion.* The Council may cancel the enrolment of any student who has not paid by such date or dates as the Council may prescribe by Rule all Union Fees due and payable by such student.

5. *Rules.* The Council may make Rules and amend such Rules from time to time 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 eighteenth day of October, 1979.

BY–LAW NO. 12

Libraries

1. A person shall not use the Institute Main Library or any other library which may at any time be established in the Institute except in compliance in all respects with rules made by the Council relating to such use.

2. The Council is authorized, pursuant to this By-law to make such rules as it considers necessary for the carrying into effect of all or any of the provisions and objects of this By-law.

3. A person who contravenes or fails to comply with any of the provisions of the rules made under the authority of this By-law shall be liable to a penalty not exceeding $100.

4. Without limiting the generality of the provisions of Sub-By-law two hereof, rules made pursuant to this By-law may be for all or any of the following purposes:—

   (a) The management and conduct of a library to which the provisions of this By-law apply and the use care and maintenance preservation and safety of such a library and of any materials (whether journals papers books films tapes recordings or other materials) equipment furniture or other property forming part of or located therein;

   (b) Defining the powers and duties of the holder of any specified office in the Institute with respect to libraries;

   (c) The conditions on which a person may enter a library to which the provisions of this By-law applies or use any materials equipment furniture or other property forming part of or located therein;

   (d) Prescribing in respect of contravention of or failure to comply with rules made under this By-law—

      (i) a reprimand and warning against repetition of the contravention of or failure to comply with the rules;

      (ii) withdrawal of borrowing privileges for a specified period not exceeding one semester;

      (iii) exclusion from a library for a specified period not exceeding one semester.

5. The provisions of this By-law twelve and any rules made pursuant thereto shall be in addition to and not in substitution for the provisions of any other By-law or rule made by the Council in pursuance of the *Education Act* 1964 - 1974 in respect of the Institute.

The foregoing By-law was made at a meeting of the Council of the Queensland Institute of Technology held on the twenty-first day of June, 1979.

3

Rules Relating to Student Matters

RULES RELATING TO STUDENT MATTERS

Admission to Courses

The Council may –

1. prescribe the conditions for normal entry to each course offered.
2. limit the number of students who shall be permitted to enrol or continue in any course.
3. appoint an Admissions Committee and approve of rules providing for –
   (i) its membership including the appointment of a Chairman;
   (ii) its method of operation;
   (iii) the admission of students who do not comply with normal entry;
   (iv) the selection of students to be admitted where quotas or restrictions have been imposed upon admissions and enrolments;
   (v) a quorum.

Academic Structure and Content of Courses

The Council may –

4. prescribe the academic structure and content of any courses and amend these at any time provided the reasonable rights of students already enrolled in the course are not prejudiced or are sufficiently safeguarded;
5. prescribe rules for student progression within a course;
6. delegate any or all of its powers under this section.

Assessment of Students

The Council may –

7. approve rules relating to the examination and assessment of students and the award of grades of passes;
8. delegate any or all of its powers under this section.

Exclusion of Students

The Council may –

9. prescribe rules relating to gross failure;
10. exclude any student who is classified as having achieved gross failure in subjects or courses;
11. delegate any or all of its powers under this section provided that any student shall have a right of appeal to Council against any decision or exclusion.

Appeals

Council shall establish an Appeals Committee to hear student appeals to the Council against exclusion and approve rules not inconsistent with By-law No. 5 or rules thereof in respect of the duties powers membership and management of the business of such Committee.

RULES FOR ADMISSION

1. Meaning of certain words. Unless the context otherwise indicates or requires —

Admissions Committee means a committee appointed by Council to consider applications for admission to Institute courses.

Head of School means a member of the academic staff appointed by Council and so designated. In the case of a Department not attached to a School the Director shall act as Head of School.

Senior Student Counsellor means the Senior Student Counsellor of the Institute.

Academic Staff Association means the Academic Staff Association of the Institute.

Ordered Course means a course in which a student is required, to gain credit in a number of subjects in a particular sequence to acquire an award.

Head of Department means a member of the academic staff appointed by Council and so designated as the senior academic member of staff in a particular Department.

Sub-tertiary course means a course of study leading to the award of a Certificate.

Tertiary course means a course of study leading to the award of a Degree Diploma or an Associate Diploma.

Assistant Registrar means the Assistant Registrar of the Institute.

a 'Registered Student' is a student in an ordered course whose first enrolment in that course has been accepted and approved by the Registrar. A student shall remain a registered student until he:

(a) completes the course, or
(b) withdraws from the course, or
(c) is excluded from the course, or
(d) fails to enrol in the course.

'Special Student' shall mean any person so accepted other than as a registered student.

2. The membership of the Admissions Committee shall be —

Registrar (who shall act as Chairman)
Heads of Schools
Senior Student Counsellor
One representative appointed by the Academic Staff Association.

A member of Committee may be permitted to appoint another person who is not a member to attend and vote on his behalf.

3. The Admissions Committee shall —

(i) advise the Director and the Academic Assembly on all matters relating to the admission of students including —
   (a) the standards of entry to all courses after consideration of recommendation prepared by the Academic Boards;
   (b) the assessment of prospective future enrolments following periodic reviews of statistical trends;

(c) the recommendation or policies for determining those who should be given priorities for admission or enrolment where quotas or restrictions on admissions or enrolments are in the opinion of the Council necessary.

(ii) determine eligibility for admission in those cases where the applicant does not possess normal entry standards.

4. A person desirous of entering a course shall make application to the Registrar for admission on a form provided for this purpose, and shall lodge such form fully and correctly completed not later than the closing date prescribed by the Council.

With such application, the person shall produce to the Registrar for verification, sufficient documentary evidence of passes in pre-requisite examinations.

The documentary evidence produced for verification shall be —

(i) the original documents or facsimile copies thereof;

(ii) such other evidence as the Admissions Committee may require.

5. A person who does not have the normal entry qualifications may make application for special consideration for entry on a form provided by the Registrar.

6. Concurrently with an application for special consideration for entry a person shall lodge with the Registrar an application for enrolment on the form provided for the purpose, and shall lodge such form fully and correctly completed not later than the closing date prescribed.

7. The Registrar shall notify all applicants for admission of the acceptance or rejection of their applications.

8. An application for enrolment may be amended by the Head of Department because of —

(i) timetable incompatibility;

(ii) non-compliance with the rules applicable to the course of study;

(iii) selection by the applicant of subjects which in the opinion of the Head of Department are more than his capacity or circumstances allow him to study adequately.

An applicant whose application for enrolment has been amended shall have a right of appeal to the Head of the School. Such an appeal shall be lodged with the Registrar within fourteen (14) days from date of notification of such amended enrolment. The Registrar shall notify the applicant of the result of the appeal as soon as is reasonably possible.

9. Late enrolments may be accepted only if a vacancy exists in classes established on the basis of closing date enrolments, and with the approval of the Head of School.

10. A Head of School may cancel any class in any subject where the number of enrolments in that class is considered to be insufficient.

    Class groups shall be determined on enrolments as at closing date prescribed by Council. In the event of the cancellation of any class the enrolment of a student shall be deemed to be cancelled in respect of such subject provided that such cancellation shall be without prejudice to the right of the student to again apply for admission for enrolment in such subject, subject to the conditions prescribed for entry to such subject at the time of his application.

RULES RELATING TO UNREGISTERED STUDENTS

1. A student may be enrolled to do miscellaneous subjects, as distinct from registering for a complete course. Such students shall be termed 'Unregistered Students' and must obtain the prior approval of the relevant Head of Department to enrol each year. Unregistered Students shall be required to pay the appropriate Union Fee and shall be subject to the rules of the Institute, with the exception of Rules 41 to 46 of the General Examination Rules.
2. A requirement for admission to do a miscellaneous subject will be compliance with the rules as to the normal pre-requisite and co-requisite to that subject, including those subjects of the entrance requirements regarded as pre-requisites to the subject. The Admissions Committee, on the advice of the Head of the Department controlling the subject, has the authority to waive entry requirement pre-requisites.
3. A student will not normally be permitted to take simultaneously subjects from more than two courses either as an unregistered student in both courses or as an unregistered student in one course and a registered student in another course except at the discretion of the appropriate Head(s) of School(s).
4. Where permission is granted to undertake subjects from more than one course, only one Union fee will apply.
5. The maximum number of hours per week which may be attempted is at the discretion of the appropriate Head(s) of School(s).
6. An unregistered student will not be permitted to accumulate credits for more than 20% of the total course hours within a course.
7. Where quotas or other restrictions apply to a subject, a student applying for registration in a course will have precedence over unregistered students.
8. Where a registered student is undertaking miscellaneous subjects offered in another course in which the student is not registered, the application of the Gross Failure Rules in the course for which the student is registered will not be affected in any way by the results obtained in the miscellaneous subject.
9. When a registered student is excluded from his course due to gross failure, he shall not subsequently be eligible for enrolment as an unregistered student in any subject of that course except at the discretion of the appropriate Head(s) of School(s).

RULES RELATING TO EXEMPTIONS IN UNDERGRADUATE AND POSTGRADUATE COURSES

1. Subject to the provisions of sub-paragraphs (i), (ii), (iii) and (iv) of this rule, if a student, before registering for a course has, at this Institute or elsewhere, completed a programme considered by the Head of the Department responsible for the course as being an adequate and relevant substitute for a subject or subjects prescribed in the relevant course rules then credit may be granted for that subject or those subjects, or exemption may be granted from the whole or part of the programme for that subject or those subjects.

   (i) (a) Except as provided in (i)(b) below, a student in an undergraduate level course (UG1, UG2, UG3, certificate) may be granted credit for, or exemption from any number of subjects prescribed in the programme, except that in order to qualify for the award the student must after registering for the course, satisfactorily complete the equivalent of at least two semesters of full-time study or where the course is not offered for full-time study four semesters of part-time study within the Institute in subjects nominated by the Head of Department responsible for the course.

   (i) (b) A student who transfers from one undergraduate course at this Institute to another undergraduate course without gaining the award in the first course may be granted by the Head of Department responsible for the second course, credit for or exemption from any number of subjects prescribed in the program, provided that in order to qualify for the award the student must have satisfactorily completed the equivalent of at least two semesters of full-time study or where the course is not offered for full-time study four semesters of part-time study from subjects studied within the Institute irrespective of the course in which such subjects were undertaken.

   (ii) Where a postgraduate course exceeds two semesters full-time or four semesters part-time, exemptions may be granted up to a limit such that the student must complete satisfactorily the equivalent of at least two semesters of full-time study or where the course is not offered for full-time study four semesters of part-time study.

(iii) Where a postgraduate course does not exceed two semesters full-time or four semesters part-time, but contains elective subjects, compulsory or elective subjects may be exempted provided the student undertakes at least an equivalent hourly content of elective subjects.

(iv) (a) Where a postgraduate course does not exceed two semesters full-time or four semesters part-time, and contains no elective subjects, exemptions will not be granted except in exceptional circumstances approved by the Academic Board responsible for the course. Where an exemption is granted the student must substitute for the exempted subject another subject or other work relevant to the course approved by the Head of Department responsible for the course, such subject to be at a similar level and of similar hourly content to the subject for which an exemption has been granted.

(b) Exemptions will not be granted in connection with or for the Graduate Diploma in Legal Practice course.

2.1 Except as specifically provided in individual Course Rules and save in exceptional circumstances as determined by the Registrar all applications for exemption must be made and determined at the time of a students first Enrolment in the course to which the exemptions refer.

2.2 Whenever exemptions granted constitute 50% or more of the full course programme, the Head of Department responsible for the course shall provide the Registrar with full details of the study programme which the student has to complete at the Institute to qualify for the award. The Registrar shall advise the student of such requirements in writing.

RULES RELATING TO STUDENTS WHO SEEK RE-REGISTRATION

1. Subject to the provisions of clauses 2 and 3 below, a student whose registration in a course has lapsed because of withdrawal from the course or failure to re-enrol in the course and who wishes to re-register in that course:

(i) must apply for registration in the course by submitting a Re-enrolment Form;

(ii) shall be subject to the Course Rules in operation at the time of resumption; and

(iii) must re-enrol as directed.

2. The provisions of clause 1 of this Rule do not apply to students, who, at the time of resumption, have not satisfactorily completed all the subjects listed in the Course Rules for the first and second semesters, full time, part time, or external, as the case may be, of the course in which re-registration is sought. Such students are not eligible to re-enrol and must apply for admission to the course in the manner prescribed for new students.

3. Upon withdrawal from a course, or upon failure to re-enrol in a course a student who has not satisfactorily completed all subjects listed in the Course Rules for the first and second semesters, full time, part time or external, as the case may be, of that course, may be granted leave of absence upon production to the Registrar of documentary evidence acceptable to the Registrar in the case of medical or other compassionate grounds and acceptable to the relevant Academic Board responsible for the course in any other case. Such leave of absence shall be for a specific period at the expiration of which the student may re-enrol without loss of credit for results awarded prior to the date of withdrawal. A student to whom leave of absence has been granted shall be deemed for the period of leave of absence to be no longer proceeding to an academic award and must, on termination of the leave of absence, re-enrol or apply for an extension of the leave of absence. If a student fails to re-enrol or obtain an extension his registration will lapse.

4. A student whose registration in a course has lapsed as a consequence of exclusion from the course and who wishes to re-register in the course must apply for readmission in accordance with Rule 46 of the General Examination Rules.

GENERAL EXAMINATION RULES

Part 1. DEFINITIONS

Academic Board means a Board constituted by Council to exercise certain academic functions in relation to a particular School.

Committee of the Academic Board means a group of members of the Academic Board constituted by the Academic Board to exercise those particular academic functions prescribed by the Academic Board.

Unit Course means a course of study in which a student may gain credit for subjects passed and is required to repeat failed subjects only.

Fixed year course means a course of study in which a student is required to gain credit for all subjects of any year of the course before proceeding to the subjects of the following year.

Award means a Degree, Diploma, Associate Diploma or Certificate by the Council.

Chief Examiner means an officer appointed and so designated by a Head of Department in relation to an examination in a particular subject for a particular period.

Examiner means an officer appointed by the Head of Department to set and mark examination papers in a particular subject for a particular period.

Supervisor means an officer appointed by the Registrar to supervise the conduct of a particular examination.

Central Examination means any examination administered by the office of the Registrar.

Departmental Examination means any examination administered by a Department.

Supplementary Examination means an examination given to a student who has failed to pass either a central or departmental examination.

Deferred Examination means an examination given to a student in place of a central or departmental examination in cases where the student has failed to sit and the reasons for such failure have been accepted by the Head of School.

Assignment means written exercises where these are specified as mandatory in a particular subject.

Practical Work means Laboratory and Workshop exercises where these are specified as mandatory in a particular subject.

Reports mean opinions expressed after investigation or consideration where such report is mandatory in a particular subject.

Part II. AUTHORITY TO PRESCRIBE EXAMINATIONS

1. Academic Boards to Prescribe Examination Requirements –

   (a) An approved system may include Central Examinations, Departmental Examinations, Assignments, Practical Work, Reports and any methods of continuous assessment.

   (b) The system of assessment to be used in each subject will be prescribed by the Department responsible for the subject concerned and approved by the Academic Board responsible for the subject.

   (c) An Academic Board shall have the power of delegation subject to any conditions as it thinks fit to a Committee of the Board but the Board shall resolve any dispute.

2. **Periods for Central Examinations**

   The periods within the academic year to be set aside for Central Examinations, Supplementary Examinations and Deferred Examinations will be determined by Council.

3. **Period for Departmental Examinations**

   The periods within the academic year to be set aside for Departmental Examinations will be as determined by the Department concerned after agreement with other Departments which might be affected by any determination, and where appropriate, by agreement with the Registrar. The Head of School will resolve any disagreements of an intra-School nature, whereas those of an inter-School nature will be referred to the Director for decision.

Part III. CENTRAL EXAMINATIONS

4. Appointment of Examiners

(a) The relevant Head of Department will appoint examiners and, where appropriate, chief examiners each year for each subject in that year.

(b) The names of all examiners shall be forwarded by the Head of School to the Registrar by a date to be prescribed by the Registrar in consultation with the Head of School concerned.

5. Responsibility for Conduct of Examinations

(a) The Registrar will be responsible for the conduct of all Central Examinations in accordance with Parts V and VI of these rules.

(b) In consultation with the Heads of School, Heads of Department, and if appointed, the Chief Examiners, the Registrar may prescribe the date upon which all examination papers required to be set by examiners are to be received by this office and the form in which such papers will be received.

(c) The Registrar will be responsible for the preparation of a timetable for all Central Examinations and for the publication of this timetable as required by these rules.

Part IV. DEPARTMENTAL EXAMINATIONS

6. Appointment of Examiners

The relevant Head of Department will appoint examiners and, where appropriate, chief examiners. He will also be responsible for the conduct of the Departmental examinations.

Part V. NOMINATION FOR EXAMINATIONS

7. Nomination for Central Examinations

The Registrar may prescribe a form required to be lodged by students presenting themselves for any Central Examination and may prescribe the date by which such form shall be lodged with him.

8. Nomination for Departmental Examination

The Head of Department may prescribe a form required to be lodged by students intending to sit for a Departmental Examination and prescribe the date by which such form shall be lodged with him.

9. Charges

Any form capable of being lodged under these rules need not be accepted if any charges due from the person lodging it have not been paid. In the event of any non-acceptance the person presenting the form shall not be permitted to sit for that examination.

10. Late Lodgement

At the discretion of the Registrar or Head of Department, as the case may be, a form required to be lodged under these rules may be accepted after the date prescribed for lodgement subject to the payment of any charge prescribed for late lodgement.

11. Withdrawal of Entry Examination

A student who has entered for an examination may withdraw his entry by written notice to the Registrar or the Head of Department, as the case may be, by the prescribed date.

12. Timetables

(a) The timetable for Departmental Examination shall be prepared by the Head of Department and shall be posted on appropriate notice boards.

(b) A preliminary timetable for Central Examinations shall be prepared by the Registrar and posted on appropriate notice boards.

(c) Should any timetable show a clash between subjects for which the student has nominated, it is the responsibility of the student to notify either the Registrar or the Head of Department as the case may be by the date prescribed for such notification.

(d) The final examination timetables for Central Examinations shall be so posted not less than three weeks prior to the commencement of the examination.

13. Eligibility to Sit for Examinations

(a) A student may be declared ineligible by the Head of the Department responsible for the course to sit for an examination if he has failed to fulfil all the conditions as set out in the rules pertaining to the course for which he has enrolled.

(b) The Registrar may prescribe the date by which Heads of Department must advise him of the names of students who are declared to be ineligible under this rule and upon receipt of advice from the relevant departments will so advise the students in writing of their ineligibility inviting them to show cause by a prescribed date why ineligibility should not be confirmed.

(c) Where a student shows cause why he should not be declared ineligible his case shall be referred to the Head of School for review and determination.

(d) A student declared by the Head of School to be so ineligible shall have the right of appeal to the Director.

14. Student Examination Form

(a) The Registrar shall forward to each student at least two weeks prior to the commencement of all Central Examinations an examination form showing the subjects for which the student is eligible to sit and the date and time of the examination in that subject.

(b) The student is required to keep this form in his possession at all times during the period of the examination.

15. Failure to Attend for Examination at the Prescribed Date & Time

(a) A student who fails to attend an examination for which he has nominated and which in the case of a Central Examination is shown on his examination form will be deemed to have sat for and failed the examination concerned except in cases where he has notified the Registrar before the examination commences or immediately afterwards that he has failed to attend for reasons of incapacity, ill health or other circumstances beyond his control, and subsequently produces an acceptable medical or other certificate to this effect.

(b) Should the medical or other certificate be acceptable to the Head of School, the student shall be granted a deferred examination.

15A *Special Consideration of factors affecting examination performance.*

(a) A candidate who considers that his performance in a central examination has been adversely affected by illness, disability, or other exceptional circumstances may apply for special consideration by the closing dates specified in the current Academic Calendar. Such applications shall be made to the Registrar, supported by suitable medical or other evidence.

(b) Where a candidate applies for special consideration on medical grounds the medical certificate relating to the application should indicate the candidate's condition at the time of the examination and must be obtained either immediately before the examination or as soon after the examination as is practicable.

(c) The Registrar shall forward applications for special consideration to the relevant Head of School for determination. The Head of School may refer the application to the relevant chief examiner who, in consultation with the appropriate examiner or examiners, shall take such account of the information contained therein as is considered appropriate in deciding the result to be recommended for the candidate in the subject in question.

(d) Notwithstanding section (c) of this rule, Academic Boards may prescribe additional procedures to facilitate consideration of special consideration applications.

Part VI. CONDUCT OF EXAMINATIONS

16. Entry to Examination Room

A person other than a candidate, supervisor, examiner or his nominee, chief examiner or his nominee, may not enter an examination room during an examination session or during the period of forty-five minutes immediately preceding such session except with the permission of a supervisor.

17. Time for Departure

A candidate may not leave an examination room before the end of the examination session without the permission of a supervisor.

18. Conditions of Entry and Departure

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 the permission is given.

19. Unauthorised Material not to be Brought into the Examination Room

A candidate shall not bring into an examination room anything whatsoever which conveys or is capable of conveying 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 concerning 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.

It shall be sufficient answer to any alleged breach of this rule if the candidate establishes that anything brought by him into an examination room was –

(a) declared as permissible by the examiner and is so indicated on the examination paper, or
(b) brought in with the permission of the supervisor, or
(c) deposited by the candidate within the room forthwith after entering it at a place designated by the supervisor as a place where such thing may be deposited.

20. Candidate not to Communicate with Others

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

21. Cheating

A candidate shall not cheat or attempt to cheat in an examination. A person whether a candidate or not shall not do anything to assist any other examinee in his examination.

22. Supervisor's Power of Inspection

A supervisor may require a candidate to show by such means as the supervisor may specify and as the supervisor considers appropriate to the circumstances that the candidate has not in his possession or in any way available any such things as is specified under Rule 19 or that he is not committing or has not committed a breach of Rules 20 or 21 and the Candidate shall comply without delay with such requirement.

23. Identification

A candidate shall bring to the examination room his student examination form and shall produce or keep displayed such form in accordance with any direction given to him by notice displayed in the examination room, by direction on an examination book, by a supervisor or otherwise.

24. Places

A candidate for an examination shall upon entering an examination room proceed without delay to such place as he is or has been directed to occupy for that examination by a supervisor or by notice or other means, and shall not leave that place except with the permission or by the direction of a supervisor.

A supervisor may at any time direct a candidate to leave any such place and to occupy another place specified by the supervisor, and a candidate shall without delay comply with any such direction.

25. Candidate to Comply with Directions

(a) A candidate shall comply with all directions to candidates set forth on the examination book or such other examination material supplied to him or set out on any notice displayed in the examination room and shall without delay comply with any reasonable direction given to him by the supervisor.

(b) A candidate's behaviour shall not be such as to disturb or distract or adversely affect any other candidate.

(c) In the event of breach or default by a candidate under or in respect of 25(a) or 25(b) the supervisor may require the offending candidate to leave the examination room and failure by the candidate to do so shall be deemed to be a breach of discipline and he may be dealt with under the By-law 9(2).

(d) All such exclusions shall be reported immediately to the Registrar or in his absence the Assistant Registrar or officer designated by the Registrar to conduct the examination and the Registrar, Assistant Registrar or other officer after hearing the supervisor the candidate and any relevant evidence may either confirm or rescind the exclusion.

26. Candidates not to Remove Papers

A candidate shall not remove from the examination room any worked script or paper provided for use by him during the course of the examination (other than the question paper supplied to him) or other material the property of the Institute.

27. Penalties for Breach of Examination Rules

(a) If a candidate commits a breach of any rule contained in this part of these rules, he shall be deemed to be guilty of a simple breach of discipline and may be dealt with under By-law 9(2).

(b) 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 in breach of Rule 25 of this part of these rules shall be liable to the following penalties.
For a first breach –
(i) denial of credit for the subject concerned, or
(ii) denial of credit for all subjects taken in the same academic year.

(c) The Registrar, Assistant Registrar or other officer shall forthwith advise the Director of any such alleged breach and after due investigation by the Director, the Director may in writing require the candidate to show cause within not less than seven days from the date of such requirement why penalty should not be imposed under this rule. In the event of the candidate failing to show cause the Director may impose any penalty provided for under this rule.

(d) Penalties for a further breach shall be –
(i) exclusion from the Institute for a period, or
(ii) permanent exclusion from the Institute.

A candidate incurring either of these penalties shall have a right of appeal to the Appeals Committee.

Part VII. ASSESSMENT OF RESULTS

28. Registrar or Head of Department to Supply List of Candidates.

For Central Examinations the Registrar shall supply to each examiner a list of candidates for whom a result is required in each subject. For Departmental Examinations the Head of Department shall supply to each examiner a list of candidates for whom a result is required in each subject.

29. Duties of Examiners

The Examiners shall furnish to the Head of Department or the Chief Examiner where such is appointed –

(a) A list of the candidates in respect of whom results for the subject are required on which the examiner shall show –
(i) such details of each candidate's performance as may be required by the Head of Department or Chief Examiner;
(ii) a statement of those from whom no script was received;
(iii) the name of any candidate who submitted a script and whose name was not included in the list supplied by the Registrar.

(b) the examiner's recommended grade lines;

(c) the result which the examiner recommends in respect of each candidate; and

(d) an analysis of the examiner's recommendations showing the numbers of each grade of pass or failure recommended.

30. Powers and Duties of Head of Department

The Head of Department or where appointed the Chief Examiner may approve or vary the grading of results recommended for each candidate, provided always that, before making such a variation, the Head of Department or Chief Examiner shall advise the examiner concerned of the variation he proposes and consider any representation that the examiner may wish to make.

31. Power and Duties of the Academic Board

(a) *In Relation to the Subject being Examined*

The Head of Department or Chief Examiner shall forward to the Academic Board responsible for the course the results recommended by him together with any comments concerning these results made by the examiner concerned, in respect of each candidate. That Academic Board shall thereupon consider the results recommended for each candidate and shall determine the final award in each subject provided always that –

(i) the Academic Board determining such final awards may refer the recommended awards to a meeting of such examiners as the Chairman of the Academic Board may determine for advice, and

(ii) the Academic Board shall not determine an award different from that recommended by a Head of Department or Chief Examiner except after advice to that Head of Department or Chief Examiner of the intended variation and consideration of any matters which that Head of Department or Chief Examiner may wish to place before the Board.

The Academic Board shall classify each result in terms of the grading of pass as wet out in Part VII of these rules.

(b) *In Relation to the Course in which the Student is Enrolled.*

The Head of Department responsible shall forward to the relevant Academic Board a listing of the final results of each candidate enrolled in that course who has nominated for the examination.

Where relevant the Academic Board shall consider these results in terms of the approved progression rules for each course and determine –

(i) whether the candidate has fulfilled all of the requirements for progression to the next stage of the course;

(ii) whether the candidate shall be granted conceded passes in subjects in which he has not been granted a pass;

(iii) whether the candidate shall be granted supplementary examinations or shall be required to submit himself for such other additional means of assessment as the Academic Board shall determine.

32. Application of Academic Board Policy

Where an Academic Board has prescribed a policy which requires an adjustment of results the Head of School, before submitting results recommended for each candidate to the Academic Board, shall adjust the recommended grades in any subject in accordance with that policy, and shall report any adjustment so made to the Academic Board.

33. Powers of Alteration

An examination result determined by the Academic Board, and a decision concerning the granting of supplementary examination to a candidate may be altered by the Head of the School controlling the course with the concurrence of the Head of Department or Chief Examiner concerned –

(a) to correct a patent error, or

(b) to make the result or decision accord with the result or decision which the Head of School and the Head of Department, Chief Examiner and where possible the examiner, are satisfied would have been confirmed or made by the Academic Board if it had considered relevant circumstances which were not considered by the Board.

Any such alteration and the reasons therefore shall be reported to the Academic Board at its next meeting.

34. Grading of Results

(a) A pass in each subject may be designated as an Honour (H), Credit (C) or Pass (P).

(b) Where the Academic Board responsible for the course so determines in accordance with Rule 31 a pass conceded (Q) may be awarded in a subject.

(c) Where the Academic Board responsible for the course so determines, all candidates gaining a pass in a subject may be awarded with a result of Pass – Non Graded (R).

(d) Where the Academic Board responsible for the course so determines, all candidates in a subject may be assessed as having Satisfactorily Completed (G), or Not Satisfactorily Completed (Z) the subject.

(e) Where a student has been granted a supplementary examination in any subject, he may not subsequently be awarded with a grade higher than Pass – Supplementary (T) in that subject.

(f) Where a student has been granted a deferred examination he may be awarded a pass in terms of Honour (H), Credit (C), Pass (P), Non-Graded Pass (R), Satisfactorily Completed (G) or Pass Conceded (Q).

(g) A fail in each subject will be designated as a Fail (N) except that where a candidate does not attend the examination he will be awarded Fail – No Assessments Undertaken (X) or where a student notifies of his withdrawal from a subject after the official cancellation date and he is not granted cancellation without penalty he will be awarded Fail – Late Cancellation (K) or where a student is not successful at a supplementary examination he will be awarded Fail – Supplementary (M).

35. Where a candidate has failed to comply with the Rules pertaining to a particular subject or course, irrespective of whether he has been permitted to sit for the relevant examinations or not, or where the Academic Board responsible for the course decides that further assessment is desirable before release of a candidate's final result, his results in either a particular subject or all of the subjects may be withheld at the discretion of the Academic Board until he has fulfilled all requirements to the satisfaction of the Academic Board.

In such cases, the Registrar will advise the student in writing to contact the Head of Department responsible for the conduct of the subject to ascertain exact requirements to enable the final result to be issued. Except in the case of the Academic Board responsible for the course having decided that further assessment is desirable before release of a final result, the student shall be given the opportunity to show cause to the Registrar why the result should not be withheld.

The Academic Board responsible for the course in which the student is enrolled must notify the Registrar of a final result no later than two weeks (or six weeks with the approval of the Academic Board) after the commencement of the next semester.

36. Approval of Results

Departmental Examinations

(a) The results of all Departmental Examinations shall be subject to approval by the relevant Academic Board.

(b) Upon approval by the Board the results shall be forwarded to the Registrar who shall maintain a register for use in the final compilation of results.

37. Certification of Final Results

Central Examinations

The Head of School shall certify to the Registrar –

(a) the final results in respect of each candidate in his School, after all authorities have carried out their functions and exercised any powers given them under these rules;

(b) in the case of fixed year courses, a statement that the candidate has passed or failed the year or been granted supplementary examinations.

38. Release of Results

(a) *Departmental Examinations*
Upon approval of the Academic Board controlling the course or a Committee of the Board where the authority has been delegated under Section 40, the results may be released by the Head of Department offering the subject.

(b) *Central Examinations*
Following certification of results provided for in Section 37 these will be released at the direction of the Registrar.

39. Application for Review of Results

The papers submitted by a candidate in any subject shall be reviewed on request lodged by him with the Registrar not later than the date prescribed in the calendar and on payment of a fee prescribed by the Council.

If, on review, a higher grade of pass, or a pass in place of a failure is awarded to the candidate, the fee so paid shall be refunded.

40. Delegation of Authority by Academic Board

Where an Academic Board responsible for a course has determined a policy in relation to the assessment of examination results, it may delegate to a Committee of the Board, the authority to exercise its powers under these rules. All such authority exercised on behalf of the Board must be consistent with the policy laid down by the Board and all decisions made by the Committee must be reported at the next meeting of the Board.

Part VIII. GROSS FAILURE

The following Rules 41 to 46 apply only to students who are registered in an approved course of study. Unregistered Students must apply for enrolment each year and their applications may be accepted or rejected by the Registrar on the recommendation of the relevant Head of Department.

41. Student to be Classified as a Gross Failure

A student in any one year may be classified as a gross failure under the following circumstances –

(a) *In Unit Courses*

(i) where a student has failed twice in the same subject or unit even though he did not nominate for that subject at successive examinations, or

(ii) where a student, who is enrolled in a course which has a normal minimum completion time of four semesters or less, has not maintained over the most recent two semesters in which he was registered in a course, exclusive of any period of approved leave of absence, a rate of progress at least equal to fifty percent of the formal hours as set out in the relevant course rules for normal progression, or

(iii) where a student, who is enrolled in a course which has a normal minimum completion time exceeding four semesters, has not maintained over the most recent four semesters in which he was registered in a course, exclusive of any period of approved leave of absence, a rate of progress at least equal to fifty percent of the formal hours as set out in the relevant course rules for normal progression.

The provisions of rules 41(a)(ii) and 41(a)(iii) apply irrespective of whether the student was registered in different courses in the most recent two semesters referred to in rule 41(a)(ii) or the most recent four semesters referred to in rule 41(a)(iii).

(b) *In Fixed Year Courses*

(i) where a student has failed twice in the same year of the course, or

(ii) in those cases where a student has been granted special permission to repeat only some of the subjects of a particular year and he has failed in any of those subjects.

42. Procedure to be Adopted

(a) Following the certification of final results as required under Rule 37, the Academic Board responsible for the course will forward to the Registrar a list showing those students who are classified by the Academic Board as gross failures.

(b) The Registrar shall notify all such students that they have been so classified and shall give them the opportunity to show cause by a prescribed date which is not more than four weeks from the date of posting the notification, why they should not be dealt with as provided for in these rules.

(c) A student who wishes to show cause why he should not be dealt with under the rules may do so in writing to the Registrar.

(d) When the date prescribed for showing cause has elapsed the Registrar will forward to the Head of School all submissions received and these will be considered by the Academic Board responsible for the course and the penalties to be imposed, if any, will be determined.

43. Penalties for Gross Failure

Where it is confirmed under Rule 41 above that a student has been classified as a gross failure and the student has failed under Rule 42 to show cause the following penalties may be imposed by the Academic Board responsible for the course –

(a) The student may be refused enrolment in any course offered by the Institute.

(b) The student may be refused enrolment in the course in which he was classified as a gross failure.

(c) The student may be refused enrolment in a particular subject in which he was classified as a gross failure but allowed to proceed with the course provided that subject is not mandatory to the course.

(d) The student may be permitted to repeat a particular subject or, in the case of a fixed year course, a particular year, or may be required to undertake a programme determined by the Academic Board.

44. Right of Appeal

Where a penalty is imposed under Rule 43, a student shall have the right of appeal to the Appeals Committee. All appeals against the imposition of penalties under the provisions of Rule 43 – Penalties for Gross Failure – shall be lodged in writing with the Registrar. Each letter of appeal must state the grounds and reasons for appeal and must be delivered or posted so as to reach the Registrar within fourteen (14) calendar days of the date appearing on the Registrar's letter advising the student of the penalties imposed.

45. Appointment of Committee of Academic Board

An Academic Board may appoint a Committee of the Academic Board to make recommendations to the Academic Board.

46. Re-admission after Exclusion

(a) A student excluded under these Rules may be considered for re-admission after a period of not less than four semesters.

(b) An application for re-admission after exclusion should be made in writing to the Registrar no later than two months prior to the commencement of the semester for which re-admission is sought.

(c) Applications for re-admission shall be considered by the Academic Board responsible for the course from which the student was excluded. In considering applications the Academic Board may take into account changed circumstances; e.g. academic and/or vocational performance since exclusion, maturity and motivation.

(d) An Academic Board may require an applicant who has been re-admitted under these Rules to enrol on such conditions as it may determine.

(e) A student re-admitted under these Rules may, at the discretion of the Academic Board, be required to re-enrol and be assessed in any subject or subjects which the student may have passed prior to exclusion.

QUEENSLAND INSTITUTE OF TECHNOLOGY LIBRARY RULES

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Q.I.T. MAIN LIBRARY
RULES

1. Authority of the Chief Librarian

The Library shall be administered by the Chief Librarian. Subject to the overall control of the Director and the Institute Council, the Chief Librarian shall:—

1.1 Prescribe the procedures to be followed by Library users;

1.2 Exercise disciplinary authority with respect to the behaviour of users of the Library;

1.3 Exercise disciplinary authority with respect to the preservation, consultation and loan of library materials.

2. Library Usage

2.1 Entitled Users

2.1.1 Subject as below, the Chief Librarian may permit any person to use any facility of the Library and determine the conditions under which such use is permitted. Failure to comply with any such conditions shall be a breach of these Rules.

2.1.2 The following are entitled to use the Library for study and research:—

(a) Students of the Institute;
(b) Staff of the Institute;
(c) Members of the Institute Council;
(d) Special users who are:—
  (i) reciprocal users (as defined in written agreements with Q.I.T.);
  (ii) any other person or group approved by the Chief Librarian.

2.1.3 The Chief Librarian may make a charge to any user or users for library materials, services or other facilities, in accordance with the Schedule of Charges attached to these Rules. Any amendment to the Schedule of Charges is to be approved by the Director and the Institute Council.

2.1.4 Any person entitled or given approval to use any facility of the Library may be required to complete and sign a registration card undertaking to comply with the Rules.

2.1.5 Any person entitled or given approval to use any facility of the Library, and wishing to do so, must obtain a Q.I.T. Library Membership Card or a Q.I.T. Identity Card, whichever is appropriate.

2.2 *Hours of Opening*

The hours during which the Library shall be open shall be prescribed by the Chief Librarian, subject to the approval of the Director, and posted at the entrance to the Library. Prior notice through normal Institute channels will be given of any change in the hours of opening.

2.3 *Rules for General Conduct*

2.3.1 No person shall in the Library conduct himself in a manner which, in the reasonable opinion of any Librarian on duty is not a proper manner and a proper use of the Library, or which interferes with the comfort or convenience of, or the use of the Library by other persons.

2.3.2 No person may smoke, eat or drink in the Library except in such areas as are specifically set aside by the Chief Librarian for any of these purposes. No animals may be brought into the Library.

2.3.3 Bags, cases or other material may be brought into the Library, but must be offered for inspection on leaving the Library if requested by a member of the Library staff.

2.3.4 No person may reserve a seat in a general reading area, except in Closed Carrels. Articles left unattended in the Library for more than 30 minutes may be removed by Library staff. The Institute, Chief Librarian and Library staff shall have no responsibility for personal belongings left in the Library.

2.3.5 An atmosphere of quiet must be maintained in the Library so that it is at all times a place conducive to independent study and quiet reading. Silence must be kept in the main reading areas and conversation restricted to the Seminar rooms, foyers and other specified areas.

2.4 *Borrowing Responsibilities*

2.4.1 A current Identity Card is necessary for borrowing Library materials and should be carried at all times.

2.4.2 A borrower is responsible for safe-keeping and return of the materials borrowed by him or her from the Library.

2.4.3 All borrowers must complete the appropriate loan record for each item they borrow.

2.4.4 All items on loan must be returned on or before the last date stamped on the date due slip or where appropriate, before the expiration of a recall notice.

2.4.5 Names of borrowers will not be revealed without the borrower's consent.

2.4.6 Library staff processing loan records enter date and/or time of return on loan cards. Borrowers may obtain written confirmation of date and/or time of return by presentation of borrowed items at the Lending Services Counter. Where confirmation of return is not sought, borrowers are deemed under these rules to have accepted as correct the date and/or time of return recorded on loan cards.

2.5 *Loan Periods*

2.5.1 Books

The normal loan period for books is four (4) weeks. A four week loan may be renewed once, provided that another borrower has not reserved the item, that it is not overdue, and that it is not a new addition to the Library stock. From time to time certain books may be placed in the Limited Access Collection or on short term loan. Short term loans are not renewable.

2.5.2 Extended Book Loans

With the approval of the Chief Librarian, full-time academic staff may borrow, for one extended period only, books required in the planning of courses or subjects. Requests for extended loans must be submitted in writing. Extended loans will not be renewed. Extended loans normally will be from 1st December to 31st July of the following year, or from 1st June to 30th November of the same year.

2.5.3 Periodicals

Unbound issues of periodicals (other than current issues or issues on display) may be borrowed by full-time staff for one week. Loans of periodicals are not renewable.

Monographic Series (e.g. Advances in . . . .) may be borrowed by staff and students for one week. Loans of Monographic Series are not renewable.

2.5.4 Audio-Visual

Most types of audio-visual materials, with the exception of films and video, may be borrowed for two (2) weeks by staff and students.

Films and video may be borrowed by staff only for a period of one (1) week.

Audio-visual loans are not normally renewable.

2.6 *Limited Access Collection*

2.6.1 Only QIT students and staff and other persons approved by the Chief Librarian may use the Limited Access Collection.

2.6.2 No items borrowed from the Limited Access Collection may be removed from the Library, except as specified in Clause 2.6.4 below.

2.6.3 Only one item at a time may be borrowed from the Limited Access Collection.

2.6.4 The normal loan period is two (2) hours. After that time the borrowed item must be returned, but if no one else has reserved it, the item may be renewed for a further two (2) hours.

Overnight loans are permitted from half an hour before closing time until half an hour after opening time the next day.

2.6.5 Students and staff must leave their QIT Identity Card as a deposit before being permitted to remove any item from the Limited Access Collection.

2.7 *Non-Loanable Materials*

Non-loanable materials are as follows:—

(a) Reference works;
(b) Maps and Charts;
(c) Theses;
(d) Bound volumes of periodicals;
(e) Newspapers.

3. Penalties etc.

3.1 *General*

3.1.1 A charge under these Rules shall be a debt to the Institute.

3.1.2 Subject as below, penalties i.e. reprimand, fines, withdrawal of borrowing privileges, exclusion from the Library or other specified sanction, for breaches of these Rules may be imposed by the Chief Librarian on any user.

3.1.3 Penalties (as specified in 3.1.2 above) may be waived by the Chief Librarian in special circumstances.

3.2 *Reprimand*

3.2.1 Failure to observe these Rules may incur a reprimand from the Chief Librarian or the senior Librarian on duty, together with a warning against repetition of the offence.

3.3 *Fines for Late Returns*

3.3.1 Fortnightly, Four (4) Week and Extended Loans

(i) When a loan is overdue, an overdue notice will be sent to the borrower;

(ii) If an item is returned late, a fine will be imposed at the rate of $1.00 for each week or part thereof that the item is overdue from the date due, up to a maximum of $20.00. Fines are to be paid within 14 days of date of fines notice.

3.3.2 Limited Access Collection Loans

A fine of 50¢ per hour will be imposed for each hour or part thereof that the item is late, up to a maximum of $20.00.

3.3.3 Short Term Loans (3 days or 1 week)

A fine of 50¢ per day, per item, will be imposed for each day the item is late, up to a maximum of $20.00.

3.4 *Loss of Borrowing Rights*

3.4.1 If a book or other Library material is not returned within five (5) weeks of the date stamped on the date due slip, the item will be presumed lost, and the user's borrowing rights may be withdrawn for a period not exceeding one semester.

3.4.2 Subject to 3.4.1, borrowing rights will not be restored until all overdue loans have been returned to the Library and all fines are paid.

3.4.3 Failure to pay fines in accordance with 3.3 will result in user's borrowing rights being withdrawn for a period not exceeding one full semester.

3.5 *Lost Library Material*

3.5.1 If an item appears to be lost, the loss must be reported to the Lending Services Desk Clerk or the Lending Services Librarian. If after a reasonable search by both Librarian and borrower the item cannot be found and proof of return cannot be shown, the borrower shall be responsible for the replacement cost plus a processing charge of $5.00, up to a maximum of $100 per item, to be paid within 14 days of date of notification.

3.6 *Exclusion*

3.6.1 Any person who fails to observe these Rules or who disfigures or damages any document or other Library facility may be excluded from the Library for up to one semester and shall be responsible for any damage caused.

4. Appeals

4.1 Any person upon whom a penalty (as defined in 3.1.2 hereof) has been imposed may, within fourteen (14) days of the imposition, challenge the imposition of the penalty and/or appeal against the imposition of the penalty, and any action which may be taken under Section 3 will be suspended pending determination of the challenge or appeal.

4.1.1 Any challenge or appeal should in the first instance be made in writing to the Registrar.

4.1.2 An appeal against a decision of the Registrar must be made in writing within seven (7) days to the Director.

4.1.3 On appeal, the Registrar or the Director, as the case may be, if there are extenuating or exceptional circumstances, may allow the appeal or reduce or waive the penalty.

5. * Library Copying and Copyright

5.1 Permissable Copying

For "purposes" of Research and Study it is necessary that the copying be restricted to a reasonable proportion of the work and that only single copies are obtained. A 'reasonable proportion' will be interpreted in this Library as a Chapter or 10 percent of a book, whichever is less, and one article from a periodical. Exceptions to these guidelines may be approved only by the Chief Librarian, Lending Services Librarian or those acting in these capacities.

5.2 Non-Copyright Material

There is no restriction on the copying of non-copyright material. Aside from personal papers, readers may be required to establish that the copies they have made are non-copyright matter. In some cases a statement is made on a publication permitting copying. Otherwise readers should assure themselves BEFORE making copies that they have the necessary authority OR are acting within the exclusion of the Copyright Act 1968 (CWTH).

* *Under Review*

6. Notices

Any notices to be given to a person under these Rules shall be deemed to be sufficiently given if sent to him or her by mail at his or her address registered with the Library and shall be deemed to have been received by the person to whom it is addressed in the ordinary course of the post.

7. Schedule of Service Charges

Service	User Category	Conditions
Comprehensive Literature Searching & bibliographies	Q.I.T. Staff	No charge, subject to the search being for QIT teaching or research.
	Q.I.T. Post-Graduate Students	No charge, provided searches approved by the Head of Department as being an essential part of a program of study.
	Q.I.T. Undergraduates	Not available.
	Non-Q.I.T. (including private Q.I.T. staff and student searches)	(a) **Online** – Overseas system $4 per minute + prints; AUSINET – $3.50 per minute + prints; BIOSIS – $15 per search; MEDLINE retrospective to 1978 – $12 per search. MEDLINE – retrospective to 1966 – $15 per search. (b) **Manual** – By negotiation.
Online mini-search	Available to anyone	$12 per search.
(a) Loans-print materials	QIT Staff and students	No charge
	Non-QIT individuals	$10 annual subscription (January–December)
	Non-QIT organisations	$20 annual subscription (January–December)
	Other libraries	LAA Inter-Library Loan vouchers used
(b) Loans-films	QIT Staff	No charge
	Other tertiary educational institutions	No charge
	Other organisations	$10 transaction fee per loan
	QIT students	Not available
	Non-QIT individuals	Not available

Service	User Category	Conditions
Obtaining materials not held by QIT Library	QIT staff	No charge, subject to loan being for QIT teaching or research.
	QIT students	No charge. (Request must be supported by supervising academic staff member).
	Non-QIT	$5 minimum per request.

LAW SCHOOL LIBRARY RULES

1. Definition

In these rules the word "Library" means the Law School Library.

2. Administration

The Library shall be administered in accordance with these Rules by the Law School Librarian under the direction of the Head of the School of Law.

3. Reference Library

The Library shall be a reference Library and, except in the case of material required for use in a Law School Moot, or in any case approved by the Head of the School of Law, Library material or equipment shall not be removed from the Library.

4. Hours of Opening

The hours during which the Library shall be open shall, after consultation with the Chief Librarian, be prescribed by the Head of the School of Law, subject to the approval of the Director, and shall be posted at the entrance to the Library. Prior notice shall be given of any change in the hours of opening.

5. Library Users

(1) The following persons shall be entitled to use the Library for study and research –

(i) students of the Institute;
(ii) staff of the Institute;
(iii) members of the Council of the Institute;
(iv) any other person approved in advance by the Head of the School of Law.

(2) Any person seeking approval to use the Library under Rule 5.(1)(iv) must apply in writing to the Head of the School of Law.

(3) Any person wishing to use the Library must possess a QIT identity card or the written approval of the Head of the School of Law, whichever is appropriate, and must produce such card or approval upon request by the person on duty at the Reader Assistance desk.

6. Conduct of Library Users

(1) Briefcases, bags, folders, books, etc., may be taken into the Library but must be offered for inspection at the request of the person on duty at the Reader Assistance desk.

(2) No person shall reserve a seat in the Library except in the discussion rooms. Articles left unattended in the Library for more than one hour may be removed by any member of the staff on duty in the Library.

(3) No person shall use more than five items of Library material at any carrel or table at a time.

(4) Neither the Council of the Institute nor any of its employees shall be responsible for the safekeeping of personal belongings of Library Users.

(5) No person shall smoke, eat or drink in the Library.

(6) No person shall in the Library conduct himself in a manner which, in the opinion of the Law School Librarian, the Assistant Librarian or the person on duty at the Reader Assistance desk, is not a proper manner and a proper use of the Library, or which interferes with the comfort or convenience of, or the use of the Library by, other persons.

(7) No person shall mark, deface or otherwise damage or destroy any Library material, equipment, furniture or other property, or any part of the Library.

7. Reserve Collection

Subject to Rule 3, a person entitled to use the Library may, upon application to the person on duty at the Reader Assistance desk and upon surrendering his QIT identity card or the written approval referred to in Rule 5.(3), whichever is appropriate, as a deposit, use not more than two items from the Reserve Collection for up to two hours at a time.

8. Moots

In the case of a Law School Moot, authorised by the Head of the School of Law, the Law School Librarian or the Assistant Librarian may allow material to be removed from the Library for use in such Moot.

9. Copying and Copyright

No person shall use any photocopier in the Library for a purpose which infringes copyright under the Copyright Act, 1968 (Cth). (The relevant sections of such Act are posted near each photocopier and a copy of the Act may be obtained on application at the Reader Assistance desk).

10. Penalties

(1) Any person who commits a breach of any of Rules 3, 5, and 6 may be reprimanded and warned against repetition of the breach, and/or excluded from the Library for a specified period not exceeding seven days, by the Law School Librarian, the Assistant Librarian or the person on duty at the Reader Assistance desk.

(2) Any person who commits a breach of Rule 7 may be reprimanded and warned against repetition of the breach, and/or his privilege of using items from the Reserve Collection may be withdrawn for a specified period not exceeding seven days, by the Law School Librarian, the Assistant Librarian or the person on duty at the Reader Assistance desk.

(3) Any person who marks, defaces or otherwise damages, or destroys, any Library material, equipment, furniture or other property, or any part of the Library shall be liable for the cost of making good the damage or replacing the property up to $100, such cost to be determined by the Law School Librarian.

(4) Any person who imposes any penalty under Rule 10.(1), (2) or (3) must, as soon as practicable thereafter, notify the Head of the School of Law in writing.

11. Appeals

(1) Any person who is excluded from the Library or whose privilege of using items in the Reserve Collection is withdrawn or who is liable for the cost of making good damage or replacing property under Rule 10 may, within seven days thereafter, appeal to the Head of the School of Law against the penalty, whereupon the penalty shall be suspended pending the determination of the appeal.

(2) On such an appeal as is provided for by Rule 11. (1) the Head of the School of Law may allow the appeal or dismiss the appeal or reduce or waive the penalty.

(3) Any person who is excluded from the Library or whose privilege of using items in the Reserve Collection is withdrawn or who is liable for the cost of making good damage or replacing property under Rule 10 who appeals to the Head of the School of Law and is dissatisfied with the decision of the Head of School may, within seven days thereafter, appeal to the Director against such decision, whereupon the penalty shall be suspended pending the determination of the appeal.

(4) On such further appeal as is provided for by Rule 11. (3) the Director may allow the appeal or dismiss the appeal or reduce or waive the penalty.

UNION FEE RULES

1. Interpretation

In these Rules unless the context otherwise indicates or requires:

'Full-time Student' means a student, including a member of staff of the Institute, who is enrolled at the Institute as a full-time student or such other person or persons as the Council may from time to time determine.

'Part-time Student' means a student, including a member of staff of the Institute, who is enrolled at the Institute as a part-time student or such other person or persons as the Council may from time to time determine.

'Sandwich Student' means a student, including a member of staff of the Institute, who in a particular academic year is enrolled at the Institute on the basis of attendance on a full-time basis for one of two semesters, and is required to undertake specified practical training, with or without, part-time study for the remaining semester.

'Union Fees' means such fees as may be prescribed by the Council for membership of the Queensland Institute of Technology Union.

'Enrolment' means application for registration as a student of the Institute, and includes both New Enrolments and Re-enrolments.

2. Fees to be Paid

Unless the Council otherwise directs, Union Fees shall be paid at the time of submitting an enrolment or re-enrolment, on or before the following dates:

(a) in the case of a student applying for re-enrolment or of a student applying for enrolment for the first time in a Post-graduate or Certificate course – by the date indicated in the Institute Calendar.

(b) in the case of a student applying for enrolment for the first time in a degree, diploma, or associate diploma course – by the date specified on the Acceptance of Offer Form forwarded to the student.

3. Consequences of Non-payment

(i) If Union Fees payable by a student have not been paid at the time of lodging an enrolment, the Registrar may refuse to accept such enrolment.

(ii) Any student whose enrolment is not accepted under the provisions of Sub-Rule (i) of this Rule may re-apply for enrolment, up to and including the final date for submission of late enrolments as specified in the Institute Calendar, subject to the conditions specified in Sub-Rule (i) of this Rule.

(iii) Without limiting the effect of Sub-Rule (i) of this Rule, a student who has not paid all Union Fees due and payable by him and who satisfies the Registrar that he is unable to make payment by the date specified for fees to be paid, may be granted an extension of time in which to pay such fees, and may have his enrolment accepted, subject to his agreeing to pay all fees not later than the extended date indicated by the Registrar.

(iv) Where a student has lodged an enrolment with the Enrolments Section of the Institute and Union Fees due and payable by the student have only been paid in part, the Registrar may refuse to accept or process such enrolment, unless the balance of fees, notified to the student on a Fee Payment Form, have been paid by a date determined by the Registrar and notified to the student.

(v) Without limiting the effect of any of the preceding Sub-Rules of this Rule, if Union Fees payable by a student remain unpaid within five weeks of the commencement of the first semester of the academic year in respect of which they are payable, the Registrar may cancel such students enrolment at any time thereafter.

4. **Refund of Fees on Voluntary Cancellation of Enrolment**

A student who not later than six weeks after the first day of a semester gives proper written notice to the Registrar of withdrawal of his enrolment shall be entitled to a refund of the Union Fees.

Such refund shall be made by the QIT Union upon receipt by the Union Office of written notice from the student withdrawing not later than eight weeks after the first day of the semester for which a Union Fees Refund is sought, and upon the surrender of any current QIT Union Membership Card.

SCHEDULE OF CHARGES AFFECTING STUDENTS

1. **Union Fees** — By-law No. 11 specifies the following Schedule of Union Fees.

Full-time students	$40.00 p.a.
Part-time internal students	$20.00 p.a.
Part-time external students	$2.00 p.a.
Sandwich course students	$20.00 p.a.
All other members	$20.00 p.a.

An unregistered student shall be required to pay the appropriate full-time or part-time fee corresponding to his attendance status.

A student undertaking a thesis only shall be required to pay the appropriate full-time or part-time fee corresponding to his attendance status.

2. **Admission, Enrolment, and Examination:** Council has approved the following Schedule of Charges —

Late lodgement of Enrolment Application —	
within two (2) weeks of closing date set out in the Institute Calendar	$5.00
for applications received more than two (2) weeks after the closing date set out in the Institute Calendar	$20.00
Refundable Deposit for review of Special Consideration decision	$10.00

Review of Examination Results . . . . . $2.00 per paper with a maximum of $4 per subject.

Statement of Results $2.00

3. Deposit System for Use of Laboratory Facilities

(a) A student enrolled in any subject included in the 'Schedule of Subjects relating to Laboratory Deposits' which the Registrar may vary from time to time, shall deposit $30 for the use of laboratory facilities.

(b) A student shall be required to pay only one deposit irrespective of the number of such subjects included in an enrolment.

(c) At the end of the year the deposit shall be refunded to the student less the cost of any breakages which have not been made good.

PARKING REGULATIONS

Council has approved regulations relating to the parking of motor vehicles on campus.

(a) A member of staff or a student shall not be permitted to park a vehicle within the grounds of the Institute unless such person has previously made application for a parking permit and this permit has been granted.

(b) 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.

(c) 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 Security Office.

(d) For a breach in the parking of a vehicle the Director may revoke the permit for a specified period or for the remainder of the academic year.

(e) For a breach by a person not possessing a parking permit in the parking of a vehicle, the Director may arrange for the vehicle to be removed from the grounds of the Institute and the person shall be required to pay the cost of such removal.

PARKING APPLICATIONS

In accordance with paragraph headed 'Parking Regulations' section (a), the priority criteria for the granting of parking permits to be applied is as follows:—

Staff

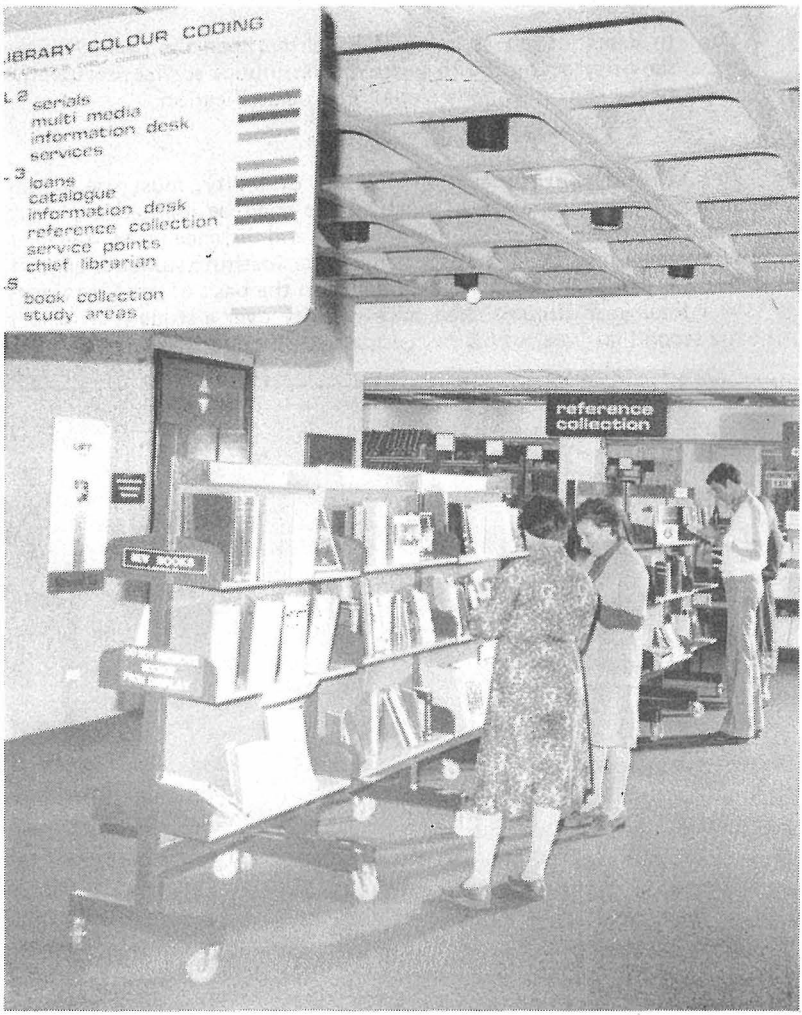
(a) Any person who, because of physical disability, must use private transport to commute to the Institute shall be granted a permit.

(b) All full-time or part-time members of the teaching staff (and those on academically equated salaries including Director, Deputy Director and Heads of Schools) shall be granted a permit.

(c) All other full-time and part-time staff shall be considered for a permit on the basis of need, having regard to the following factors:—
  (i) Special work circumstances (such as rostered overtime) which may make use of public transport inappropriate;
  (ii) Inaccessibility to direct public transport and distance to be travelled;
  (iii) Willingness to provide transport for other Institute staff or students;
  (iv) In cases judged as being of equal merit on the basis of need, seniority according to years of continuous service irrespective of the staff member's employment classification.

Students

(a) Any student who, because of physical disability, must use private transport to commute to the Institute shall be granted a permit.
(b) Inaccessibility to direct public transport and distance to be travelled.
(c) Willingness to provide transport for other Institute students or staff.
(d) In cases judged as being of equal merit on the basis of need, seniority — a final year student shall have priority over a student who is in the second last year of his/her course and so on.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reference collection

4

Central Services

CENTRAL SERVICES

ADMINISTRATION

The central administration is responsible for the implementation of policy decisions, and for the provision of administrative support in the operation and future decision making of the Institute.

The sections of Administration responsible for matters relating to students attendance and performance at the Institute are grouped within a sub-division known as Academic Administration, which itself has two major sub-sections.

The Student Affairs Section comprises Enrolments, Examinations, and Student Records. These sub-sections are responsible for: checking enrolments having regard to Course and Institute rules; accurately recording the subjects undertaken by students; conducting central examinations; and the maintenance of academic records. Students experiencing difficulty with any aspect of their enrolment are encouraged to discuss such problems with officers from these sections. An interview can be arranged through the Enquiries Officer at the Enquiry Counter in 'U' Block.

The Admissions and Administrative Services Section has a major responsibility for the provision of information for students and potential students, and the admission of students to the Institute. This section also organises functions such as Orientation, Graduation, QIT-In-Action. Enquiries relating to these activities may be directed through the Enquiries Officer or the Section's Secretary.

Principal Officers

Registrar . . . . . B S Waters, BCom(Qld), AAUQ(Prov).
Deputy Registrar . . . . . D G Greenwood, BEcon(Hons).
Bursar . . . . . M A Creyton, BCom(Qld), FASA, FCIS.

Senior Administration Officer – Student Affairs
. . . . . L R Holman, BSc(Hons), PhD(Adel), ARACI.
Enrolments Officer . . . . . B Cheales
Examinations Officer . . . . . J E Stevenson
Student Records Officer . . . . . D S Drury

Senior Administration Officer – Admissions & Administrative Services
. . . . . G P Abernethy, BA, GradDipBusAdmin.
Course Administration Officer . . . . . D K Hall

QUEENSLAND INSTITUTE OF TECHNOLOGY – ACADEMIC DRESS

Chairman of Council

Black silk damask gown with gold edging continuing around the hem of the gown. The gown to have a gold lace and taffeta facing taken around the neck and over the yoke and gold lace encircling brown taffeta shoulder wings.

Director

Black corded silk gown with gold trimming consisting of vertical gold edging and gold facings and brown taffeta on the shoulder wings.

Master of Engineering by Thesis

Gown: Black gown of Cambridge pattern.
Hood: Black hood fully lined with silk of school colour.

Master of Applied Science by Research and Thesis

Gown: Black gown of Cambridge pattern.
Hood: Black hood fully lined with silk of school colour.

Master of Applied Science – Medical Physics

Gown: Black gown of Cambridge pattern.
Hood: Black hood fully lined with silk of school colour with a 20mm wide edge of orange (557) braid.

Graduate Diploma

The academic dress appropriate to the University or Institution whose award enabled entry into the Graduate Diploma.

In addition a horizontal shoulder strap 100mm in length and 50mm wide shall be fixed to the academic gown in the colour of the school in which the Graduate Diploma has been received. The horizontal strap will be affixed to the gown between shoulder and neck.

Bachelor

Gown: Black gown of Cambridge pattern.
Hood: Black hood lined with 100mm band of silk in the school colour.

Diploma

Gown: Black gown of Cambridge pattern.
Hood: Black hood with a 50mm band of silk in the school colour placed 50mm from the inside edge of the hood.

Associate Diploma

Gown: Black gown of Cambridge pattern.

Hood: Black hood with a 25mm band of silk in the school colour placed 50mm from the inside edge of the hood.

Undergraduate

Gown: Black gown of Cambridge pattern.

Distinguishing colours for the Schools are:—

School of Applied Science	—	Yellow 356
School of the Built Environment	—	Red 593
School of Business Studies	—	Blue 175
School of Engineering	—	Claret 540
School of Health Science	—	Orange 557
School of Law	—	Grey 637
Department of Librarianship	—	Green 221

CONTINUING EDUCATION PROGRAMME

The Queensland Institute of Technology offers, through its academic departments, programmes of continuing education which are largely self-supporting and which lie outside the range of those courses formally accredited as leading to undergraduate or postgraduate degrees and diplomas. Thus continuing education encompasses those units, courses, seminars and vacation schools which do not constitute, of themselves, a formalized course of study leading to a qualification. These include diversifying courses, refresher courses, updating courses, professional short courses, extension and special courses.

Continuing education courses are closely related to and flow from the expertise and experience within the Institute's academic departments. They represent an extension of the Institute's total resource usage for the further benefit of the community at large. The courses offered vary in length and time of presentation according to the needs of the community or professional groups for which they are designed.

Details of courses to be offered in 1983 are set out in the QIT Continuing Education Programme Booklet which is widely distributed or which may be obtained by writing to the Registrar. Although this programme includes all those courses which are known to be planned by departments for 1983; because of the need for flexibility in response to consumer demand, courses additional to those listed may well be offered during 1983. These will be advertised by the appropriate departments or schools as they arise.

Unregistered Students

A further part of the Institute's policy on continuing education is to allow suitably qualified persons to enrol as Unregistered Students. An Unregistered Student may enrol in miscellaneous subjects chosen from any course offered by the Institute as distinct from enrolling in the course proper.

The enrolment procedures for Unregistered Students are rather more formal than is the case for the programmes outlined in this booklet. Persons seeking admission as an Unregistered Student must do so on an Application for Admission Form available from the Admissions Section.

Applicants must satisfy the normal entry requirements, and admission may also be dependent upon such factors as class sizes and quotas. Although tuition fees do not apply, Unregistered Students are required to pay the normal Part-time Student Fee of $20.00 p.a.

EDUCATIONAL SERVICES

COMPUTER CENTRE FACILITIES

1. **General**

1.1 The Computer Centre was formed in January of 1971, and primarily is designed to provide computing facilities for students and academic staff.

1.2 The major computing facility in the Institute is a DECsystem 1091, which was purchased and installed in 1980 as part of a re-equipment program costing in excess of $1,000,000. This system is supplied and maintained by Digital Equipment Australia Pty. Ltd., a subsidiary of the American computing company, Digital Equipment Corporation.

1.3 In July 1977, the Computer Centre was moved to its new permanent location in a specially commissioned section of the library and computer centre complex, where it occupies a total space of 900sq.m. This area includes, as well as the computer room and staff room, a classroom overlooking the computer equipment, where demonstrations can be given, a terminal room where a number of terminals are available to students, and a punch room where card punches are available to students.

1.4 In association with the new digital system, the computer centre has a small special purpose graphic system for the input, output and editing of graphical data. There is also an online data entry system for the use of professional key punch operators.

1.5 The Institute also owns an HP3000 Series III computer under the management of the Business Computing section within the School of Business Studies with the partial assistance of computer centre staff. This system was purchased in 1977 at a cost of $140,000, enhanced in 1978 at a cost of approximately $48,000, and further enhanced in February 1982 by a donation from Hewlett Packard Ltd. who supplied and maintain the system.

2. Staff

2.1 The Centre has experienced personnel to provide the best possible service to the Institute. As well as operating equipment, this involves advising lecturers, and through them the students, on the use of the Centre to their advantage.

Manager	Mr W J G Fisher, MSc, DipTchg.
Deputy Manager	Mr W Tealby, BSc, GradDipBusAdmin.
Senior Systems Programmer	Mr P Mottram, MSc, DipCompSci.
Programmers	Mr W Goodman, BSc. Mr R Heard, BSc, DipEd, DipCompSci. Mr J Reye, BSc. Mr R Hill, BSc.
Computer Room Supervisor	Mr M Franklin
Computer Technologist	Mr T Mync, BE.
Operations Staff	Seventeen other members of staff are employed as computer operators, keypunch operators and secretary.

3. Hardware

3.1 *DEC Equipment*

The central processor is a DECsystem 1091 with 512 K words of memory (1 word = 36 bits).

5 exchangeable disc store units, each with a capacity of 200 megabytes;
2 magnetic tape drives (9 tracks at 1600/800 b.p.i.);
1 card reader capable of reading both punched and marked cards at 600 cards per minute;
2 line printers with speeds of 1220 and 660 lines per minute (96 ch. set).

3.2 *Graphics System*

1 DEC 11/34 processor with 64 K words of memory (1 word = 16 bits);
2 RLO1 disks of 5Mb each;
1 Tektronix 4014 graphic terminal with enhanced graphics and joystick;

1 Summargraphics dual tablet A0 size digitizer;
1 HP 7221 four colour plotter;
1 Benson 2222 flat bed A0 size plotter.

3.3 *HP Equipment in the charge of the Business Computing Section*

The Series III processor has 1M bytes of memory (1 byte = 8 bits) with a cycle of 0.7 usecs.

The system includes:

1 magnetic tape drive – 9-track, 800 b.p.i., 36 Kch/s;
2 50m.b. moving head disc units;
1 436 l.p.m. line printer with a 96 ch. set;
1 300 c.p.m. card reader;
1 optical/punch card reader – 180 to 300 cards per minute.

3.4 *Communications Equipment*

There are currently more than 140 terminals of various types and more are being purchased. They can be located at more than 200 different points throughout the campus. Included are two pools of 12 terminals generally available in the Terminal Room or Classroom at the Computer Centre.

3.5 *Data Preparation Equipment*

The Institute has data preparation equipment as follows:

10 keystations attached to an AWA XL40 data preparation system for use by Computer Centre and Finance Department staff;
5 card punch/verifiers for use by Computer Centre staff;
7 card printing punches available to students and academic staff, 12 hand printing punches.

4. Software

4.1 *Operating Systems*

Both systems have operating systems which enable all languages and programs to be used either conversationally via terminals or in batch fashion via the card readers.

(a) DEC1091 operates under the TOPS-10 operating system.
(b) The HP3000 runs under the control of the MPE111 operating system.

4.2 *Languages*

Compilers are provided for many languages including:

(a) COBOL 74
(b) ANSI FORTRAN
(c) BASIC
(d) ALGOL 60 and ALGOL 68

(e) MACRO (DEC-10 assembly language)
(f) SIMULA
(g) PASCAL
(h) BCPL
(i) LISP
(j) SNOBOL

The HP3000 also provides RPG and SPL.

4.3 A wide range of applications packages is available, including the following:

(a) The DECUS library;
(b) The HP3000 contributed library;
(c) Programs available through the HP Educational Users' Group.

4.4 The graphics system can be used with the Auto Draft interactive drafting and graphic editing system supplied by M J McLean and Associates.

5. Operations

5.1 During semesters the doors of the Computer Centre are open from 8 a.m. to 11.30 p.m. Monday to Friday. During the semester they are also open from 8 a.m. to 12.30 p.m. Saturday.

5.2 Terminals at the Computer Centre are available whenever the Computer Centre is open. Terminals to which access can be gained can generally be used at any time. After building alterations in 1982 it is intended to make a proportion of terminals available at all times.

THE INSTITUTE BOOKSHOP

Bookshop Manager . . . . . Mr P C Gates

The Institute Bookshop was established in 1971 and commenced trading in January, 1972. It is located on the second level of the Community Building. In 1981, the Bookshop was considerable enlarged and refurbished providing the campus with a more efficient and attractive facility. In 1975, a branch shop, the College Bookstore commenced operations at Kelvin Grove College of Advanced Education, and this store continues to be managed by The Institute Bookshop with the incorporation of that College into Brisbane College of Advanced Education in 1981.

While the Bookshop is conducted as a self-supporting, semi-autonomous business, it is controlled by a Bookshop Advisory Committee which reports to QIT Council through the Finance Committee. The prime aim of the Bookshop is to service the QIT community's needs and a full range of textbooks, stationery and other requisites are stocked as well as an increasing range of peripheral texts and general books. Agencies conducted by the Bookshop include sources for postage stamps, newspapers and magazines, customised rubber stamps and book tokens. Cash

discounts are available on many lines and charge accounts may be opened. Mail orders and special orders are welcomed. Telephone orders or enquiries may be made to 223 2433 (after hours 223 2124), while managerial matters should be directed to 223 2402.

The Bookshop works closely with academic staff in the textbook adoption process and feedback on performance is provided to departments before, during and after each semester. Assistance in the tracing and selection of textbooks and, indeed, all books is available.

During semesters, the usual trading hours are between 9.00 a.m. and 6.00 p.m. from Monday to Thursday and between 9.00 a.m. and 5.20 p.m. on Friday. Vacation hours are between 9.00 a.m. and 4.30 p.m. from Monday to Friday. Special arrangements for longer hours are made for the commencement of semesters, and are advised by notices displayed at the Bookshop entrance.

EDUCATIONAL RESEARCH AND DEVELOPMENT UNIT

Head of Unit . . . . . Mr Derick Unwin, BSc, MA.

The Educational Research and Development Unit (ERDU) was established in 1976 with a responsibility for fostering and maintaining good educational practices within the Institute. ERDU personnel involve themselves in close collaboration with academic staff, particularly in the areas of teaching methods and materials, assessment and examination techniques, and studies of student characteristics and performance.

In order to further the effective use of modern teaching aids ERDU operates sound and vision recording studios, and provides assistance in the graphic design and photographic fields. The Unit is housed in purpose-built accommodation which greatly facilitates the provision of media services.

Other major activities of ERDU include the collation and publication of educational information (an occasional newsletter is published); organisation of staff development seminars and workshops; and research into educational developments appropriate to the work of QIT.

Location

The Unit is accommodated in 'V' Block. The technical area, comprising studios, graphics workshop, and darkrooms is on Level 1. The office suite, seminar room and self-service workroom is on Level 2.

LIBRARY

Chief Librarian . . . . . C F Cayless, MLS(LoughboroughUniv), ALA, MInstInfSc, ALAA.

The Library's collections, consisting of many different types of media, have been developed primarily to support the courses offered by the QIT. The library staff are responsible for developing, organizing and exploiting the collection to the benefit of the students and staff and, where appropriate, of the community generally.

There are six main collections –

- *The Reference Collection* including encyclopaedias, dictionaries, handbooks, yearbooks, bibliographies, indexes and abstracts. As these items are in daily use, they are not for loan.
- *The Main Book Collection* has about 121,000 volumes, most of which are available for loan.
- *The Periodical Collection* has approximately 4600 titles, many of which have long runs of back issues. Loans from this collection to students are limited to specific titles.
- *The Audio-Visual Collection* includes films, audio tapes, slides, games and microforms. Equipment is available for their use in the Library, while most of the materials may be borrowed.
- *The Map Collection* and *Chart Collection* (MMC) consist of art prints, engineering drawings, maps, charts, etc. These are not available for loan.
- *The Law Library* has been established as a separate collection which contains all types of materials directly related to the subject field of law.

The services offered by the Library are constantly being reviewed, changed and expanded to meet the needs of its clients.

The three main types of service are –

- *Reference Services:* Library Staff are available to answer ready reference queries, give assistance in using the catalogues and in finding information, compile bibliographies, both manually and through computer based retrieval systems, and undertake literature searches.
- *Reader Education:* With the co-operation of academic staff members, the Library staff provide education in the use of the Library and the subject literature. The aim is to indicate the varied nature of the information sources available and to demonstrate the use of bibliographic tools that have been developed to exploit those sources.

— *Loans Services:* The Library lends extensively from its own collections. In addition, the Library may borrow materials from other organizations on behalf of its users, giving them access to a wide selection of information sources. Books that are in great demand have, at the request of the lecturers, been placed in the Limited Access Collection. These books may only be used within the Library.

Hours of Opening

During semester the Library is open:

7.30 a.m. –	10.00 p.m.	Monday to Friday
10.00 a.m. –	4.00 p.m.	Saturday and Sunday

These hours operate from the first day of semester until Friday of the week before the last week of lectures.

7.30 a.m. –	11.00 p.m.	Monday to Thursday
7.30 a.m. –	10.00 p.m.	Friday
10.00 a.m. –	4.00 p.m.	Saturday and Sunday

From the last week of lectures to the end of the examinations.

Out of semester the Library is open:

8.00 a.m. –	6.00 p.m.	Monday to Friday
CLOSED		Saturday and Sunday

Staff

Chief Librarian	C F Cayless, MLS, ALA, MInstInfSc, ALAA.
Acquisitions Librarian	P K F Pope, BA, DQIT(BusAdmin).
Cataloguing Librarian	F I Simons, BSc(Hons), MSc, DipEd, DipLib, ALAA.
Reader Services Librarian	J M Rickards, BSc, DipLib, ALAA.
Assistant Librarians Div. I	J Chilton, BA(Hons), ALAA. L E Clarkson, MLS, BA, ALAA. M A C Dalgarno, BA, ALAA. P C Finnimore, BSc, GradDipLibSc, ALAA. E A Jordan, BA, DipEd, DLIS, ATCL. J R Lutton, BSc, GradDipLibSc.
Assistant Librarians Div. II	L M Boone, BA, DipLib, ALAA. C D Chambers, BA, ALAA. M M Compton, BA, BD, ALAA. L Luther, BA(Hons), ALAA.

Assistant Librarians Div. II (cont'd)	J A Matthews, BA, GradDipLibSc, ALAA.
	P Meixsell-Draper, BA, GradDipLibSc.
	C H Ryan, BA, ALAA.
	J M Taylor, BA, DipLib, DipTGNSW, ALAA.
Administration Officer	L Buckler, MA.

STUDENT SERVICES

ACCOMMODATION

The Institute does not have its own on-campus accommodation, however, it does provide an accommodation service for students. An information brochure is available on request to the Institute on the various types of accommodation suitable for students. The Counselling Centre can assist students who are seeking accommodation and/or who may be experiencing difficulties with their existing accommodation arrangements. Students or intending students of the Institute are invited to call in at the Counselling Centre to discuss with the Information Officer any matter related to accommodation. In addition, the Counselling Centre and the Contact Office of the Student Union both provide accommodation noticeboards at their respective locations on campus.

FINANCIAL AID

Students who are seeking information or advice on any financial aspect of their studies at QIT, are invited to discuss their concerns in confidence with the Information Officer at the Counselling Centre.

(a) **T.E.A.S. (Tertiary Education Assistance Scheme)**
(Currently under review by the Australian Government)

This scheme is administered by the Commonwealth Department of Education, 167 Eagle Street, Brisbane (Phone: 07–226 9111). Assistance under this scheme is available only to FULL-TIME students enrolled in approved courses and is subject to a MEANS TEST.

For those eligible in 1983 the maximum allowance for independent students and dependent students living-away-from-home is $2583 per annum, and for dependent students living at home $1675 per annum. In addition, an incidentals allowance for QIT students is $70 for the year.

All applications for T.E.A.S. should be submitted to the Commonwealth Department of Education BEFORE 31 MARCH, 1983. Otherwise applications received by the Department will result in allowances being paid from the date of receipt and NOT from 1 January, 1983. Even if all information requested by the Department is not available before 31 March, the application forms can be submitted before that date and the 'missing' information can be forwarded at a later date when it becomes available.

(b) N.S.A.S. (Needy Students Assistance Scheme)

This scheme is operated by the Institute through the Needy Students Assistance Committee and is available to assist students whose financial situation may place their study in jeopardy. Both full-time and part-time students may apply and each student is considered on his or her own individual circumstances. Should you experience financial problems, no matter how large or small, call in at the Counselling Centre and discuss your financial concerns with the Information Officer.

THE GARDENS POINT CAMPUS CLUB

This Campus Club, situated on Level 3 of the Community Building, provides a pleasant social atmosphere for mixed drinking. It trades between the hours of 12 noon to 4 p.m. and 5 p.m. to 10 p.m. Monday to Friday.

The Club is open to any person who in the past has been, or who is currently involved with the activities of the QIT. It was formed with the basic aim of providing a social facility to QIT students and staff.

The Club is run by professional staff under the guidance of a Management Committee.

QIT UNION

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 associated with campus life, to represent its members on the various boards and committees, and to provide services and facilities to its members.

Union Council –

The QIT Union Council comprises the President, five Executive Directors and up to thirty-five Representative members elected from the various schools. Elections are held annually.

Union Council meets every four (4) weeks during semesters. 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 Director, Student Representative or Academic Board Representatives.

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.

Union Office (Level 3, Community Building) which is staffed full time to provide continuity of service to all students, 8.30 a.m. – 5.30 p.m.

Union Shop (Level 3, Community Building) sells a large range of calculators and other goods and is a market place for student made products. The shop is open 10.00 a.m. – 6.00 p.m.

Discount List: A wide range of discounts is available to Union Members. A list of organizations offering such discounts is available from Union Office.

Stereo, billiard, amusement machines and table tennis facilities are available for Union members use in the Games Room on Level 1 of the Community Building from 8.30 a.m. – 6.00 p.m.

A Gymnasium operates in the old Bakehouse next to Kindler Theatre, hours 8.00 a.m. – 8.00 p.m.

The QIT Union Child Care Centre's facilities are available in the old Bakehouse and operates from 8.30 a.m. – 5.15 p.m. Phone 221 6993.

General Information –

For all enquiries about Union activities, services, clubs and societies and complaints ring Union Office on 221 3144 during office hours. Answers that are not available immediately are provided on a call back basis. Alternatively a personal call at the Union Office will find staff available to service any difficulties.

A Contact Service is available on Ground Floor of the Community Building. This office helps provide employment, accommodation and general information for the students.

Student Union Cards will be issued at the commencement of the academic year on production of QIT Enrolment Statement.

The Union Newspaper PLANET provides general information and also acts as a forum for a wide range of topics of student interest. All members of the Union are free to contribute any articles, poetic masterpieces etc., to your newspapers.

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
Baseball Club
Basketball Club
Built Environment Students Group
Bushwalking Club
Campus Child Care Club
Chemistry Students Association
Chess Club
Communications Students Assn.
Cricket Club
Dramatic and Visual Arts Society
Engineering Students Association
Film Group
Football Club – Rugby Union
Health Administration Students Assn.
Health Science Students Assn.
Kung Fu Club
Law Students Association
Optometry Students Association
Public Administration Students Assn.
Rowing Club
Sailing Club
Science Students Association
Sky Diving Club
Students Musical Appreciation Club
Surveying Students Association
Squash Club
Tae Kwon Do Club
Tennis Club
Underwater Club
Volleyball Club
Waterski Club

These Clubs are funded by the Union. Any enquiries regarding the Clubs may be made at Union Office.

The success of all Union ventures is dependent on the continuing involvement of members.

Chairperson . . . . . Rod Walters
President . . . . . James McCrea
Director of Admin/Finance . . . . . Peta Walters
Director of Student Services . . . . . Sally Pitkin
Director of Activities . . . . . Ted Stewart
Director of Sport . . . . . Peter Stewart
Director of Education . . . . . Andrew Wallace

The elections for the 1983 Union Committee have not yet been held.

STUDENT COUNSELLING CENTRE

The Counselling Centre is an autonomous professional service department of the Institute playing an integral role with both the academic and administrative staffs in promoting the personal and educational development of students on campus.

It operates to assist students with concerns related to their normal development needs — problems with personal and social functions, educational difficulties, and decision on future career and personal planning. As well it offers programmes designed to aid the development of personal maturity and effective patterns of living, working and studying. These include human relations groups, job hunting skills and career planning workshops, stress management groups, interpersonal communication workshops, and study skills and reading efficiency programmes.

Complementing these are a range of general welfare and guidance services, including accommodation, financial aid, course and career information. The Centre also provides contact with many other agencies in the community which offer services to students.

Services are provided by professionally qualified staff. Facilities include consultation rooms, a group room, a Relaxation Training Room, an Educational skills clinic, and a library of career and Welfare information.

The service is free and available to both day and evening students, currently enrolled at the Institute and to those intending to enrol in the future. All consultations are STRICTLY CONFIDENTIAL.

The Centre is presently located on the Ground Level in 'A' Block. In early 1983 the Counselling Centre will relocate on the Ground Level of Old Government House. Telephone 223 2383. It is advisable to make an appointment, especially for part-time students, but feel free to call in at any time.

STUDENT HEALTH SERVICE

The Student Health Service is a FREE service available to both full-time and part-time QIT students and is located in the south-west corner of Old Government House — opposite the Library, Main Entrance.

A nursing sister is in attendance from 8.30 a.m. — 4.30 p.m. on Monday, Tuesday, Thursday and Friday and from 10.00 a.m. — 6.00 p.m. on Wednesday.

Appointments may be made for consultation with a Doctor, who will be in attendance for 3½ hours each day. The hours are as follows:—

Monday	10.00 a.m.	—	1.30 p.m.
Tuesday	9.30 a.m.	—	1.00 p.m.
Wednesday	2.30 p.m.	—	6.00 p.m.
Thursday	9.30 a.m.	—	1.00 p.m.
Friday	10.00 a.m.	—	1.30 p.m.

Students are welcome at the Health Service for discussion and treatment of all conditions pertaining to their well being including:—

- First Aid and Dressings
- Psychological Problems (In Liaison With Student Counselling Centre)
- Skin Care and Conditions
- Gynaecological Complaints
- Contraception – Advice and Counselling
- Vaccinations
- Hearing Tests
- Health Education

All records are, of course, STRICTLY CONFIDENTIAL.

To facilitate treatment in a crisis, sufferers of recurring conditions (asthma, diabetes, epilepsy, etc.) are requested to make themselves known to the nursing sister.

A Recovery Room is available for patients needing temporary bedrest.

The Service is on telephone extension 321 and this number should be called in all cases of emergency.

Medical Officer . . . . . Dr L B Johnson, MBBS(Qld), DOH(Syd).
Sister . . . . . M Gough

CHAPLAINCY CENTRE AND CHAPEL

Chaplain . . . . . Rev G Robert Griffiths

The Chaplaincy Centre is Ecumenical and available to members of all religious faiths to make the drop-in-room the centre point of worship, discussion, clarification and search. The Centre will foster and encourage formation and growth of religious study groups.

The Centre exists to help staff and students take a great deal of responsibility for their own decisions and be free enough inside to use this power to give and to serve; and in so doing, to discover Christ in their neighbour and Christ's living-dying-living power in themselves.

The Centre seeks to strengthen the Christian Community at the Institute and enable it to express its spirituality forcefully and in a generative way. To develop a Eucharistic Community the Chapel is always open for private prayer. Eucharist (Mass) service times will be advertised on notice boards in the chaplaincy centre.

The Chaplain is available to help free staff and students from pressures that weigh them down and assist them to make their own decisions in their personal life.

Parental and personal problems, questions in faith and prayer will be counselled in strictest confidence.

The Chaplain (co-ordinating for other churches) is available on Mondays, Wednesdays and Fridays at the Centre. Telephone 223 2111 extension 700 or appointments may be made with the Secretary at the Counselling Centre ('A' Block) extension 383.

The Chaplaincy Centre is situated in 'A' Block. There is a chapel for private devotions and worship and a drop-in-room for private reading and rest available at all times.

CAMPUS INTERVIEW PROGRAMME

The Campus Interview Programme is conducted annually by the Institute with the two-fold purpose of assisting final year students to gain employment and of creating an awareness in them of career opportunities. The programme is held over a three week period, normally in September.

Employers who participate in the programme are provided with Secretarial assistance during the period of their attendance and pre-arranged individual or limited group interviews take place in amenible surroundings.

Employers who consider a September date inapplicable to their needs are encouraged to make alternative arrangements.

Full details of future Interview Programmes may be obtained through the QIT Admissions and Administrative Services Section.

INSTITUTE FUNCTIONS

The Admissions and Administrative Services Section of central administration is responsible for the organisation of the following annual programmes for students and potential students —

- Orientation Programme
- Graduation Ceremonies
- QIT-In-Action Programme

ORIENTATION PROGRAMME

The orientation programme has a three-fold purpose. It is designed to familiarise intending students with the Institute, to give new students an opportunity to discuss their course and future career opportunities with staff members, and to introduce students to the services, facilities and activities available to them.

The orientation programme is conducted during the week prior to the official commencement date for Autumn Semester classes.

All new full-time and part-time students are welcomed to the campus by the Director, the Registrar, the Senior Student Counsellor and the President of the Students' Union, at an official orientation ceremony. Separate functions are conducted by the various schools with departmental orientation following.

The QIT Union organises various activities on campus to familiarise students with the activities of the various clubs and societies, and to introduce students to the social life of the campus.

GRADUATION CEREMONIES

Degrees and Diplomas are conferred at official Graduation Ceremonies which are conducted bi-annually in April and October each year. Seven ceremonies are conducted in April at which awards are conferred in separate ceremonies to graduates in the Schools of Engineering, Applied Science, Business Studies, Built Environment, Health Science, Law and Department of Librarianship. A separate ceremony is held in October for graduates from all Schools who complete their studies in mid-year.

Graduands are required to make application for admission to Graduate status by dates specified in the Institute Calendar, and each award is authorised by the Institute Council prior to the official ceremony.

At the Graduation Ceremonies the Chairman of Council or his nominee, confers the award on behalf of the Institute to each graduating student in the presence of graduates, staff, parents and friends, official guests representing Industry and Commerce, particularly those persons who have contributed their time to Advisory Committees and Academic Boards, and representatives of organisations which have donated prizes and other awards to successful students.

QIT-IN-ACTION

QIT-In-Action aims to develop a greater awareness and understanding of the Institute, its courses, careers and to enable the public to view its facilities.

It is specifically directed towards secondary school students in an endeavour to make early contact with them, and assist career development and decision making.

The programme is generally run in conjunction with the annual 'Careers Information Evening Talks Programme' conducted by the Commonwealth Employment Service, for school leavers.

QIT-In-Action is the extension of these evening career talks into a day time programme based on the open campus concept.

The QIT has programmed an Open-Day to be held in August. The campus will be open to the public and groups of school students. It has purposely been programmed during the semester so that QIT students will be attending their normal lectures, with laboratories, workshops, and studios all functioning normally.

In addition, special displays, demonstrations, activities, and guided tours are conducted with staff available for consultation. Details on the activities which will be conducted on that day will be advertised by radio and television and also in Institute publications.

INSTITUTE PUBLICATIONS

The QIT Admissions and Administrative Services Section under the direction of the Deputy Registrar is responsible for the publications which provide readily accessible information to the general public. These general publications include –

- QIT Handbook
- QIT School and Department Handbooks
- Admission Procedures Booklet
- Career Brochures

Other publications which relate to specific functions of the Institute are –

- The Queensland Tertiary Courses Booklet
- The Continuing Education Programme
- The QIT Newsletter

QIT Handbook –

The General Handbook is regarded as the Institute's official publication of its governing structure and authority, to be retained as an historical record of its operations for the future, and is seen as a public relations publication to be circulated widely to other institutions, education authorities, government departments, and to libraries.

It is a publication which contains a variety of information from the Institute's Schools and Departments, and collectively produced into a more formal publication.

QIT School/Department Handbooks –

The following handbooks for the Schools/Departments at QIT are produced for sale to students and the general public –

- School of Applied Science
- School of the Built Environment
- School of Business Studies
- School of Engineering

- School of Health Science
- School of Law

The contents of each handbook take the following format –

- Introduction to School/Department
- Calendar; By-Laws of QIT and Rules Relating to Student Matters
- Admission Procedures and Entry Requirements – Under Graduate Courses
- Subject and Course Numbering System
- Academic Board and Advisory Committees
- Staff
- Prizes and Awards
- Course Structures and Course Rules listed in decending order of highest qualification to lowest qualification
- Continuing Education Programme
- Schedule of Subject Pre- and Co-requisites
- Changes to Subject Title
- Synopses of Subjects.

Admission Procedures Booklet –

The Admission Procedures Booklet is a publication designed to inform all intending students at QIT regarding specific requirements when applying for a course. It is forwarded to all matriculating students in Queensland and selected Northern New South Wales schools.

It incorporates in detail the admission procedures, the courses which are available, the admission policy of the Institute, the Enrolment procedures, and the requirements necessary to be eligible for entry.

Career Brochures –

Career Brochures are produced for all courses conducted by QIT. The brochure generally indicates the following information –

- what the profession entails
- nature of work
- the professional recognition of the award
- the employment opportunities
- the areas of employment
- the entry requirements to the course
- further courses of study after completion of award.

Queensland Tertiary Courses Booklet –

The Queensland Tertiary Courses Booklet is a publication produced by the Queensland Tertiary Admissions Centre. The QIT provides information of all undergraduate courses conducted by the Institute both full-time and part-time.

It gives an indication of the duration of the course, the nature and scope for employment, the areas of specialisation, and the specific entry requirements.

It is a booklet which provides information on all courses available at any College of Advanced Education or University in Queensland. It is made freely available to school leavers and is able to be purchased by others who wish to pursue an undergraduate career.

5

Admission Policy and Entrance Requirements (Undergraduate Courses) and Schedules

ADMISSION POLICY

Offers of admission to any course shall be made only by the Queensland Tertiary Admissions Centre or by the Registrar or in his name by an officer of the Institute expressly authorized by him to do so.

Method of selecting applicants for courses offered through QTAC

(i) Except for courses referred to in sub-section (ii) of this section, selection for quota places from among eligible applicants shall normally be made in strict order of academic merit as indicated either by the applicant's actual Tertiary Entrance Score or by a Notional Selection Score calculated by the Institute on such basis as the Admissions Committee may from time to time determine.

(ii) Special provisions relating to selection in certain courses:

(a) *Part-time internal and part-time external Bachelor of Laws courses*

Except with the consent of the Head of the School of Law, applicants for the part-time external Bachelor of Laws course must be resident in Queensland outside the Brisbane statistical region.

In determining the quotas for the part-time internal and part-time external Bachelor of Laws course, first preference will be given to academically qualified applicants who are serving articles of clerkship to a solicitor or undertaking some other form of practical training referred to in rule 18(3) of the Solicitors' Admission Rules 1968, as amended, or who are public servants in offices set forth in Section 7 of the Legal Practitioners Acts Amendment Act 1968.

Applicants must forward to the Registrar, no later than the end of the second week in December, documentary evidence that they will be in appropriate employment by the commencement of classes in Autumn Semester.

If there is any place left after the abovementioned preference has been given, a second preference may be accorded to applicants who are public servants and who can show that by reason of the duties they perform it is desirable that they be enrolled in the course.

(b) *Diagnostic radiography and therapeutic radiography diploma courses*

Places are offered only to academically eligible applicants who have been granted a cadetship or other form of appropriate training with an approved department or practice.

(c) *External B.Bus. Health Administration course*
Except with the consent of the Head of the Department, applicants for the external B.Bus. Health Administration course must be resident in Queensland outside the Brisbane statistical region.

Method of calculation of Notional Selection Scores

(a) Where an applicant relies on qualifications obtained in the State of Queensland arising from –
(1) results obtained by full-time study in any year other than the year immediately preceding that in which he/she seeks entry
(2) results obtained entirely by part-time study
(3) results obtained by combining full-time and part-time study or
(4) results obtained by undertaking examinations for persons 21 years of age or over,

the results obtained by the applicant will be converted into a Notional Selection Score in accordance with Table 1.

(b) Subject to the provisions of paragraph (c) below, the basis on which results will be converted in accordance with Table 1 shall be –
(1) Applicants with actual TE scores awarded in the years 1974 to 1981 may be allocated the nearest Notional Selection Score.
(2) *Normal Entry by part-time study*
Applicants may fulfil the requirements for part-time entry either by undertaking all subjects on a part-time basis, or by a combination of results obtained by full-time and part-time study. In either case a Notional Selection Score shall be calculated on the basis of the applicant's best results in five different subjects, and applied to the year in which the last examination was taken.
(3) *Entry for persons 21 years of age or over*
Except for applicants for degree courses in engineering who require five (5) subjects, applicants who are 21 years of age or over shall be assigned a Notional Selection Score on the basis of their best results in four different subjects and applied to the year in which the last examination was taken. Applicants must have attained the age of 21 years on or prior to the 31st December of the year in which the examination leading to the last relevant result was taken.

(c) Actual Tertiary Entrance Scores or Notional Selection Scores assigned in accordance with the provisions of Table 1, may be modified by performance in tertiary studies.

Exclusion from a tertiary institution

The Institute reserves the right to refuse entry to any applicant who has been excluded from any course within a tertiary institution or who becomes liable for such exclusion while his application is being considered.

ENTRANCE REQUIREMENTS

UNDERGRADUATE COURSES

Normal Entry

(a) *Students undertaking year 11 and year 12 under the semester rating system*
To qualify for normal entry, an applicant must fulfil the requirements listed against the particular course in Table 2.

(b) *Students undertaking the External Senior Examination*
To qualify for normal entry, an applicant must fulfil the requirements listed against the particular course in Table 3.

Entry for students undertaking the External Senior Examination who are 21 years of age or over

(a) The applicant must fulfil the requirements listed against the particular course in Table 3.

(b) Applicants seeking entry under the provisions of part (a) of this requirement must have attained the age of 21 years on or prior to 31st December of the year in which the examination leading to the last relevant results was taken.

Entry to associate diploma courses in engineering from a bridging course

Applicants who have successfully completed the two year part-time engineering bridging course for associate diploma (course code CN649) which is offered at various colleges of technical and further education shall be regarded as meeting the requirements for entry to the associate diploma in engineering courses at QIT.

Special consideration

(a) Applicants who do not meet requirements for normal or other entry may present documentary evidence of qualifications, experience and other relevant information for special consideration by the Admissions Committee.

(b) Applicants seeking special consideration should complete the relevant section of the QTAC application form and attach the required evidence, or if space is insufficient, include a detailed letter outlining the points for consideration. Such applications will normally be referred by QTAC to QIT for consideration.

POST-BASIC NURSING DIPLOMA COURSES

Details of the requirements for entry to post-basic nursing courses at QIT are contained in a separate information booklet available upon request from the Registrar.

POSTGRADUATE COURSES

To qualify for entry to a postgraduate course an applicant shall have completed an acceptable tertiary undergraduate course, in the appropriate field if applicable. In some courses relevant work experience may be required. Details listed in Table 4 serve as a guide only.

Offers are made on the basis of academic merit; however, applications received prior to the closing date for receipt of applications i.e. 10th December 1982 may be given priority.

Applicants who do not meet the requirements for entry to postgraduate courses should attach relevant supporting documentation to their application form for consideration by the Admissions Committee.

TABLE 1 : SELECTION SCORES FOR APPLICANTS WITH QUEENSLAND SENIOR RESULTS ■

Notional Selection Score	Senior Examination (best 5 subjects)				Year 12 by school assessment		Entry for persons 21 years of age or over ☆ (best 4 subjects)	
	1959 and earlier ●	1960-66 ●	1967-70	1971 and later	1973 Aggregate Score over 20 Semester Units	1974 and later	1967-70	1971 and later
987	28	30	31	32	128		23	26
982					125		22	25
977	27	29	30	31	122			
972					120		21	24
967	26	28	29	30	118			
962					116			
957	25	27	28	29	115		20	23
952					113			
947	24	26	27	28	112			
942					110		19	22
937	23	25	26	27	108			
932					107			
927					106			
922					105	THE ACTUAL TE SCORE◆ AWARDED BY THE BOARD OF SECONDARY SCHOOL STUDIES	18	21
917	22	24	25	26	104			
912					103			20
907					101			
902	21	23	24	25	100		17	19
897					99			
892	20	22			98			18
887	19	21	23		97			
882	18	20	22	24	96		16	17
872					94			
862	17	19	21	23	92		15	16
857					91			
852					90			
842	16	18	20	22	88			
832					86		14▲	15▲
822	15	17	19	21	84			
812		16	18	20	80			
802			17	19	76		13	14
792	14	15						
787								
782								
777	13	14	16	18	72			13
767								
757								
747	12	13	15	17	70		12	12

■ All applicants must satisfy the subject prerequisites as set out in Tables 2 and 3 of this booklet, except that applicants relying on Senior Examination results obtained prior to 1967 will be regarded as meeting the requirements if they have gained the equivalent of a score of 3 in each prerequisite subject.

☆ Applicants seeking entry under this provision must have attained the age of 21 years prior to completing the last External Senior Examination which is necessary to meet course entry requirements irrespective of when the first Senior subject was undertaken.

● Based on A = 6; B = 5; C = 4; P or Q = 3; N = 0.

▲ Applicants who have only this level of aggregate points over their best four subjects DO NOT satisfy the requirements for entry to degree or diploma courses at QIT.

◆ **Current year 12 students cannot extrapolate actual TE scores from any information contained in this table.**

TABLE 2: ENTRY REQUIREMENTS FOR YEAR 12 STUDENTS

Students completing year 12 under the ROSBA Scheme should note the new minimum number of semester units in prescribed subjects as listed hereunder.

COURSE CODE Full Time (F) Part Time (P) External (E) Sandwich (S)		COURSE	Min. TE Score	Prescribed Subjects	Minimum Semester Units Required Bracketed Figures Show Minimum Reqs for ROSBA Applicants	Minimum No. of Points Required Minimum Level of Attainment for ROSBA Applicants Shown in Brackets	Specified Units Required
SCHOOL OF APPLIED SCIENCE (Codes 0 - 19)							
Degree (Bachelor) Level Courses							
IT01F	IT01P	B.App.Sc. Biology	810	Maths ★ Chemistry Physics or 3 additional Maths units	3 3	–	–
IT02F	IT02P	B.App.Sc. Applied Chemistry					
IT03F	IT03P	B.App.Sc. Chemistry					
IT04F	–	B.App.Sc. Applied Geology					
IT05F	IT05P	B.App.Sc. Physics					
IT06F	IT06P ●	B.App.Sc. Computing	810	Maths ★	8	32(SA) λ	1,2,3
IT07F	IT07P	B.App.Sc. Mathematics					
Diploma Level Courses							
IT18S	–	Dip.App.Sc. Diagnostic Radiography ***	810	Chemistry Maths ★ Physics	3 3 3	– – –	– – –
IT19S	–	Dip.App.Sc. Therapeutic Radiography ***					
Associate Diploma Level Courses							
IT15F	IT15P	Assoc.Dip. Applied Biology	745	Maths ★ Chemistry Physics or Biology	3 3	–	–
IT16F	IT16P	Assoc.Dip. Applied Chemistry					
IT17F	IT17P	Assoc.Dip. Applied Physics					
SCHOOL OF HEALTH SCIENCE (Codes 20 - 29)							
Degree (Bachelor) Level Courses							
IT20F	IT20P	B.App.Sc. Medical Technology	810	Chemistry Maths ★ Physics	3 3 3	– – –	– – –
IT21F	–	B.App.Sc. Optometry					
Diploma Level Courses							
IT22F	–	Dip.App.Sc. Podiatry	810	Chemistry Maths ★ Physics	3 3 3	– – –	– – –
IT23F	–	Dip.App.Sc. Nursing	810	English Chemistry	4 3 π	– –	– –
Associate Diploma Level Courses							
IT25F	IT25P	Assoc.Dip. Clinical Laboratory Techniques	745	Chemistry Maths ★ Physics	3 3 3	– – –	– – –
IT26F	–	Assoc.Dip. Health Surveying					
SCHOOL OF THE BUILT ENVIRONMENT (Codes 30 - 39)							
Degree (Bachelor) Level Courses							
–	IT30P	B.Architecture	810	English Maths ★	2 (4) 2 (2)	– –	– –
IT31F	–	B.App.Sc. Built Environment					
IT32F	IT32F	B.App.Sc. Building	810	English Maths ★	2 (4) 2 (4)	–(SA) λ –(SA) λ	– –
IT33F	IT33P	B.App.Sc. Quantity Surveying					
Associate Diploma Level Courses							
IT35F	–	Assoc.Dip. Built Environment Technician	745	English Maths ★	4 (4) 4 (2)	12 (–) 12 (–)	– –
SCHOOL OF BUSINESS STUDIES (Codes 40 - 49)							
Degree (Bachelor) Level Courses)							
IT40F	IT40P	B.Bus. Accountancy	810	English Maths ★	4 4	16(SA) λ 16(SA) λ	–
IT41F	IT41P	B.Bus. Management					
IT42F	IT42P	B.Bus. Communication	810	English	4	16(SA) λ	–
–	IT43P	B.Bus. Health Administration					
–	IT43E	B.Bus. Health Administration					
IT44F	IT44P	B.Bus. Public Administration					
IT49F	IT49P	B.Bus. Health Administration – Medical Record Admin Strand					
Associate Diploma Level Courses							
IT45F	IT45P	Assoc.Dip. Business	745	English Maths ★	4 4	13 (–) 13 (–)	– –

COURSE CODE Full Time (F) Part Time (P) External (E) Sandwich (S)		COURSE	Min. TE Score	Prescribed Subjects	Minimum Semester Units Required Bracketed Figures Show Minimum Reqs as from Dec. 1984	Minimum No. of Points Required Minimum Level of Attainment for ROSBA Applicants Shown in Brackets	Specified Units Required
SCHOOL OF ENGINEERING (Codes 50 - 59)							
Degree (Bachelor) Level Courses							
IT50F	IT50P	B.Eng. **	810	English Physics Chemistry Maths ★	4 4 4 8	14(SA) λ 14(SA) λ 14(SA) λ 28(SA) λ	– – – 1,2,3 †
IT53S	–	B.App.Sc. Surveying ** ▲	810	English Maths ★ Physics One other	4 8 4 4	14(SA) λ 28(SA) λ 14(SA) λ 14(SA) λ	– 1,2,3 † – –
Associate Diploma Level Courses							
IT55F IT56F IT57F	IT55P IT56P IT57P	Assoc.Dip. Civil Eng. Assoc.Dip. Electrical Eng. Assoc.Dip. Mechanical Eng.	745	English Maths ★ Physics Chemistry	3(4) 3(4) 3(4) 3(4)	– – – –	– 1,2,3 – –
–	IT58P	Assoc.Dip. Cartography ■	745	English Maths ★	4 4	– –	1,2,3 ☆
–	IT59P	Assoc.Dip. Surveying	745	English Maths ★ Physics	3(4) 3(4) 3(4)	– – –	– 1,2,3 ☆ –
SCHOOL OF LAW (Codes 60 - 69)							
Degree (Bachelor) Level Courses							
IT60F –	IT60P IT60E	B. Laws ◆	830	English	4	16(SA) λ	–

★ Social Mathematics is not acceptable.

*** For these courses, in addition to meeting the academic requirements set out above, students must have gained a cadetship with a recognised department of radiology or with a specialist radiologist. Students applying for these courses should therefore also apply for a cadetship.

● Whilst the academic segment of this course (IT06P) does not commence until second semester, applications must be submitted by 13th October 1982, and enrolment forms submitted by the lapse date indicated on the Response to Offer form.

◆ No quota preference will be given to applicants for part-time or external law, who fall within the special provisions listed in Section 4, unless evidence, in an appropriate form, is received by 10th December 1982.

† Students who completed units 1,2,3 prior to 1978 must also have satisfactorily completed units 8 and 11.

** A total of 80 points must be obtained over 20 semester units in the nominated prerequisite subjects for entry to these courses.

▲ Applicants should note that this is a sandwich course requiring alternate semesters of full-time study and approved employment. Students may however enter the first semester of full-time study without employment experience. Students who are commencing their studies in this course in second semester 1983, must submit an application for quota entry by 13th October 1982.

☆ Students who completed units 1,2,3 prior to 1978 must also have satisfactorily completed unit 11.

π For entry in 1983 and 1984, 4 semester units of Biological Science or 4 semester units of a combination of Biological Science and Chemistry will be accepted in lieu of 3 semester units of Chemistry.

■ To be offered subject to final approval.

λ SA means sound achievement.

TABLE 3 : ENTRY REQUIREMENTS FOR STUDENTS QUALIFYING BY EXTERNAL SENIOR EXAMINATION

COURSE CODE Full Time (F) Part Time (P) External (E) Sandwich (S)	COURSE	POINTS REQUIRED For Persons with Normal Entry Aggregate points over five (5) Board subjects unless otherwise stated	POINTS REQUIRED For Persons 21 Years of Age and Over ☆ Aggregate points over four (4) Board subjects unless otherwise stated	PLUS the following prerequisite subjects SPECIFIC SUBJECTS	PLUS the following prerequisite subjects LEVEL REQUIRED IN SPECIFIC SUBJECTS
SCHOOL OF APPLIED SCIENCE (Codes 0 - 19)					
Degree (Bachelor) Level Courses IT01F IT01P IT02F IT02P IT03F IT03P IT04F – IT05F IT05P	B.App.Sc. Biology B.App.Sc. Applied Chemistry B.App.Sc. Chemistry B.App.Sc. Applied Geology B.App.Sc. Physics	20	16	Maths 1 (or equivalent) Chemistry) Physics or) one of Maths II)	Students must have sat for these subjects
IT06F IT06P IT07F IT07P	B.App.Sc. Computing B.App.Sc. Mathematics	20	16	Maths I (or equivalent) Maths II (or equivalent)	Students must have sat for these subjects *
Diploma Level Courses IT18S – IT19S –	Dip.App.Sc. Diagnostic Radiography *** Dip.App.Sc. Therapeutic Radiography ***	20	16	Chemistry Maths I (or equivalent) Physics	Students must have sat for these subjects
Associate Diploma Level Courses IT15F IT15P IT16F IT16P IT17F IT17P	Assoc.Dip. Biology Assoc.Dip. Applied Chemistry Assoc.Dip. Applied Physics	14 (in 4 Board subjects)	12	Maths I (or equivalent) Chemistry) Physics) one of Biology)	Students must have sat for these subjects
SCHOOL OF HEALTH SCIENCE (Codes 20 - 29)					
Degree (Bachelor) Level Courses IT20F IT20P IT21F –	B.App.Sc. Medical Technology B.App.Sc. Optometry	20	16	Maths I (or equivalent) Chemistry Physics	Students must have sat for these subjects
Diploma Level Courses IT22F –	Dip.App.Sc. Podiatry	20	16	Maths I (or equivalent) Chemistry Physics	Students must have sat for these subjects
IT23F –	Dip.App.Sc. Nursing	20	16	English Chemistry π	Students must have sat for these subjects
Associate Diploma Level Courses IT25F IT25P IT26F –	Assoc.Dip. Clinical Laboratory Techniques Assoc.Dip. Health Surveying	14 (in 4 Board subjects)	12	Maths I (or equivalent) Chemistry Physics	Students must have sat for these subjects
SCHOOL OF THE BUILT ENVIRONMENT (Codes 30 - 39)					
Degree (Bachelor) Level Courses – IT30P IT31F – IT32F IT32P IT33F IT33P	B. Architecture B.App.Sc. Built Environment B.App.Sc. Building ** B.App.Sc. Quantity Surveying **	20	16	English Maths I or II	Students must have sat for these subjects
Associate Diploma Level Courses IT35F –	Assoc.Dip. Built Environment Technician	14 (in 4 Board subjects)	12	English Maths I	Minimum of 3 points in each prerequisite subject
SCHOOL OF BUSINESS STUDIES (Codes 40 - 49)					
Degree (Bachelor) Level Courses IT40F IT40P IT41F IT41P	B.Bus. Accountancy B.Bus. Management	20	16	English Maths ★	Grade of four † (4) in each prerequisite subject
IT42F IT42P – IT43P – IT43E IT44F IT44P IT49F IT49P	B.Bus. Communication B.Bus. Health Administration B.Bus. Health Administration B.Bus. Public Administration B.Bus. Health Administration – Medical Record Admin Strand	20	16	English	Grade of four † (4) in prerequisite subject
Associate Diploma Level Courses IT45F IT45P	Assoc.Dip. Business	14 (in 4 Board subjects)	12	English Maths ★	Grade of three (3) in each prerequisite subject

COURSE CODE Full Time (F) Part Time (P) External (E) Sandwich (S)	COURSE	POINTS REQUIRED For Persons with Normal Entry Aggregate points over five (5) Board subjects unless otherwise stated	POINTS REQUIRED For Persons 21 Years of Age and Over ☆ Aggregate points over four (4) Board subjects unless otherwise stated	PLUS the following prerequisite subjects SPECIFIC SUBJECTS	PLUS the following prerequisite subjects LEVEL REQUIRED IN SPECIFIC SUBJECTS
SCHOOL OF ENGINEERING (Codes 50 - 59)					
Degree (Bachelor) Level Courses					
IT50F IT50P	B.Eng.	20	20 (in 5 Board subjects	English Physics Chemistry Maths I Maths II	Grade of four (4) in each prerequisite subject
IT53S –	B.App.Sc. Surveying ▲	20	16	English Maths I Maths II Physics	Grade of four (4) in each prerequisite subject
Associate Diploma Level Courses					
IT55F IT55P IT56F IT56P IT57F IT57P	Assoc.Dip. Civil Eng. Assoc.Dip. Electrical Eng. Assoc.Dip. Mechanical Eng.	14 (in 4 Board subjects)		English Maths I Physics Chemistry	Students must have sat for these subjects
– IT58P	Assoc.Dip. Cartography ■	14 (in 4 Board subjects)		English Maths I	Students must have sat for these subjects
– IT59P	Assoc.Dip. Surveying	14 (in 4 Board subjects)		English Maths I Physics	Students must have sat for these subjects
SCHOOL OF LAW (Codes 60 - 69)					
Degree (Bachelor) Level Courses					
IT60F IT60P – IT60E	B.Laws ◆	22	18	English	Grade of four (4) in prerequisite subject

☆ For entry under this provision, applicants must have attained the age of 21 years prior to completing the last External Senior Examination which is necessary to meet course requirements irrespective of when the first Senior subject was undertaken.

* Applicants seeking to qualify for entry under the provision for persons 21 years of age or over must have gained a total of 8 points in the subjects Mathematics I and Mathematics II.

*** For these courses, in addition to meeting the academic requirements set out above, students must have gained a cadetship with a recognised department of radiology or with a specialist radiologist. Students applying for these courses should therefore also apply for a cadetship.

★ Social Mathematics is not acceptable.

▲ Applicants should note that this is a sandwich course requiring alternate semesters of full-time study and approved employment. Students may however enter the first semester of full-time study without employment experience. Students who are commencing their studies in this course in second semester 1983, must submit an application for quota entry by 13th October 1982.

● Whilst the academic segment of this course (IT06P) does not commence until second semester, applications must be submitted by 13th October 1982, and enrolment forms submitted by the lapse date indicated on the Response to Offer form.

◆ No quota preference will be given to applicants for part-time or external law, who fall within the provisions listed in Section 4, unless evidence, in an appropriate form, is received by 10th December 1982.

† Applicants with a score of three (3) points in one of the prescribed subjects may be allowed to enrol if the total score over all subjects required is sufficiently in excess of the minimum points requirement.

π For entry in 1983 and 1984, study in Biological Science will be accepted in lieu of Chemistry.

■ To be offered subject to final approval.

** From 1984, a minimum of 3 points in both the external senior subjects English and Mathematics (not Social Mathematics) will be required.

TABLE 4 : ENTRY REQUIREMENTS FOR POSTGRADUATE COURSES ◆

Graduate Diploma in Architecture • Graduate Diploma in Building • Graduate Diploma in Industrial Design
Graduate Diploma in Landscape Architecture • Graduate Diploma in Quantity Surveying
Graduate Diploma in Urban and Regional Planning

Degree or diploma from a recognised university, college of advanced education, or approved equivalent tertiary institution; OR
Professional recognition by an equivalent course of study or examination. Where an equivalent course of study or examination cannot be readily established an applicant, at the discretion of the Head of School, may be permitted to undertake a qualifying examination, the satisfactory completion of which will entitle him to the status of a graduate or diplomate for the purpose of admission.

Graduate Diploma in Advanced Accounting

Degree or diploma from a recognised university or CAE with an appropriate major in accounting, provided that in the case of a diploma, additional work may be required by the Head of the Department of Accountancy.

Graduate Diploma in Commercial Computing

Degree or diploma from a recognised university or CAE provided that in the case of a diploma, additional work may be required by the Head of Department.

Graduate Diploma in Business Administration

Degree or diploma from a recognised university or CAE provided that in the case of a diploma, additional work may be required by the Head of the Department of Management; AND
One years appropriate experience in commerce, industry or government.

Graduate Diploma in Automatic Control ★

Tertiary qualifications in a technological field (or equivalent).

Graduate Diploma in Civil Engineering (Municipal)

Degree or diploma from a recognised university or CAE; OR
Registered Engineer under QFE Act 1920; OR
Local Government Engineers Certificate of Competency; OR
Degree or diploma in science or applied science or other equivalent qualifications plus certain prerequisite engineering subjects as may be determined by the Department of Civil Engineering.

Master of Engineering by thesis

Minimum of 3 years experience as a graduate engineer in the field in which the proposed work lies; PLUS
B.Eng. QIT or equivalent. The Graduate Studies Committee will take into account an applicant's performance as an undergraduate, particularly in those subjects directly related to the area in which the masters programme will be undertaken; OR
Satisfactory completion of masters qualifying examinations following formal course work and a reading programme in related fields stipulated by the Graduate Studies Committee; OR
The submission of technical publications or other appropriate evidence which satisfies the Graduate Studies Committee that advanced knowledge has been acquired in a division of engineering in which the applicant has worked as a professional engineer in a position of responsibility. This knowledge should be relevant to the field of study proposed.

Graduate Diploma in Legal Practice

In order to be eligible for a place in the quota for the course, an applicant must hold, or be entitled to be admitted to, an approved Law degree in which he passed in all those subjects in which a pass is required for admission to practice as a solicitor in Queensland, i.e. an applicant must have passed the right elective subjects as well as the so-called 'professional subjects', although in the early years of the course some persons who do not completely satisfy such requirements may be offered a place.

Graduate Diploma in Library Science

Degree from a recognised university or CAE in a field other than librarianship.

Graduate Diploma in Chemical Analysis ☆

Degree or equivalent qualification from a recognised university or CAE; PLUS
Major in chemistry or biochemistry.

Graduate Diploma in Applied Hydrogeology

An acceptable degree or diploma based on science or engineering from a recognised university or CAE.

Graduate Diploma in Environmental Studies ☆

Degree or in some cases a diploma, from a recognised university or CAE, or an equivalent qualification.

Graduate Diploma in Nutrition and Dietetics

Degree or diploma from a recognised university or CAE which must include biochemistry and physiology, one of which must have been studied for two (2) years.

Master of Applied Science – Research and Thesis

Degree in applied science from QIT, or equivalent qualification from a university or CAE; OR
Such other evidence as will satisfy the Health Science or Applied Science Academic Board that the applicant possesses the capacity to pursue the course of study.

Master of Applied Science – Medical Physics

Degree from a recognised university or CAE with a major in physics. Applicants with other qualifications may be enrolled subject to the approval of the Head of the Department of Physics and may be required to undertake a bridging programme.

◆ This table is a summary of entry requirements. Full details are contained in the relevant school handbook.

★ Applicants who do not meet the requirements for normal entry may be required to complete satisfactorily appropriate qualifying subjects, to be designated by the Department of Electrical Engineering before enrolling.

☆ In cases where an equivalent qualification cannot be readily established, provision exists for the Head of the School of Applied Science to exercise his discretion to permit an applicant to undertake a qualifying examination.

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Subject and Course Numbering System

SUBJECT AND COURSE NUMBERING SYSTEM

Subject Numbering

The subject code is of the format XXX999.

The first two characters indicate the Section, Department or School administering the subject.

AC	Accountancy
AR	Architecture and Industrial Design
AS	Applied Science
BE	Biology and Environmental Science
BG	Building and Quantity Surveying
CE	Civil Engineering
CH	Chemistry
CM	Communication
EE	Electrical Engineering
EN	Engineering
ES	Applied Geology
LB	Librarianship
LP	Planning and Landscape Architecture
LW	Law
MA	Mathematics and Computer Science
ME	Mechanical Engineering
MN	Management
MS	Medical Laboratory Science
NS	Nursing Studies
OP	Optometry
PH	Physics
PN	Public Health and Nutrition
PO	Podiatry
SE	School of Engineering
SV	Surveying

The third character indicates the level of the course in which the subject is taught.

N	Masters Degree
P	Graduate Diploma
B	Bachelor's Degree
A*	Diploma in Architecture
D	Diploma (other than Diploma in Architecture)
A	Associate Diploma (all schools except Engineering)
T	Associate Diplomas in Engineering School
C	Certificate
S	Unregistered Student

**Note: This course is being phased out. The symbol 'A' will then only apply to Associate Diploma subjects.*

The remaining characters identify the subject within the course.

Course Numbering System

The course code is of the format xxx999. The first two characters indicate the Department administering the course as above for subjects. The third character indicates the level of the course – Bachelor's Degree J, Diploma K, Associate Diploma L, Postgraduate Diploma M, Master's Degree N, Certificate C, Unregistered Student S.

7

Academic Board and Advisory Committees

APPLIED SCIENCE ACADEMIC BOARD AND ADVISORY COMMITTEES

APPLIED SCIENCE ACADEMIC BOARD

Chairman: Dr R B Gardiner

Members: Dr V M Bofinger, Dr S F Dyke, Dr H D Ellis, Dr R G Everson, Dr K J Gough, Dr R N Gould, Dr L H Hamilton, Mr K P Herlihy, Dr R A Hynes, Mr M T Kelly, Mr W D King (Graduate Representative), Dr S Kokot, Mr L A Meara, Mr D C O'Connell, Dr B J Thomas, Dr B W Thomas, Mr J C Wilson.

Ex-Officio:
Acting Deputy Director
Head, School of the Built Environment
Head, School of Business Studies (Mr G Best Proxy)
Head, School of Engineering
Head, School of Health Science
Head, School of Law

APPLIED GEOLOGY ACADEMIC BOARD

Dr L H Hamilton (Chairman)	Head, Department of Applied Geology, QIT.
Dr V M Bofinger	Senior Lecturer, Department of Applied Geology, QIT.
Mr R J Coleman	Lecturer, Department of Applied Geology, QIT.
Mr P L Ellis	Deputy Director (Technical), Coordinator General's Department, Brisbane.
Mr B M Haines	Geophysical Consultant.
Mr L G Johnson	Exploration Manager, South Pine Quarries Ltd.
Mr M McEniery	Senior Hydrologist, Queensland Water Resources Commission, Brisbane.
Dr K R Martin	Consultant in Sedimentology & Petroleum Geology, QIT.
Mr D C O'Connell	Lecturer, Department of Applied Geology, QIT.
Mr R J Paten	Assistant General Manager—Petroleum, AAR Limited, Brisbane.
Mr K Stead	Brisbane State High School, South Brisbane.
Mr A Shellshear	Marathon Petroleum (Aust) Ltd, Brisbane.
Mr L N Wall	Senior Geochemist, Carpentaria Exploration Co Pty Ltd, Brisbane.
Mr K R Warner	Principal Geologist, Geological Survey Branch, Department of Mines, Brisbane.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.

BIOLOGY ADVISORY COMMITTEE

Dr R G Everson (Chairman)	Head, Department of Biology and Environmental Science, QIT.
Dr A Bailey	Senior Lecturer, Department of Biology and Environmental Science, QIT.
Dr A Bartholomai	Director, Queensland Museum, Brisbane.
Mr J E Coaldrake	Director, Planning and Environmental Division, Cameron, McNamara, Consultants, Brisbane.
Dr W A Dodd	Senior Lecturer, Department of Biology and Environmental Science, QIT.
Mr P L Ellis	Deputy Director (Technical), Coordinator General's Department, Brisbane.
Mr W Haseler	Head, Fletcher Research Station, Department of Lands, Brisbane.
Dr R A Hynes	Senior Lecturer, Department of Biology and Environmental Science, QIT.
Dr R W Johnson	Director, Queensland Herbarium, Indooroopilly.
Mr T Passlow	Director, Entomology, Department of Primary Industries, Indooroopilly.
Dr P Saenger	Ecological Consultant, Queensland Electricity Generating Board, Brisbane.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.

CHEMISTRY ADVISORY COMMITTEE

Dr S F Dyke (Chairman)	Head, Department of Chemistry, QIT.
Mr T Beckmann	Director, Government Chemical Laboratories, Brisbane.
Mr I Chant	Assistant Head Brewer, Castlemaine-Perkins, Milton.
Dr C L Graham	Senior Lecturer, Department of Chemistry, QIT.
Dr P Hallman	Senior Lecturer, Department of Chemistry, QIT.
Dr W J W Hanna	Lecturer, Department of Chemistry, QIT.
Dr P J Hetherington	Senior Lecturer, Department of Chemistry, QIT.
Mr P A Johnston	Student Representative.
Mr G J Kelly	Lecturer in Chemical Engineering, University of Queensland.
Mr R J Noakes	Lecturer, Department of Chemistry, QIT.
Mr E O'Reilly	Senior Lecturer, Department of Chemistry, QIT.
Dr R Park	Principal Research Scientist, Food Research Division, CSIRO.
Mr P Parodi	Chief Research Chemist, Butter Marketing Board, Hamilton.
Miss A Pettigrew	Student Representative.
Mr P Seale	Chief Chemist, Golden Circle Cannery, Northgate.
Dr G Smith	Lecturer, Department of Chemistry, QIT.

Mr I Sutherland	Laboratory Superintendent, Consolidated Fertilisers Ltd, Gibson Island.
Mr C Williams	Research Manager, MIM Holdings, Brisbane.
Mr R Yerbury	Director, Australian Laboratory Services, Woolloongabba.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.

COMPUTING ADVISORY COMMITTEE

Dr R N Gould (Chairman)	Head, Department of Mathematics and Computer Science, QIT.
Dr J L Byrne	Senior Lecturer, Department of Mathematics and Computer Science, QIT.
Mr A W Coulter	Director, Computer Centre, University of Queensland.
Mr K R Curwen	Lecturer, Department of Electrical Engineering, QIT.
Mr W Fisher	Manager, Computer Centre, QIT.
Mr K Forbes	Lecturer, Department of Mathematics and Computer Science, QIT.
Mr A W Goldsworthy	General Manager and Chief Executive, SGIO Building Society, Brisbane.
Dr K J Gough	Senior Lecturer, Department of Mathematics and Computer Science, QIT.
Dr R O D Lane	Lecturer, Department of Management, University of Queensland.
Dr G M Mohay	Senior Lecturer, Department of Mathematics and Computer Science, QIT.
Mr J F Puttick	Branch Manager, Datec Pty Ltd, Brisbane.
Mr S Reiss	Lecturer, Department of Accountancy, QIT.
Mr D R Ross	Division of Computing Research, CSIRO.
Mr R Wadhams	Student Representative.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.

MATHEMATICS ADVISORY COMMITTEE

Dr R N Gould (Chairman)	Head, Department of Mathematics and Computer Science, QIT.
Mr J T Briggs	Principal Lecturer in Mathematics, Department of Mathematics, Brisbane College of Advanced Education.
Dr J L Byrne	Senior Lecturer, Department of Mathematics and Computer Science, QIT.
Mr J A Davies	Lecturer, Department of Communication, QIT.
Mr P A Dutton	Senior Lecturer, Department of Mathematics and Computer Science, QIT.
Mr P Elliott	Student Representative.

Mr A W Goldsworthy	General Manager and Chief Executive, SGIO Building Society, Brisbane.
Dr R O D Lane	Lecturer, Department of Management, University of Queensland.
Dr G M Mohay	Senior Lecturer, Department of Mathematics and Computer Science, QIT.
Mr I G Ogle	Lecturer, Department of Mathematics and Computer Science, QIT.
Mr R Sawkins	Partner, Palmer, Trahair, Owen and Whittle, Consulting Actuaries, Brisbane.
Mr T P Tolhurst	Manager, North Brisbane Hospitals Board.
Dr T K Wignall	Senior Lecturer, School of Mathematical Sciences, NSWIT.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.

MEDICAL PHYSICS ADVISORY COMMITTEE

Dr B W Thomas (Chairman)	Head, Department of Physics, QIT.
Mr E A Bennett	Senior Lecturer, Department of Public Health and Nutrition, QIT.
Mr G Logan	Manager, Department of Biomedical Engineering, Royal Brisbane Hospital.
Prof J F McCaffrey	University of Queensland Department of Surgery, Princess Alexandra Hospital.
Mr J P McGilvray	Director, Division of Health and Medical Physics, Department of Health, Brisbane.
Mr B Perrett	University Radiation Officer, Physics Department, University of Queensland.
Mr J F Whiting	Senior Lecturer, Department of Physics, QIT.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.

PHYSICS ADVISORY COMMITTEE

Dr B W Thomas (Chairman)	Head, Department of Physics, QIT.
Mr L Boughen	General Manager, L E Boughen and Co.
Mr R E Dunlop	Senior Lecturer, Department of Physics, QIT.
Mr L Herbert	Leader, Process Investigation Section, Meat Research Laboratory, CSIRO.
Mr A T Moreland	Design Engineer, MIM Holdings Ltd.
Mr H C Rose	Senior Lecturer, Department of Physics, QIT.
Mr G S Stacey	Information Services Manager, MIM Holdings Ltd, Brisbane.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.

RADIOGRAPHY ADVISORY COMMITTEE

Dr B W Thomas (Chairman)	Head, Department of Physics, QIT.
Mr D Greaves	Tutor Radiographer, Queensland Radium Institute.
Miss H Heindorff	Therapy Radiographer, Queensland Radium Institute.
Dr L Masel	Representative of Conjoint Committee.
Mr J P McGilvray	Director, Division of Health and Medical Physics, Department of Health, Brisbane.
Miss B Moore	Tutor Radiographer, Department of Radiological Sciences, Royal Brisbane Hospital.
Dr B Moore	Representative of the College of Radiologists of Australasia.
Dr S Roberts	Senior Radiotherapist, Queensland Radium Institute.
Dr B J Thomas	Senior Lecturer, Department of Physics, QIT.
Mr D K Wilson	Lecturer, Department of Physics, QIT.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.

GRADUATE STUDIES STANDING COMMITTEE

Dr H D Ellis (Chairman)	Lecturer, Department of Physics, QIT.
Dr A Bailey	Senior Lecturer, Department of Biology and Environmental Science, QIT.
Dr J P Bartley	Lecturer, Department of Chemistry, QIT.
Mr K J Bowman	Head, Department of Optometry, QIT.
Dr L H Hamilton	Head, Department of Applied Geology, QIT.
Dr S Kokot	Lecturer, Department of Chemistry, QIT.
Dr C Reilly	Head, Department of Public Health and Nutrition, QIT.
Dr J Welch	Head, Department of Medical Laboratory Science, QIT.
Dr A Wolanowski	Lecturer, Department of Mathematics and Computer Science, QIT.
Dr P A Wood	Lecturer, Department of Medical Laboratory Science, QIT.
External Membership:	
Dr K Donald	Director of Pathology, Royal Brisbane Hospital.
Mr P L Ellis	Deputy Director (Technical), Coordinator General's Department, Brisbane.
Dr D J Walker	Officer in Charge, CSIRO Meat Research Laboratory.
Mr C D Williams	Research Manager, MIM Holdings.
Ex-Officio:	
Dr R B Gardiner	Head, School of Applied Science, QIT.
Dr A J Webber	Head, School of Health Science, QIT.

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Staff — School of Applied Science

STAFF – SCHOOL OF APPLIED SCIENCE

Head of School: R B Gardiner, MA, BSc(Hons), PhD(Edin), FInstP, FAIP.

Graduate Assistant: H J Springell, BSc(JamesCook).

Support Staff: S C Meggitt – Secretary.

DEPARTMENT OF APPLIED GEOLOGY

Head of Department:
L H Hamilton, BE, MSc(UNSW), PhD(RSM), DIC, FAIE, MAusIMM, FGS.

Senior Lecturer: V M Bofinger, BSc(Hons)(NE), PhD(ANU).

Lecturers:
A V Arakel, BSc, PhD(UWA).
R J Coleman, BSc(Hons)(Tas), MIGeol, FGS(Lond), MIMM, AMAusIMM, ASEG.
D C O'Connell, BSc(Qld), DipEd, MSc(JamesCook), FGS(Lond), AMAusIMM.
W F Ridley, MSc(Qld).
Vacancy (Sedimentologist).
Vacancy (Geophysicist).

Support Staff:
C Lea, AssocDipSecStuds(DDIAE), Steno/Secretary.
B Kwiecien, CIC, AssocDipAppChem(QIT), Laboratory Technician Division I.
M Snell, FGAA, CertOptMech, Laboratory Technician Division I.
A Burns, Laboratory Attendant.

DEPARTMENT OF BIOLOGY AND ENVIRONMENTAL SCIENCE

Head of Department:
R G Everson, BSc(Hons)(Syd), PhD(Melb), MIBiol, MAIH.

Senior Lecturers:
A Bailey, BSc(Hons)(L'pool), PhD(Adel), MIBiol, MAIH.
W A Dodd, MSc(Adel), PhD(Alberta).
R A Hynes, BA(NE), MSc(PNG), PhD(Lond), MIBiol.

Lecturers:
D H Barry, BSc(Hons)(Lond), FLS.
D S Kells, BAgrSc, DipEd(Melb), MSc(Griffith).
C R King, BSc(Lond), MSc(Salford).
B J McMahon, BSc(Qld).

Lecturers (cont'd.): J C Wilson, BAppSc, MAppSc(QIT).
G H Yezdani, BSc(Hons), MSc(Sind), PhD(Monash), MIBiol.

Senior Tutor: G R Dyne, BSc(Hons)(Qld).

Support Staff: J Love, Steno/Secretary.
M Rohweder, Stenographer.
A Walker, Clerical Assistant.
A A J Cillekens, DipTropAg, DipSugTech(Deventer), Senior Laboratory Technician Division I.
G W Ayre, CBLT(QIT), Laboratory Technician Division I.
E Guindy, Laboratory Technician Division I.
K Ilievski, BSc(Hons)(Skipje), Laboratory Technician Division I.
K D Barton, CMLT, BAppSc(QIT), Laboratory Technician Division II.
Vacancy – Laboratory Assistant
N Sherwin, CBLT(QIT), Laboratory Assistant.
J Blundell, Laboratory Attendant.

DEPARTMENT OF CHEMISTRY

Head of Department:
S F Dyke, BSc(Lond), PhD(Aberdeen), DSc(Lond), CChem, FRSC, FRACI.

Senior Lecturers: W Draper, BSc(Tech)(Manch), MS(Mass), PhD(UofVa), CChem, MRSC.
C L Graham, BSc(Hons)(Dunelm), PhD(N'cle UK), ARACI, AAIFST, CChem, MRSC.
P S Hallman, MSc, PhD(Syd), ARACI.
P J Hetherington, BSc(App)(Hons), PhD(Tas), ARACI, CChem.
E J O'Reilly, MSc(Qld), DipEd, FRACI.

Lecturers: J P Bartley, MSc(Hons), PhD(Auck), CChem, MRSC, AAIFST.
N D Bofinger, BSc(NE), PhD(Qld), ARACI.
L Burwell, BSc(Qld), ARACI.
M R Chambers, PhD(Lond), CChem, MRSC, CEng, MInstE.
G K Douglas, BSc(Hons)(NE), PhD(Tas), ARACI.
R L W Frost, MSc, BEd(Qld), ARACI.
W J W Hanna, BSc(Hons), PhD(Belf), CChem, MRSC.
K P Herlihy, BSc(Hons)(Qld), DipIndChem, ARACI.

Lecturers (cont'd.): G M Kimber, MSc, BEd(Qld), ARACI.
S Kokot, BSc(Hons), PhD(NSW), ARACI.
R J Noakes, DipSugarChem, DipIndChem, ARACI, AAIFST.
E T Pallister, MSc, PhD(NSW), CChem, MRSC, ARACI, ASTC.
D P Schweinsberg, ASTC, BSc(NSW), MSc, PhD(Qld), ARACI, AMAusIMM.
G Smith, BSc, PhD(Qld), DipIndChem, ARACI.
B N Venzke, MSc, PhD(Qld).

Technologist: N Barr, BSc(Hons)(Belf), CertEd(Tech)(Manchester).

Support Staff: D Freney, Stenographer.
M Johnston, Steno/Secretary.
N Morrison, Clerical Assistant.
N A Siels, DipIndChem, Senior Laboratory Technician Division I.
T L Hamilton, DipSugChem, DBusAdmin(QIT), AAST, AAIM, AAIPM, Senior Laboratory Technician Division II.
P Comino, CIC, AssocDipAppChem(QIT), Laboratory Technician Division I.
P Johnston, CIC(QIT), Laboratory Technician Division I.
W Skeaf, Laboratory Technician Division I.
P Stevens, CIC, AssocDipAppChem(QIT), Laboratory Technician Division I.
A Schwede, CIC, AssocDipAppChem(QIT), Laboratory Technician Division I, GCMS Suite.
E Martinez, CIC(QIT), Laboratory Technician Division II.
V Beecham, Laboratory Assistant.
J Clancy, BSc(Qld), Laboratory Assistant.
C Cole, Laboratory Assistant.
W Stumer, Laboratory Assistant.
W Hundertmark, Laboratory Attendant.
L Smyth, Laboratory Attendant.
C Remington, Laboratory Attendant.
S Wiman, Storeman.

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Head of Department:

R N Gould, MSc(Lond), PhD(Hull), AFAIM.

Senior Lecturers:

C M Bothwell, BSc, BEd, MLitSt(Qld), ALCM.
J L Byrne, BSc(Qld), MSc(Soton), PhD(Adel).
P A Dutton, BSc, DipEd(Syd), MSc(NSW).
K J Gough, MSc, PhD(Well), FNZEI, MIEEE, MACM.
J Gudgeon, BSc(Hons)(Hull), MSc(Oxon), FIMA.
C R Jones, MSc(Liv), FSS.
K R Macbeth, DipMath(BMA), BSc(Hons)(Lond), MS(Calif), MACE.
G M Mohay, BSc(Hons)(WAust), PhD(Monash), MACS, MACM.

Lecturers:

K F Anderson, BSc(Hons)(S'clyde), DipEd(Dun), DipInfProc(Qld), AFIMA, MACS.
J S Beck, BSc(Qld).
C C Calder, MSc(Lond).
P T J Cattell, BSc, BEd, DipCompSc(Qld), MSc(Essex), MACS.
E P Dawson, BS, DipEd(Wash), MA(Syd), MLitSt(Qld).
K Forbes, BA, BSc(Qld), MEngSc(NSW), MACS.
B P Garfoot, BSc(Hons)(N'cle NSW), PhD(Qld).
C G Holland, BA(NE), BSc, BEcon, DipInfProc(Qld), SMIREE(Aust), CEEng, AAIM, FTIA.
R F Hubbard, BA(NZ), MLitSt(Qld).
M Ilic, MSc(Qld).
M T Kelly, BSc, DipEd, MLitSt(Qld).
M R Littler, DipMath(Tech), BSc(Hons)(Lond), AFIMA, CEng, FIMarE.
I F Ogle, MSc(NE), FSS, MBS.
D J O'Kane, BSc, DipCompSc(Qld), MACS.
L M Scotney, BSc, DipEd(Qld).
B S Tasker, BA(NE).
E M Walker, BSc(Hons)(Qld), MSc(Oxon), AIA, AAIA.
J F Warren, BEcon(Qld), MSc(CranIT).
D F Welburn, BSc(Qld).
A M B Wolanowski, MSc(Lublin), PhD(Warsaw), MSSA.

Tutors:

M G Roggenkamp, BEd(JamesCook), DipCompSc(Qld).
Vacancy
S R Buckley, BAppSc, DipTech(NSWIT), MLitSt(Qld).
Vacancy

Support Staff:
K Szmandra, Clerk Typist.
K Dahl, Clerk Typist.

P F O'Brien, BSc(Qld), CEC, AMACS, Technologist.
Vacancy – Laboratory Assistant.

DEPARTMENT OF PHYSICS

Head of Department:
B W Thomas, MSc, PhD, DipEd(WA), FAIP, MInstP, MACPSM, AFAIM.

Senior Lecturers:
R E Dunlop, MSc(Qld), MAIP.
H C Rose, MSc(Man), MInstP, MIM, CEng.
B J Thomas, BSc(Hons), PhD(WA), MAIP, MACPSM.
J F Whiting, MSc, DipEd(Qld), MSc(Surrey), MAIP, MIBE(Aust), MAIUM.

Lecturers:
B M Blyth, MSc(Reading), MAIP, MInstP.
I R Cowling, BSc(Hons), PhD(Flinders), MAIP, ISES.
J A Davies, BSc(Hons)(City, London), MSc(Qld), MAIP, AIMEE.
I R Edmonds, MSc(Auck), PhD(Warwick), MAIP.
H D Ellis, BSc(Hons), PhD(Durham), MAIP.
D W Field, BSc(Hons), PhD(Adel), DipT(ACAE), MAIP.
R A Fleming, MSc(Qld), MAIP.
T G Lewis, BSc, BEd(Qld), MSc(Aston), MSc(Griffith), DipRMS, MAIP.
L A Meara, MSc, BA, AEd(Qld), MAIP.
W C Middleton, MSc, BEd(Qld), MAIP.
R J Norton, BSc(Qld), MSc(Brunel), MAIP.
B M O'Leary, BSc, DipEd(Sydney), MSc(Surrey), MAIP.
R J Treffene, BSc(Qld), MSc, PhD(Lond), MAIP.
D Wilson, MIR.
C F Wong, DipSc(HongKong), MSc(McGill), PhD (Saskatch).

Senior Tutor:
N P Freeman, BSc(Qld).

Support Staff:
E M Boyd, Steno/Secretary.
J Whiting, Clerk Typist.
R Jeffery, SMIREE, Senior Technician Division I.
R R Galloway, Technician Division I.
J A Jull, Technician Division I.

Support Staff (cont'd.):

G W Kibbey, Technician Division I.
M K Power, Technician Division I.
N A Raftery, BSc(Hons), Technician Division I.
B Wheeler, Technician Division I.
J F Davey, Technician Division II.
N Stead, Laboratory Assistant.
J Goodwin, Laboratory Attendant.
M Robinson, AssocDipAppPhysics, Laboratory Attendant.

Research Staff:

R Koch, MSc(Heidelberg), PhD(WA), MAIP, MACPSM, Senior Research Scientist.
G Fisher, Research Assistant.
J McGovern, BAppSc, MACS, Research Officer/ Programmer.
D Price, BSc, PhD(Monash), MAIP.
P A Scanlon, BEng(QIT), Research Officer.

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Prizes and Awards

PRIZES AND AWARDS

Australian Laboratory Services Pty Ltd Prize

Awarded to a full-time or part-time student, of the Bachelor of Applied Science courses in Applied Chemistry or Chemistry, who has the best overall achievement in the final year Analytical Chemistry subjects.

Castlemaine Perkins Scholarship in Applied Chemistry

This scholarship is offered annually, for a period of one academic year. Eligible students are those who have satisfactorily completed the third semester of the full-time programme of the course Bachelor of Applied Science – Applied Chemistry. The scholarship takes the form of a stipend and a book allowance, together with periods of vacation employment. Further details of the scholarship can be obtained from the Department of Chemistry, and applications must be submitted on or before August 31 of each year.

Datec Prizes

These prizes have been donated by Datec Pty Ltd, and will be awarded annually to:

(i) the most outstanding graduate of the year from the Bachelor of Applied Science – Computing course;

(ii) the student demonstrating the greatest proficiency in the subject unit "Project Work".

Clare Falconer Memorial Prize

Donated through the Queensland Branch of the Australasian Institute of Radiography, and awarded to the student in first year therapeutic radiography gaining the highest aggregate of marks for that year.

Hugo Flecker Memorial Prizes

Donated by the Royal Australasian College of Radiologists, Queensland Branch, and awarded to students in the third year of the Diagnostic and Therapeutic Radiography courses respectively, who gain the highest aggregate marks in that year.

Food Technology Association of Queensland Prize

Donated by the Food Technology Association of Queensland, and awarded annually to the student who obtains the best combined result in final year subjects CHB555 Biological Organic Chemistry, and CHB685 Food Science in either the Bachelor of Applied Science – Applied Chemistry course or the Bachelor of Applied Science – Chemistry course.

In the years when the subject CHB685 Food Science is not offered, the prize will be awarded for the best result in the subject CHB555 Biological Organic Chemistry.

J L Forsyth Prize

Donated by Provincial Traders Pty Ltd, 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 Bachelor of Applied Science — Applied Chemistry at the Queensland Institute of Technology.

GEC (Automation and Control Division) Prize

Donated by the GEC Automation and Control Division, for the student who gains the highest aggregate marks in the second year of the Associate Diploma in Diagnostic Radiography course.

Kodak Prize

Awarded to the student in diagnostic radiography, gaining the highest aggregate marks for the course completed in that year.

MIM Holdings Limited Prize

Donated by MIM Holdings Limited, and awarded annually to the most outstanding student in the second year of the full-time course (or the part-time equivalent) leading to the Bachelor of Applied Science — Computing.

Oil and Colour Chemists' Association Prize

Awarded to a final year student enrolled in a course within the Department of Chemistry. To be eligible a student must be employed in the surface coating industry.

Philips Electrical Prize

Awarded to the most outstanding student in the third year of the full-time course leading to the Bachelor of Applied Science — Physics.

Queensland Institute of Technology 'Institute' Medal

An Institute Medal may be awarded annually for distinguished academic performance. The basis for selection may be referred to in the Institute Handbook.

Oscar Queitzsch Memorial Prize

Donated through the Queensland Branch of the Australasian Institute of Radiography, and awarded to the student in the first year diagnostic radiography course, gaining the highest aggregate marks for that year.

Royal Australian Chemical Institute Prize

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 Bachelor of Applied Science – Applied Chemistry;

(ii) the student showing the greatest proficiency in subjects of the third and fourth years of the part-time course leading to the Bachelor of Applied Science – Applied Chemistry.

Byron Watkins Prize

This prize is awarded annually in honour of Mr Byron Watkins, the foundation Chief Instructor of the Chemistry Department of the former Central Technical College. The award is sponsored by the Industrial and Applied Chemistry Past Students' Association.

The award is made to the graduating student in the Associate Diploma in Applied Chemistry course, who has shown the highest level of achievement during the course.

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Courses Offered by Each Department of the School of Applied Science

COURSES OFFERED BY EACH DEPARTMENT

PG2	ASN184	Master of Applied Science by Research and Thesis – available in each Department.

Department of Applied Geology

PG1	ESM195	Graduate Diploma in Applied Hydrogeology
UG1	ESJ132	Bachelor of Applied Science – Applied Geology

Department of Biology and Environmental Science

PG1	BEM186	Graduate Diploma in Environmental Studies
UG1	BEJ131	Bachelor of Applied Science – Biology
UG3	BEL180	Associate Diploma in Applied Biology

Department of Chemistry

PG1	CHM185	Graduate Diploma in Chemical Analysis
UG1	CHJ129	Bachelor of Applied Science – Applied Chemistry
UG1	CHJ130	Bachelor of Applied Science – Chemistry
UG3	CHL181	Associate Diploma in Applied Chemistry

Department of Mathematics and Computer Science

UG1	MAJ128	Bachelor of Applied Science – Computing
UG1	MAJ133	Bachelor of Applied Science – Mathematics

Department of Physics

PG2	PHN176	Master of Applied Science – Medical Physics
UG1	PHJ127	Bachelor of Applied Science – Physics
UG2	PHK205	Diploma of Applied Science – Diagnostic Radiography
UG2	PHK206	Diploma of Applied Science – Therapeutic Radiography
UG3	PHL183	Associate Diploma in Applied Physics

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General Course Rules

GENERAL COURSE RULES

(a) A registered student may enrol either as a full-time student or a part-time student.

(b) A full-time student normally attends day classes associated with his study programme. He may, however, elect or be required to attend some evening classes.

A part-time student normally attends evening classes associated with his study programme. He may, however, elect or be required to attend some day classes.

(c) The method of assessment to be used in the case of each subject will be as approved by the Academic Board and may comprise one or more of –

written and/or oral tests;
general assignments;
laboratory exercises and reports;
projects, field testing, etc.

(d) A student who submits work for assessment after the due date authorised by the Head of Department responsible for the subject may be penalised by having the work not accepted for assessment unless, prior to the due date, the student applies in writing to the examiner responsible for the subject for an extension of time in which to submit the work, and is granted such an extension in writing.

(e) Students in a full-time course or a part-time course gain credits for passed units and are required to repeat failed units only.

(f) Students who pass all units in one semester of a particular full-time or part-time programme as set out in the relevant course rules will be expected to enrol in the units set out for the following semester of the relevant programme in those Rules. Timetables are organised on the basis of this normal progression.

(g) (i) A pre-requisite unit is one which must be passed before proceeding to a further unit which has the pre-requisite so specified.

(ii) A co-requisite unit is one which, if not previously passed, must be studied concurrently with another unit with which it is a co-requisite.

(iii) Where a pre-requisite or co-requisite unit is designated as a repeat-requisite (indicated by the post-script [R]), the pre-requisite or co-requisite requirement may be satisfied by the student having attempted the unit but a passing grade is not essential. A student is deemed to have attempted the unit if all assessment requirements have been attempted when registered for the unit. If failed, the repeat-requisite must be repeated at the first opportunity.

Pre-requisites, co-requisites and repeat-requisites are shown collectively in Section 13.

(h) Students who fail units shall be allowed to proceed with the study of some or all of the units from the next semester of the programme provided that –

(i) they have satisfied the pre- and co-requisite requirements as defined in Rule (g) and as set out in Section 13; and

(ii) the hours associated with the selected programme fall between the maximum and minimum hours defined in Rules (i), (j) and (k); and

(iii) the established timetable permits the selected units to be studied concurrently. When timetable clashes make it necessary, full-time students may be permitted or required to attend evening classes, and part-time students may be permitted or required to attend day classes.

except that, in certain circumstances, students who fail one unit which is a pre-requisite for a second unit may nevertheless be deemed eligible to enrol in the second unit, such eligibility being determined by the Head of the Department administering the subject.

(i) Except with the approval of the Head of Department, the total number of hours associated with the units selected for study by full-time students should not exceed the number of hours allocated to the semester of the normal programme in the relevant course rules and from which the majority of units have been selected.

(j) Except with the approval of the Head of Department, the maximum number of hours allowable for study by part-time students are as specified in any one year of the relevant course rules.

(k) Except with the approval of the Head of Department, the total hours associated with the units selected for study shall be the number of hours allocated to the semester of the programme from which the majority of the units have been selected.

(l) When quotas for units in the full-time programme have been filled with students who have enrolled for the first time but quotas in units in the part-time programme have not been filled, students repeating units will be enrolled for such units in the part-time programme.

(m) Where quotas for units in both full-time and part-time programmes would be exceeded by acceptance of new applicants –

(i) normally, students applying to repeat one unit will have precedence over new applicants;

(ii) students applying to repeat two or more units may be excluded from those units at the discretion of the Head of School on the advice of the Head of Department.

(n) No formal supplementary examinations will be offered following the semester examinations. However, if an examiner considers such action justified, a student may be recalled for further informal assessment before the release of the examination results. This may take the form of oral questioning or a short written test, and may cover only the areas of the unit previously shown to be below standard. On the basis of this additional testing, a pass may be granted.

A student who is required to present himself for further assessment may apply to the Head of School to have the assessment deferred to a date not later than the end of the first week of the following semester.

(o) Exemptions. Rules concerning the granting of exemptions are detailed under 'Rules Relating to Student Matters'. (See page 27).

(p) Some essential teaching activities conducted off-campus involve field trips. The Academic Board is required to approve essential field trips for each semester and students are expected to attend all such field trips. Except with the approval of the Head of Department, failure to attend these field trips will adversely affect assessment in the relevant subjects.

12

Courses

Master of Applied Science courses

ASN184 MASTER OF APPLIED SCIENCE BY RESEARCH AND THESIS

The programme is administered jointly by the Academic Boards of the Schools of Applied Science and Health Science, through a Graduate Studies Standing Committee.

Unless the context otherwise indicates or requires, the words 'Academic Board' and 'School' shall refer to the school in which the student registers.

OBJECTIVES:

(a) To provide post-graduate educational opportunities in specialised fields of applied science by means of a programme which involves either an original contribution to knowledge or an original application of existing knowledge.

(b) To provide further education in research methods for post-graduate students.

(c) To enable graduates employed in industry to undertake further education by research and thesis.

(d) To enable industrial organisations and other external agencies to sponsor a student research programme under the control and supervision of the School.

(e) To further the relationships that exist between the Institute and industry or other external agencies engaged in applied science, to their mutual advantage.

OUTLINE OF PROGRAMME:

(a) Candidates undertaking a Master of Applied Science by Research and Thesis will undertake a project on a topic approved by the Academic Board.

(b) All projects should be sponsored either by outside agencies such as industry, Government authorities, or professional organisations, or by the Institute itself.

(c) The project, including submission of the thesis, should require approximately two years of full-time work or its equivalent.

(d) The programme should give the candidate the opportunity to develop and demonstrate a level of scientific competency which is significantly higher than that expected of a first degree graduate. The required competency would normally include mastery of relevant techniques, investigatory skills and critical thinking, and a high level of knowledge in the specialist area.

RULES:

1. **Application**

1.1 Applications shall be accepted subject to the availability of facilities and supervision.

1.2 Applications may be lodged with the Registrar at any time.

1.3 To qualify for admission to the programme leading to MAppSc by Research and Thesis, applicants shall –

(a) possess a bachelor's degree in Applied Science from the Queensland Institute of Technology, or

(b) possess an equivalent qualification, or

(c) submit any other evidence of qualifications as will satisfy the Academic Board that the applicant possesses the capacity to pursue the course of study.

1.4 Additional requirements for admission to a particular programme may be laid down by the Academic Board.

1.5 An applicant shall seek admission as –

(a) a full-time student, who will carry out his research on a full-time basis in a department of the School or in his place of employment or in a sponsoring institution, or

(b) a part-time student, who will normally be employed in some other capacity during the day and carry out his research on a part-time basis in a department of the School or in his place of employment or in a sponsoring institution.

1.6 Students may be internal or external.

An external student is one whose programme of work is based at his place of employment or sponsoring institution. In the case of an external student the Academic Board shall appoint an Associate Supervisor from the student's place of employment or his sponsoring institution.

2. **Registration**

2.1 An applicant shall be registered initially as –

(a) a graduate student (provisional), OR

(b) a graduate student.

A graduate student (provisional) becomes a graduate student when his registration is confirmed (2.5).

2.2 At the time of registration, the Academic Board shall have before it –

(a) full details of the applicant's tertiary qualifications or other submissions, as in 1.3, and

(b) a synopsis of the proposed research to be undertaken by the applicant.

2.3 The Academic Board shall not recommend an applicant for registration unless it has received –

(a) in the case of a student whose programme will be carried out within the Institute, a statement from the Head of Department in which the study is proposed that, in his opinion, the applicant is a fit person to undertake a research programme leading to the Master's degree, that he supports the programme, and that the Department is willing to undertake the responsibility of supervising the work of the applicant.

(b) in the case of a student whose programme will be carried out in his place of employment or in a sponsoring institution –

(i) a statement from his employer or the director of the sponsoring institution that the applicant will be provided with the facilities to undertake the research project and that he is willing to accept the responsibility for supervision of the work of the applicant, and

(ii) a statement from the Head of Department in which the study is proposed that, in his opinion, the applicant is a fit person to undertake a research programme leading to the Master's degree, that he supports the programme, and that after examination of the proposed external facilities and supervision available, the Department is willing to accept the responsibility for supervision of the work of the applicant.

2.4 In considering an applicant for registration, the Academic Board shall, in addition to assessing the applicant's suitability, assess the proposed programme and its relevance to the aims and objectives of the Institute.

2.5 An applicant shall receive confirmed registration as a graduate student when he –

(a) (i) has satisfied the requirements for admission and has achieved by work and study, a standard recognised by the Academic Board, or

(ii) has been accepted for provisional registration in the School and has achieved, by subsequent work and study, a standard recognised by the Academic Board, and

(b) has satisfied the Academic Board that he is a fit person to undertake the programme, and

(c) has satisfied the Academic Board that he can devote sufficient time to his research and study.

2.6 A student whose registration in the programme has been cancelled and who subsequently wishes to re-enter the programme to undertake a research project which is the same or essentially the same as his previous project may be re-admitted to the programme under such conditions as the Academic Board may prescribe.

3. Duration of the Programme

3.1 A graduate student shall be eligible for admission to the award of a Master's Degree by Research and Thesis if –

(a) he has completed the approved programme under the supervision prescribed by the Academic Board, and

(b) he has submitted and the Academic Board has accepted a thesis prepared under the supervision of the supervisor, and

(c) he has completed any other work prescribed by the Academic Board.

3.2 *Minimum Time*

(a) A graduate student (provisional) shall not be eligible for confirmation of registration as a graduate student –

(i) in the case of a full-time student until a period of at least six months has elapsed from initial registration, or

(ii) in the case of a part-time student until a period of at least one year has elapsed from initial registration.

(b) A graduate student shall not be eligible for the award of the degree –

(i) in the case of a full-time student until a period of at least one year has elapsed from the time of his confirmed registration, or

(ii) in the case of a part-time student until a period of at least two years has elapsed from the time of his confirmed registration.

(c) Notwithstanding clauses 3.2(a) and 3.2(b), a student who undertakes a Master's degree, immediately following completion of a first degree or diploma of three years' duration, whether on a full-time basis or its part-time equivalent, shall not be eligible for the award before a minimum of two years has elapsed from the time of initial registration in the programme.

3.3 *Maximum Time*

A graduate student shall present his thesis for examination –

(a) in the case of a full-time student, not later than two years from the date of his confirmed registration, or

(b) in the case of a part-time student, not later than four years from the date of his confirmed registration.

unless special permission for an extension of time has been granted by the Academic Board.

4. Supervision

4.1 For each student, the Academic Board shall appoint one or more supervisors with appropriate experience, provided that, where more than one supervisor is appointed, one shall be nominated as the Principal Supervisor and others as Associate Supervisors.

4.2 In the case of an internal student, the Principal Supervisor shall normally be from the academic staff of the department where the student carries out his work.

4.3 In the case of an external student, the Principal Supervisor shall normally be from the academic staff of the department supporting the student's work and at least one Associate Supervisor shall be from the student's sponsoring organisation.

4.4 At the end of each six month period –

(a) a student shall submit a report on his work to his Principal Supervisor, and

(b) the Principal Supervisor shall submit a report to the Academic Board on his student's work and this report shall be seen by the student before submission to the Academic Board.

4.5 A student may be required by the Academic Board to undertake an appropriate course of study concurrently with his research project.

4.6 A student shall be required to participate in and present seminars as considered appropriate by his Principal Supervisor. The student shall be notified of minimum attendance requirements at the time of acceptance of enrolment.

5. Thesis

5.1 Not later than six months after confirmed registration, the student shall submit the title of his thesis for approval by the Academic Board, and after approval has been granted, no change shall be made except with the permission of the Academic Board.

5.2 The student shall give two months' written notice of his intention to submit his thesis and such notice shall be accompanied by the appropriate fee, if any.

5.3 The thesis shall comply with the following requirements –

(a) the significant portion of the work described must have been carried out subsequent to initial registration for the Master's degree, and

(b) it must describe a programme of work carried out by the candidate, and must involve either an original contribution to knowledge or an original application of existing knowledge, and

(c) it must be written in English or in a language approved by the Academic Board and must reach a satisfactory standard of literary presentation, and

(d) it shall be the candidate's own account of his work. Where work is carried out conjointly with other persons, the Academic Board shall be advised as to the extent of the candidate's contribution to the joint work, and

(e) the thesis shall not contain as its main content any work or material which the student has previously submitted for another degree or similar award, and

(f) supporting documents, such as published papers, may be submitted with the thesis if they have a bearing on the subject of the thesis, and

(g) the thesis shall contain an abstract of not more than 300 words.

5.4 In form of presentation, availability and copyright, the thesis shall comply with the privisions of the document entitled 'Presentation of a Thesis' as approved by Academic Assembly on 26 January 1979.

5.5 *Examination of Thesis*

(a) The Academic Board shall appoint at least two examiners of whom at least one shall be from outside the Institute.

(b) The candidate may be required to make an oral defence of his thesis.

(c) On receipt of the reports from the examiners, the Academic Board shall –

(i) recommend to Council that the student be awarded a Master's degree in Applied Science, or

(ii) permit the student to resubmit his thesis within one year for re-examination, or

(iii) cancel the student's registration.

PHN176 MASTER OF APPLIED SCIENCE – MEDICAL PHYSICS

1. To be eligible to enrol for the Master of Applied Science – Medical Physics, an applicant must have completed an acceptable tertiary course with a major in Physics.

   Applicants with other qualifications (e.g. engineering) may be enrolled subject to the approval of the Head of Department. In some instances, a bridging program may be necessary.

2. A registered student may enrol either as a full-time or part-time student.

   A part-time student will be required to attend some day classes, and a full-time student may be required to attend some evening classes.

3. The part-time program will be offered only in those years in which sufficient enrolments are received.

4. The program consists of two parts, Stage I and Stage II. Progression to Stage II will be dependent on satisfactory completion of Stage I. Formal contact hours for students enrolled in the full-time course average approximately 20 hours per week during semester, and the topics covered within the course are given in Rule 9.

5. The method of assessment to be used in the case of each subject will be approved by the Academic Board and may comprise one or more of –

   written and/or oral tests;
   general assignments;
   laboratory exercises and reports.

   Students will be required to submit a project report. This report will be assessed by a panel of examiners including a nominated external examiner. In addition the student will be required to discuss his completed project with the same panel of examiners.

6. Registered students in the course will be expected to enrol for the full semester program as in Rule 9.

7. No formal supplementary examinations will be offered following examinations. However, if an examiner considers such action justified, a student may be recalled for further informal assessment before the release of the examination results. This may take the form of oral questioning or a short written test, and may cover only the areas of the topic previously shown to be below standard. On the basis of this additional testing, a pass may be granted.

9. **Normal Course Program –**

Four semesters full-time
Eight semesters part-time

	Approx. Formal Hrs/wk.	*Full-time Semester*	*Part-time Semester*
STAGE I			
PHN100 Medical Physics I	10	1	1
Comprising – Analog Electronics			
Anatomy & Physiology I			
Medical Computing I			
Professional Experience Tour			
Radiation Physics			
PHN200 Medical Physics II	10	1	3
Comprising – Administration & Budgeting			
Biochemistry			
Biomechanics			
Radiobiology & Genetics			
Safety			
PHN300 Medical Physics III	11	2	2
Comprising – Anatomy & Physiology II			
Digital Electronics			
Instrumentation			
Medical Computing II			
Professional Experience Attachment			
PHN400 Medical Physics IV	9	2	4
Comprising – Clinical Application of Ionizing Radiation			
Medical Application of Wave Physics			
Physical Measurements of Biological Parameters			
Professional Experience Attachment			
Radioisotope Techniques			
STAGE II			
PHN520 Medical Physics V (F/T)	18	3,4	
or			
PHN540 Medical Physics V (P/T)	9		5,6,7,8
Comprising – Professional Practice and Case Studies			
Project			

Graduate Diploma courses

ESM195 GRADUATE DIPLOMA IN APPLIED HYDROGEOLOGY

This course will not be offered in 1983.

1. Entrance requirements —

Normal Entry:
Applicants for admission shall have completed an acceptable tertiary course at professional level, and hold a Bachelor's degree or equivalent award based on Science or Engineering.

Special Entry:
Students who do not meet the requirements for normal entry may apply for special consideration.

Graduate Standing:
Where an equivalent course of study or examination cannot readily be established, an applicant, at the discretion of the Head of School, may be permitted to undertake a qualifying examination, satisfactory completion of which will entitle him to the status of Graduate or Diplomate for the purpose of admission.

2. General Course Rules — see page 121.

3. Depending on enrolments, the course may be offered on a full-time and part-time basis.

4. For a registered student in the full-time course, the subjects and other work comprising the curriculum are as follows —

Normal Course Program - two semesters full-time		*Approx. Formal Hrs/wk.*
Semester 1 —		
ESP113	Principles of Geophysics	1
ESP123	Groundwater Geophysics	3
ESP133	Stratigraphy & Sedimentation	2
ESP143	Sedimentary Petrology	2
ESP153	Principles of Hydrogeology	1
ESP313	Engineering Geophysics	1
ESP323	Geophysics Project	3
ESP333	Sediment Analysis	3
Semester 2 —		
ESP213	Applied Hydrogeology	3
ESP223	Regional Hydrogeology	3
ESP233	Regional Geophysics	3
ESP413	Engineering Hydrogeology	2
ESP423	Hydrogeology Project	3
ESP433	Basin Analysis	2

5. For a registered student in the part-time course, the subjects and other work comprising the curriculum are as follows –

Normal Course Program - four semesters part-time		*Approx. Formal Hrs/wk.*
Semester 1 –		
ESP113	Principles of Geophysics	1
ESP123	Groundwater Geophysics	3
ESP133	Stratigraphy and Sedimentation	2
ESP143	Sedimentary Petrology	2
ESP153	Principles of Hydrogeology	1
Semester 2 –		
ESP213	Applied Hydrogeology	3
ESP223	Regional Hydrogeology	3
ESP233	Regional Geophysics	3
Semester 3 –		
ESP313	Engineering Geophysics	1
ESP323	Geophysics Project	3
ESP333	Sediment Analysis	3
Semester 4 –		
ESP413	Engineering Hydrogeology	2
ESP423	Hydrogeology Project	3
ESP433	Basin Analysis	2

6. Pre-requisites and Co-requisites – see page 191.

CHM185 GRADUATE DIPLOMA IN CHEMICAL ANALYSIS

1. Entrance Requirements –

Normal Entry:
Applicants for admission shall have completed a tertiary course at professional level, and hold a degree with chemistry or biochemistry as a major field of study or a suitable equivalent qualification.

Special Entry:
Students who do not meet the requirements for normal entry may apply for special consideration. Such applications will be considered by the Admissions Committee.

Graduate Standing:
Where an equivalent course of study or examination cannot be readily established, an applicant, at the discretion of the Head of School, may be permitted to undertake a qualifying examination, satisfactory completion of which will entitle him to the status of Graduate or Diplomate for the purpose of admission.

2. General Course Rules – see page 121.

3. The course will be offered as a part-time course only.

4. For a registered student the subjects and other work comprising the curriculum are as follows –

Normal Course Program – two years part-time

		Approx. Formal Hrs/wk.
Semester 1 – Autumn	*(not available in 1983)*	
CHP110	Chemical Analysis I	6
MAP255	Statistics	2
Semester 2 – Spring	*(not available in 1983)*	
CHP210	Chemical Analysis II	6
PHP150	Optics	2
Semester 3 – Autumn		
CHP310	Chemical Analysis III	5
CHP345	Laboratory Management	1
PHP350	Electronics	2
Semester 4 – Spring		
CHP410	Chemical Analysis IV	5
CHP445	Laboratory Automation	3

5. Exemptions. Rules concerning the granting of exemptions are detailed under 'Rules relating to Student Matters'. (See page 27.)

6. Pre-requisites and Co-requisites – see page 191.

BEM186 GRADUATE DIPLOMA IN ENVIRONMENTAL STUDIES

Semesters 1 and 2 of the course will not be offered in 1983.

1. Entrance Requirements –

   Normal Entry:
   To be eligible for registration in the Graduate Diploma in Environmental Studies an applicant must possess a UG1 category qualification or, in some cases, a UG2 diploma with or without additional work, or some equivalent qualification.

   Graduate Standing:
   Where an equivalent course of study or examination cannot be readily established, an applicant, at the discretion of the Head of School, may be permitted to undertake a qualifying examination, satisfactory completion of which will entitle him to the status of Graduate or Diplomate for the purpose of admission.

2. General Course Rules – see page 121.

3. For a registered student the duration of the course will normally be four semesters of part-time study with a total of 540 hours of classes and supervised exercises. The subjects are as follows: however, the sequence and availability of these subjects shall be determined by the Head of Department depending on enrolments.

		Approx. Formal Hrs/wk.
Semester 1 – Autumn		
BEP560	Introduction to Environmental Science	3
BEP564	Ecology of Man	3
BEP568	Environmental Quality	3
Semester 2 – Spring		
BEP668	Ecosystem Management	3
BEP667	Economics of Resources	3
BEP660	Environmental Politics	3
Semester 3 – Autumn		
BEP760	Administration of Environmental Protection	3
BEP766	Legislation and the Environment	3
BEP868	Environmental Impact Studies I	3
Semester 4 – Spring		
BEP767	Technology Assessment and Forecasting	3
BEP968	Environmental Impact Studies II	6

4. To qualify for the award of a Graduate Diploma candidates will be required to have satisfactorily completed four semesters of prescribed study. Grades of passes will not be awarded. 'W' awards may be made where a candidate must raise the standard of his work in order to achieve a passing grade.

5. Portions of the practical and tutorial content of the course may be presented in summer schools of up to two weeks duration (i.e. 90 hours), and in weekend seminars and field work sessions as convenient and appropriate.

6. Exemptions. Rules concerning the granting of exemptions are detailed under 'Rules Relating to Student Matters'. (See page 27.)

Bachelor of Applied Science courses

CHJ129 BACHELOR OF APPLIED SCIENCE – APPLIED CHEMISTRY

1. Entrance Requirements – see page90.

2. General Course Rules – see page 121.

3. The course has undergone considerable revision in conjunction with the 1978 accreditation. The revised version of the course, which is referred to as the "new course", commenced in 1979, and will be introduced progressively on a semester by semester basis during 1979 to 1981 for the full-time course and during the period 1979 to 1984 for the part-time course. As each new semester of the new course is introduced, the corresponding semester of the old course will be phased out.

4. For a registered full-time student commencing in 1979 and subsequent years the subjects and other work comprising the curriculum are as follows –

Normal Course Program – New Course

Six semesters full-time		*Approx. Formal Hrs/wk.*
Semester 1 – Autumn		
CHB115	Analytical Chemistry I	2½
CHB145	Principles of Chemistry	3½
CHB155	Organic Chemistry I	3
MAB251	Mathematics I	4
PHB120	Physics IT	6
ASB100	Earth and Life Science	3
Semester 2 – Spring		
CHB215	Analytical Chemistry II	2½
CHB275	Physical Chemistry	2½
CHB245	Reaction Chemistry	4
MAB160	Mathematics II	4
PHB121	Physics IIT	6
CMB101	Professional Communication A	2
	* Strand Subject (one only)	
BEB101	A,B Cell Biology	3
ESB220	C Mineralogy	3
Semester 3 – Autumn		
CHB315	Analytical Chemistry III	4
CHB355	Organic Chemistry III	4
CHB335	Inorganic Chemistry I	1
CHB375	Chemical Energetics I	4
CHB345	Spectroscopy	4
CHB326	Chemical Process Principles	2
CHB325	Transfer Operations I	1
MAB262	Computing	2
	* Strand Subject (one only)	
CHB354	A Bio-Organic Chemistry	2
BEB342	B Aquatic Ecology	3
ESB320	C Mineral Assemblages	3

		Approx. Formal Hrs/wk.
Semester 4 — Spring		
CHB445	Separation Methods	3
CHB455	Organic Chemistry IV	4
CHB435	Inorganic Chemistry II	3
CHB475	Chemical Energetics II	4
CHB425	Transfer Operations II	4
MAB257	Statistics	4
	* Strand Subject (one only)	
PNB401	A Biochemistry IV	4
BEB067	B Terrestrial Ecosystems	3
ESB403	C (Geochemistry	3
ESB421	(Soil Science	3
Semester 5 — Autumn		
CHB515	Instrumental Analysis	5
CHB555	Organic Chemistry V	5
CHB595	Materials Science I	3
CHB575	Electrochemistry	4
CHB525	Process Chemistry and Economics	3
MNB040	Management	1
	* Strand Subjects (one only)	
MSB450	A Microbiology III	3
BEB065	B Dynamics of Populations	3
CHB514	(Minerals Analysis	3
ESB520	C (Applied Geochemistry	3
ESB530	(Ore Deposits	3
Semester 6 — Spring		
CHB615	Advanced Analysis	3
CHB675	Surface Chemistry	2
CHB695	Materials Science II	4
CHB625	Chemical Process Technology	2
CHB605	Projects	8
CHB565	Industrial Visits	1
	+ Chemistry Elective (one only)	
CHB635	Advanced Inorganic Chemistry	3
CHB655	Advanced Organic Chemistry	3
CHB676	Advanced Physical Chemistry	3
CHB685	Food Science	3
CHB645	Biochemical Technology	3
CHB646	Energy Technology	3
MNB053	Technological Management	3
	* Strand Subject (one only)	
MSB453	A Microbiology IVB	3
CHB647	B Environmental Chemistry	3
CHB626	C (Minerals Technology	3
ESB411	(Earth Resources	3

* *Elective strand is indicated by A, B or C.*

\+ *It is not intended that all Chemistry Elective units will be offered. Those units offered in any one year will be determined by the student demand.*

5. For a registered part-time student commencing in 1979 and subsequent years, the subjects and other work comprising the curriculum are as follows —

Normal Course Program — New Course

Twelve semesters part-time			*Approx. Formal Hrs/wk.*
Semester 1 — Autumn			
CHB115		Analytical Chemistry I	2½
CHB145		Principles of Chemistry	3½
PHB120		Physics IT	6
Semester 2 — Spring			
CHB215		Analytical Chemistry II	2½
CHB155		Organic Chemistry I	3
MAB251		Mathematics I	4
CMB101		Professional Communication A	2
Semester 3 — Autumn			
CHB245		Reaction Chemistry	4
MAB160		Mathematics II	4
ASB100		Earth and Life Science	3
Semester 4 — Spring			
CHB275		Physical Chemistry	2½
PHB121		Physics IIT	6
		* Strand Subject (one only)	
BEB101	A,B	Cell Biology	3
ESB220	C	Mineralogy	3
Semester 5 — Autumn			
CHB355		Organic Chemistry III	4
CHB335		Inorganic Chemistry I	1
CHB345		Spectroscopy	4
MAB262		Computing	2
Semester 6 — Spring			
CHB445		Separation Methods	3
CHB435		Inorganic Chemistry II	3
MAB257		Statistics	4
		* Strand Subject (one only)	
CHB354	A	Bio-Organic Chemistry	2
BEB342	B	Aquatic Ecology	3
ESB403	C (	Geochemistry	3
ESB421	(	Soil Science	3
Semester 7 — Autumn			
CHB315		Analytical Chemistry III	4
CHB375		Chemical Energetics I	4
CHB326		Chemical Process Principles	2
		* Strand Subject (one only)	
PNB401	A	Biochemistry IV	4
BEB067	B	Terrestrial Ecosystems	3
ESB320	C	Mineral Assemblages	3

			Approx. Formal Hrs/wk.
Semester 8 — Spring			
CHB455		Organic Chemistry IV	4
CHB475		Chemical Energetics II	4
CHB325		Transfer Operations I	1
	*	Strand Subject (one only)	
MSB450	A	Microbiology III	3
BEB065	B	Dynamics of Populations	3
CHB514	C (	Minerals Analysis	3
ESB411	(	Earth Resources	3
Semester 9 — Autumn (first offered in 1983)			
CHB575		Electrochemistry	4
CHB555		Organic Chemistry V	5
CHB425		Transfer Operations II	4
Semester 10 — Spring (first offered in 1983)			
CHB515		Instrumental Analysis	5
CHB595		Materials Science I	3
CHB675		Surface Chemistry	2
CHB525		Process Chemistry & Economics	3
Semester 11 — Autumn (first offered in 1984)			
CHB695		Materials Science II	4
CHB609		Projects	4
MNB040		Management	1
	*	Strand Subject (one only)	
MSB453	A	Microbiology IVB	3
CHB647	B	Environmental Chemistry	3
CHB626	(	Minerals Technology	3
ESB520	C (	Applied Geochemistry	3
ESB530	(	Ore Deposits	3
Semester 12 — Spring (first offered in 1984)			
CHB615		Advanced Analysis	3
CHB625		Chemical Process Technology	2
CHB609		Projects	4
CHB565		Industrial Visits	1
	+	Chemistry Elective (one only)	
CHB635		Advanced Inorganic Chemistry	3
CHB655		Advanced Organic Chemistry	3
CHB676		Advanced Physical Chemistry	3
CHB685		Food Science	3
CHB645		Biochemical Technology	3
CHB646		Energy Technology	3
MNB053		Technological Management	3

* *Elective Strand is indicated by A, B or C.*

\+ *It is not intended that all Chemistry Elective units will be offered. Those units offered in any one year will be determined by the student demand.*

6. Before entering semester 7 and sugsequent semesters as defined in rule 5, a part-time student must be employed in an approved laboratory.

7. For a registered part-time student who commenced the course prior to 1979, the subjects and other work comprising the curriculum are as follows:—

Normal Course Program — Old Course

Twelve Semesters part-time

		Approx. Formal Hrs/wk.
Semester 11 — Autumn (to be offered in 1983 only)		
CHB510	Analytical Chemistry V	5
CHB650	Organic Chemistry VI	2
CHB600	* Projects	3
	Either:	
ESB520	Applied Geochemistry OR	3
MSB453	Microbiology IVB	3
Semester 12 — Spring (to be offered in 1983 only)		
CHB610	Analytical Chemistry VI	2
CHB670	Physical Chemistry VI	2
CHB600	* Projects	7
CHB660	Industrial Visits	1

* *CHB600 Projects is a two semester unit in the evening programme. This unit must be studied in consecutive semesters.*

8. Before entering semester 7 and subsequent semesters as defined in rule 7, a part-time student must be employed in an approved laboratory.

9. *Progression of Students in the Old Course*

Students failing units in the old course will be required to re-enrol for that unit at the earliest opportunity in order to recover that unit before it is phased out.

Where recovery of the same unit is not possible the student will be required to consult the Head of Department and enrol for an equivalent unit in the new course. In general, the following list of units will be considered equivalent for the purpose of student progression.

Table of Equivalent Subjects

Old Course Unit	New Course Unit
Semester 1 —	
CHB110 Analytical Chemistry I	CHB115 Analytical Chemistry I
CHB130 Inorganic Chemistry I) CHB170 Physical Chemistry I)	CHB145 Principles of Chemistry
CHB150 Organic Chemistry I	CHB155 Organic Chemistry I
MAB251 Mathematics I	MAB251 Mathematics I
PHB120 Physics IT	PHB120 Physics IT
Semester 2 —	
CHB210 Analytical Chemistry II	CHB215 Analytical Chemistry II
CHB250 Organic Chemistry II	CHB245 Reaction Chemistry
CHB270 Physical Chemistry II	CHB275 Physical Chemistry
MAB160 Mathematics II	MAB160 Mathematics II
PHB121 Physics IIT	PHB121 Physics IIT
ESB210 Geology	ASB100 Earth and Life Science **plus** ESB220 Mineralogy
BEB100 Biology	ASB100 Earth and Life Science **plus** BEB101 Cell Biology
Semester 3 —	
CHB310 Analytical Chemistry III	CHB315 Analytical Chemistry III
CHB330 Metal Complexes III	CHB335 Inorganic Chemistry I
CHB350 Organic Chemistry III	CHB355 Organic Chemistry III
CHB370 Molecular Dynamics III	CHB375 Chemical Energetics I
MAB262 Computing	MAB262 Computing
CMB101 Professional Communication A	CMB101 Professional Communication A
MNB041 Introduction to Business	MNB040 Management
PNB405 Biochemistry III	CHB354 Bio-Organic Chemistry
ESB310 Mineralogy III	ESB220 Mineralogy
Semester 4 —	
CHB410 Analytical Chemistry IV	CHB445 Separation Methods
CHB420 Chemical Process Principles IV	CHB325 Transfer Operations I **plus** CHB326 Chemical Process Principles
CHB430 The Metals IV	CHB335 Inorganic Chemistry I
CHB450 Industrial Organic Chemistry IV	CHB455 Organic Chemistry IV
CHB470 Phase Chemistry IV	CHB475 Chemical Energetics II
MAB257 Statistics	MAB257 Statistics
PNB406 Biochemistry IVA	PNB401 Biochemistry IV
ESB410 Mineralogy	ESB320 Mineral Assemblages
Semester 5 —	
CHB510 Analytical Chemistry V	CHB515 Instrumental Analysis
CHB520 Chemical Technology V	CHB425 Transfer Operations II
CHB530 Inorganic Chemistry V	CHB435 Inorganic Chemistry II
CHB550 Organic Chemistry V	CHB695 Materials Science II
CHB570 Physical Chemistry V	CHB575 Electrochemistry
ESB510 Economic Geology	ESB403 Geochemistry
PNB450 Microbiology III	MSB450 Microbiology III

Old Course Unit		New Course Unit	
Semester 6 –			
CHB610	Analytical Chemistry VI	CHB615	Advanced Analysis
CHB620	Chemical Technology VI	CHB625	Chemical Process Technology
CHB630	Inorganic Chemistry VI	CHB635	Advanced Inorganic Chemistry
CHB650	Organic Chemistry VI	CHB655	Advanced Organic Chemistry
CHB670	Physical Chemistry VI	CHB675	Surface Chemistry
CHB660	Industrial Visits	CHB565	Industrial Visits
CHB600	Projects	CHB605	Projects, OR
		CHB609	Projects
ESB610	Economic Geology VI	ESB520	Applied Geochemistry
PNB453	Microbiology IVB	MSB453	Microbiology IVB

10. Pre-requisites and Co-requisites – see page **191.**

ESJ132 BACHELOR OF APPLIED SCIENCE – APPLIED GEOLOGY

1. Entrance Requirements – see page 90.

2. General Course Rules – see page 121.

3. A registered student may only enrol in the full-time course.

4. For a registered student the subjects and other work comprising the curriculum of the six semesters of study are as follows –

		Approx. Formal Hrs/wk.
Semester 1 – Autumn		
ESB113	Earth Science I	6
CHB141	Chemistry I	6
PHB101	Physics IS	3
PHB106	Experimental Physics I	3
MAB251	Mathematics I	4
CMB101	Professional Communication A	2
Semester 2 – Spring		
ESB213	Earth Science II	6
CHB241	Chemistry II	6
PHB201	Physics IIS	3
PHB206	Experimental Physics II	3
MAB162	Mathematics IIG	2
MAB252	Statistics	2
CMB102	Professional Communication B	2
Semester 3 – Autumn		
MAB258	Experimental Design	2
ESB313	Mineralogy	4
ESB393	Field Techniques	3
SVB303	Surveying for Geologists	3
ESB353	Structural Geology III	2
ESB363	Economic Geology III	4
MNB025	Economic Analysis for Geologists	2
CHB343	Chemistry for Geologists III	4
ESB383	Field Excursions III	1
Semester 4 – Spring		
ESB403	Geochemistry	3
ESB413	Petrology IV	4
ESB493	Stratigraphy & Sedimentation	5
ESB433	Geophysics	2
ESB443	Introduction to Groundwater and Petroleum	3
ESB473	Law for Geologists	2
CHB443	Chemistry for Geologists IV	3
ESB483	Field Excursions IV	1
MAB260	Introduction to Programming	2

		Approx. Formal Hrs/wk.
Semester 5 — Autumn		
ESB513	Economic Geology V	4
ESB523	Hydrogeology	3
ESB533	Exploration Geochemistry	4
ESB543	Petrology V	3
ESB593	Sedimentary Petrology	3
ESB563	Project V	3
ESB573	Field Excursions V	2
MNB026	Administration for Geologists	3
Semester 6 — Spring		
ESB613	Mineragraphy and Mining Geology	3
ESB603	Petroleum and Coal Geology	5
ESB633	Exploration Geophysics	3
ESB643	Structural Geology VI	3
ESB653	Engineering Geology	3
ESB663	Project VI	4
ESB673	Field Excursions VI	2
ESB693	Mining Property Evaluation	2

5. Pre-requisites and Co-requisites — see page 191.

BEJ131 BACHELOR OF APPLIED SCIENCE – BIOLOGY

1. Entrance Requirements – see page 90.

2. General Course Rules – see page 121.

3. For a registered student in the full-time course the subjects and other work comprising the curriculum of the six semesters of study are as follows –

		Approx. Formal Hrs/wk.
Semester 1 – Autumn		
CHB141	Chemistry I	6
MAB251	Mathematics I	4
BEB102	Biology I	6
PHB101	Physics IS	3
PHB106	Experimental Physics I	3
Semester 2 – Spring		
CHB241	Chemistry II	6
MAB254	Biometrics	5
BEB202	Biology II	6
PHB201	Physics IIS	3
PHB206	Experimental Physics II	3
Semester 3 – Autumn		
BEB322	Plant Diversity	5
BEB312	Animal Diversity	5
BEB306	Biological Systems	2
BEB358	Experimental Design	2
BEB302	Population Ecology	5
ESB321	Soil Science	4
Semester 4 – Spring		
BEB421	Plant Physiology	5
BEB411	Animal Physiology	5
BEB472	Communities and Ecosystems	5
BEB400	Introduction to Projects	1
BEB429	Vegetation Mapping	3
CHB411	Environmental Analytical Chemistry	4
Semester 5 – Autumn		
BEB564	Applied Regional Ecology I	5
BEB542	Applied Limnology	5
BEB561	Projects in Ecology I	5
BEB563	Natural Resources	3
Elective:		
ESB520	Applied Geochemistry OR	3
PNB405	Biochemistry III OR	3
an equivalent elective.		

		Approx. Formal Hrs/wk.
Semester 6 – Spring		
BEB664	Applied Regional Ecology II	5
BEB654	Population and Ecosystem Management	4
*CMB632	Professional Communication	3
	Electives to total approximately 9 hours:	
BEB660	Projects in Ecology II	6
PNB407	Biochemistry IVB	3
MSB451	Microbiology IV	6
BEB600	Selected Topics in Biology	3
	or equivalent electives	

* *Students who commenced the course prior to 1980 and who have passed CMB101 Professional Communication A and CMB102 Professional Communication B, will be required to undertake BEB600 Selected Topics in Biology in place of CMB632 Professional Communication in Semester 6.*

N.B. Elective subjects and recovery programmes must be chosen in consultation with the Head of Department or his delegate.

4. For a registered student in the part-time course, the subjects and other work of the twelve semesters of study are as above.

In the academic years 1983 and 1984, evening classes will be available in the following units –

		Approx. Formal Hrs/wk.
Semester 1 – Autumn (1984)		
CHB141	Chemistry I	6
BEB102	Biology I	6
Semester 2 – Spring (1984)		
CHB241	Chemistry II	6
BEB202	Biology II	6
Semester 3 – Autumn (1983)		
MAB251	Mathematics I	4
PHB101	Physics IS	3
PHB106	Experimental Physics I	3
Semester 4 – Spring (1983)		
MAB254	Biometrics	5
PHB201	Physics IIS	3
PHB206	Experimental Physics II	3

Evening classes in further units will be provided if there is sufficient demand. In all cases, intending students must seek the advice of the Head of Department.

5. Students may be required to attend intensive segments of course work at weekends and in QIT recess periods (normally to fulfil field work requirements of the course).

6. Pre-requisites and Co-requisites – see page 191.

CHJ130 BACHELOR OF APPLIED SCIENCE – CHEMISTRY

1. Entrance Requirements – see page 90.

2. General Course Rules – see page 121.

3. For a registered student in the full-time course the subjects and other work comprising the curriculum of the six semesters of study are as follows –

		Approx. Formal Hrs/wk.
Semester 1 – Autumn		
CHB141	Chemistry I	6
CMB101	Professional Communication A	2
MAB251	Mathematics I	4
PHB101	Physics IS	3
PHB106	Experimental Physics I	3
Elective subject (see notes 3.1 and 3.2) Either:		
ESB113	Earth Science I OR	6
BEB102	Biology I	6
or any equivalent subject		
Semester 2 – Spring		
CHB241	Chemistry II	6
CMB102	Professional Communication B	2
MAB160	Mathematics II	4
PHB201	Physics IIS	3
PHB206	Experimental Physics II	3
Elective subject (see notes 3.1 and 3.2) Either:		
ESB213	Earth Science II OR	6
BEB202	Biology II	6
or any equivalent subject		
Semester 3 – Autumn		
CHB336	Inorganic Chemistry IIIC	1
CHB356	Organic Chemistry IIIC	3
CHB376	Physical Chemistry IIIC	3
CHB345	Spectroscopy	4
Electives: (see notes 3.1 and 3.2)		
MAB302	Calculus and Analysis B	3
MAB331	Introductory Vector Analysis	3
MAB459	Mathematics IIIP	6
MAB615	Topics in Mathematics IIA	3
MAB305	Introduction to Computing A	4
MAB309	Modern Algebra	3
MAB310	Linear Algebra	3
PHB304	Physics III	4
PHB306	Experimental Physics III	5
PHB307	Experimental Electronics	3
ESB313	Mineralogy OR	4
ESB320	Mineral Assemblages	3

		Approx. Formal Hrs/wk.
BEB306	Biological Systems	2
BEB312	Animal Diversity	5
BEB322	Plant Diversity	5
CHB354	Bio-Organic Chemistry	2
PNB430	Human Physiology A	4

or any equivalent subject

Semester 4 — Spring

CHB436	Inorganic Chemistry IVC	3
CHB456	Organic Chemistry IVC	3½
CHB476	Physical Chemsitry IVC	3½
CHB445	Separation Methods	3
Electives: (see notes 3.1 and 3.2)		
MAB342	Mathematics of Finance	3
MAB460	Mathematics IVP	6
MAB601	Multivariable Calculus A	3
MAB602	Multivariable Calculus C	3
MAB257	Statistics	4
MAB306	Introduction to Computing B	4
PHB401	Physics IVA OR	3
PHB403	Physics IVC	4
PHB402	Physics IVB	3
PHB406	Experimental Physics IV	5
ESB413	Petrology IV OR	4
ESB421	Soil Science	4
BEB411	Animal Physiology	5
BEB421	Plant Physiology	5
BEB472	Communities and Ecosystems	5
PNB401	Biochemistry IV	4
MSB450	Microbiology III	3
PNB431	Human Physiology B	4

or any equivalent subject

Semester 5 — Autumn

CHB516	Analytical Chemistry	4
CHB556	Organic Chemistry VC	5
CHB576	Physical Chemistry VC	4
Electives: (see notes 3.1 and 3.2)		
MAB607	Mathematical Statistics IIA	3
MAB617	Applied Differential Equations	3
MAB635	Classical Theoretical Mechanics	3
MAB759	Mathematics VP	2

Semester 5 – Autumn (cont.)		*Approx. Formal Hrs/wk.*
MAB613	Numerical Analysis IA	3
MAB627	Operations Research IA	4
MAB659	Computer Logic	4
PHB502	Physics VB	3
PHB503	Physics VC	3
PHB504	Electronics	6
ESB520	Applied Geochemistry	3
BEB563	Natural Resources	3
MSB737	Basic Immunology	4
CHB515	Instrumental Analysis	5

or any equivalent subject

Semester 6 – Spring		
CHB636	Inorganic Chemistry VIC	2
CHB656	Organic Chemistry VIC	2
CHB677	Physical Chemistry VIC	2
CHB675	Surface Chemistry	2
CHB696	Solid State Chemistry	3
	Electives: see note 3.1	
MAB604	Complex Variables	3
MAB608	Mathematical Statistics IIB	3
MAB636	Introductory Advanced Dynamics	3
MAB606	Computers and Programming	4
MAB614	Numerical Analysis IB	3
MAB927	Operations Research IIA	3
PHB602	Physics VIB	3
PHB611	Astronomy	3
ESB411	Earth Resources	3
MSB452	Microbiology IVA OR	3
MSB453	Microbiology IVB	3

or any equivalent subject

Notes:

3.1 A number of suitable elective subjects are shown for each semester of the program and they are grouped according to the parent department. The list is not exhaustive and the groupings should not be read as rigid combinations. Students may choose any appropriate combination of electives, subject to availability, pre-requisite requirements and time-tabling restrictions. In choosing elective subjects the following should be noted:–

3.1.1 Students who have studied appropriate Senior level mathematics units may wish to choose mathematics electives in the first year instead of those suggested. Such students should consult with the Head of the Department of Mathematics.

3.1.2 Some of the elective subjects listed for Semesters 3 - 6 may also be available in the semester other than the one under which it is listed.

3.1.3 Elective subjects studied in Semesters 3 - 6 should involve formal contact hours totalling between 35 and 46.

3.1.4 Programs in Semesters 3 - 6 should be organised so that the total formal contact hours in any one semester do not exceed 25.

3.1.5 For the purpose of computing the elective hours for the award of B.App.Sc. (Chemistry) degree (Rule 3.1.3), any 3 formal hour/week unit selected from the MAJ133 B.App.Sc. (Mathematics) course in which a one hour tutorial is offered is to be considered as a 4 hour/week unit.

3.2 Students should refer to the 'Course Structure Diagram' (item 5) for guidance in selection of their study program. Before commencing Semester 3, students must consult a staff member nominated by the Head of Chemistry Department to discuss their study program for the remainder of the course.

4. For a registered student in the part-time course the subjects and other work of the twelve semesters of study are as follows—

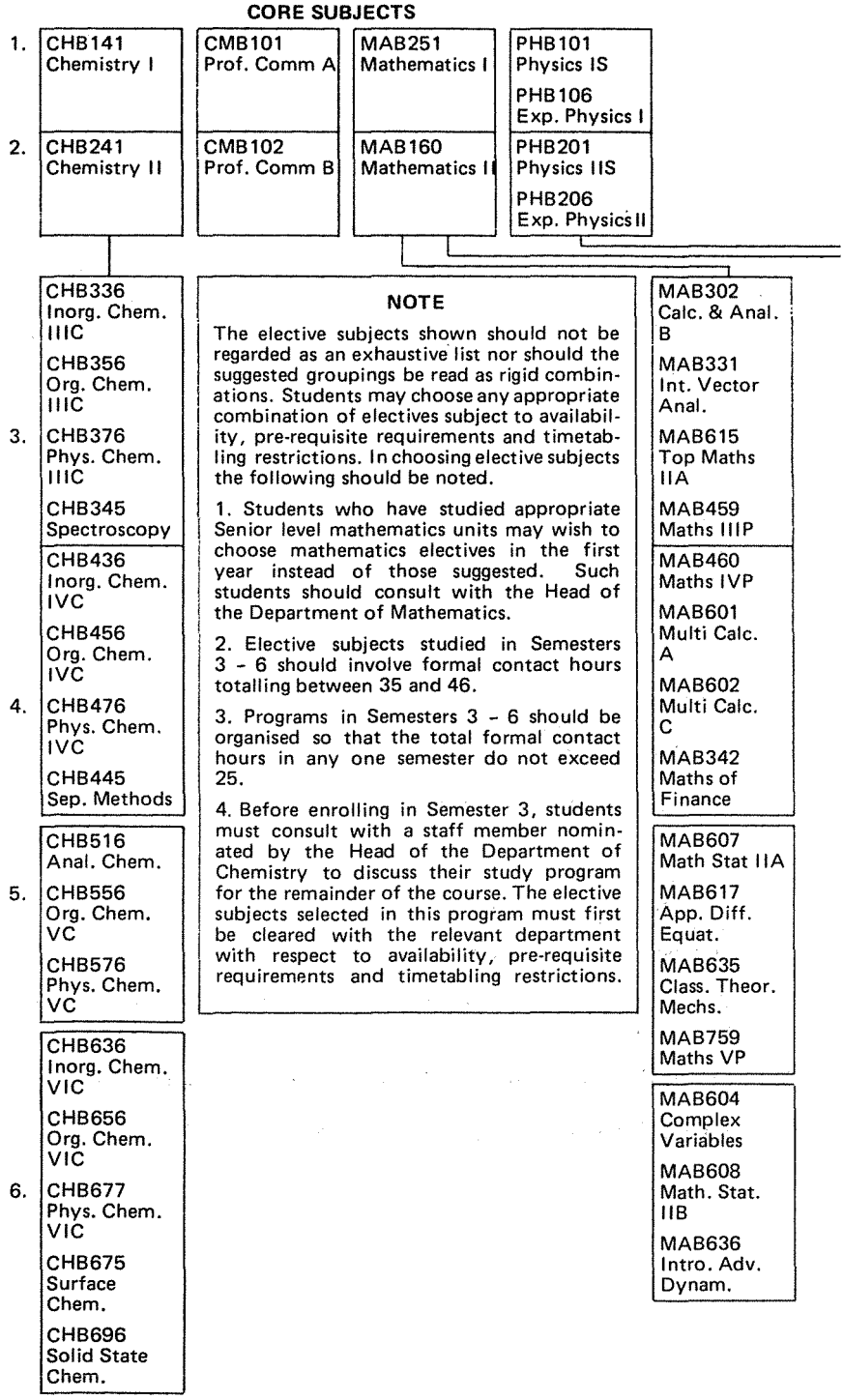
		Approx. Formal Hrs/wk.
Semester 1 — Autumn (1984)		
CHB141	Chemistry I	6
BEB102	Biology I	6
Semester 2 — Spring (1984)		
CHB241	Chemistry II	6
BEB202	Biology II	6
Semester 3 — Autumn (1983)		
CMB101	Professional Communication A	2
MAB251	Mathematics I	4
PHB101	Physics IS	3
PHB106	Experimental Physics I	3
Semester 4 — Spring (1983)		
CMB102	Professional Communication B	2
MAB160	Mathematics II	4
PHB201	Physics IIS	3
PHB206	Experimental Physics	3

Conduct of the fifth and subsequent semesters of this course on a part-time basis will depend upon the number of enrolments received.

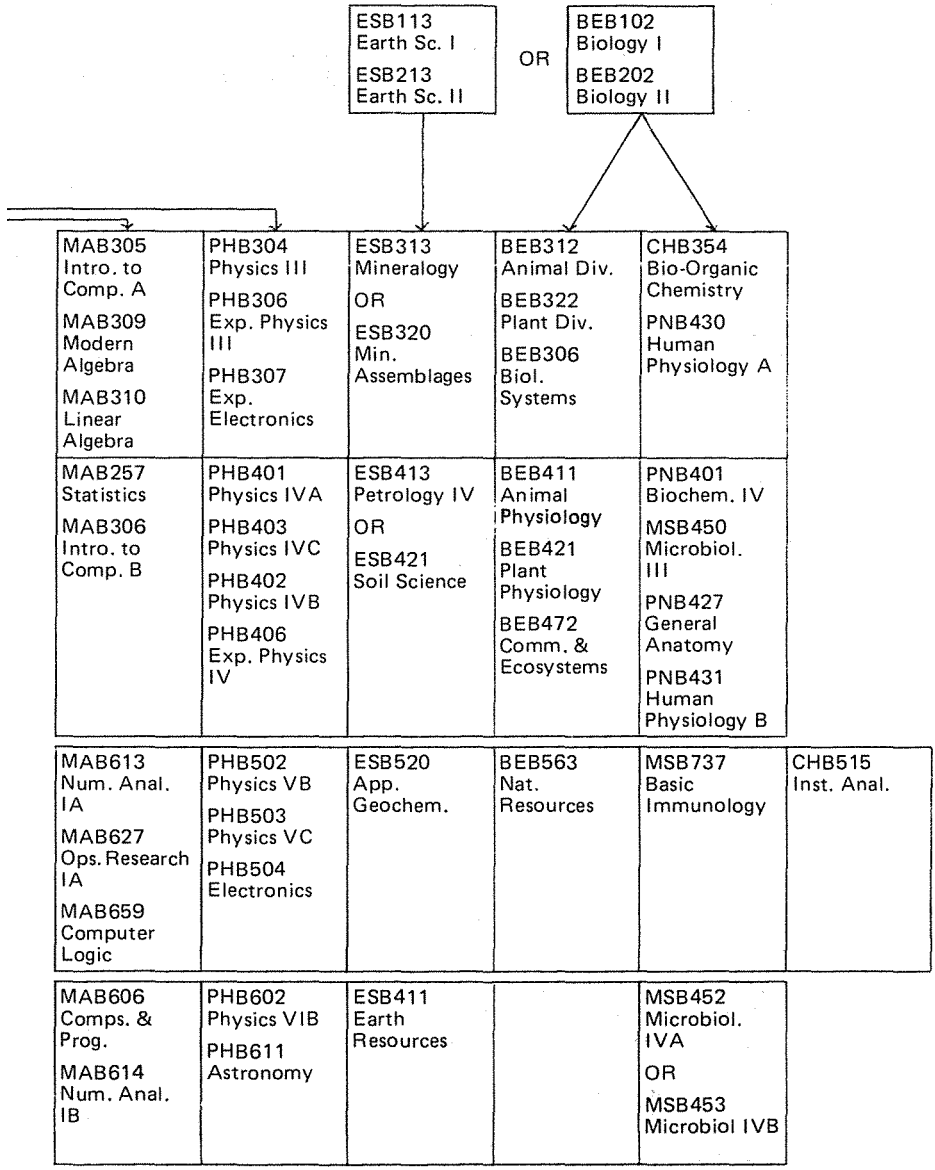
5. COURSE STRUCTURE DIAGRAM — see pages **160** and **161.**

6. Pre-requisites and Co-requisites — see page **191.**

5. COURSE STRUCTURE DIAGRAM



ELECTIVE SUBJECTS



MAJ128 BACHELOR OF APPLIED SCIENCE – COMPUTING

1. Entrance Requirements – see page 90.

2. General Course Rules – see page 121.

3. For a registered student in the full-time course, the subjects and other work comprising the curriculum of the six semesters of study are as follows –

Normal Course Program –

Six semesters full-time –

		Approx. Formal Hrs/wk.
Semester 1 – Autumn		
MAB351	Introduction to Computing A	4
MAB355	Basic Mathematics A	4
MAB357	Applied Statistical Methods A	4
ACB181	Accounting Information Systems I	4
CMB106	Professional Communication	2
Semester 2 – Spring		
ACB297	Introduction to Computing B	4
MAB354	Computers and Programming	4
MAB356	Basic Mathematics B	4
MAB358	Applied Statistical Methods B	4
ACB281	Accounting Information Systems II	4
Semester 3 – Autumn		
MAB659	Computer Logic	4
MAB653	Data Structures	4
MAB655	Numerical Analysis IA	4
MAB657	Operations Research IA	4
ACB396	Information Systems A	4
Semester 4 – Spring		
MAB652	Computer Organisation I	4
MAB654	Programming Languages	4
MAB656	Numerical Analysis IB	4
MAB658	Operations Research IB	4
ACB496	Information Systems B	4
Semester 5 – Autumn		
MAB951	Systems Programming A	4
MAB953	Computer Organisation II	4
MAB959	Systems Performance Optimization	4
	# Elective	4
	# Elective	4
Semester 6 – Spring		
MAB952	Systems Programming B	4
MAB960	Project Work	4
ACB696	Information Systems C	4
	# Elective	4
	# Elective	4

To be chosen from:

MAB956	Numerical Analysis II
MAB957	Operations Research IIA
MAB958	Operations Research IIB
MAB961	Special Studies
MNB081	Management
MNB091	Marketing
MAB608	Mathematical Statistics IIB

4. For a registered student in the part-time course, the subjects and other work comprising the curriculum of the twelve semesters of study are as follows –

Normal Course Program –

Twelve semesters part-time –

		Approx. Formal Hrs/wk.
Semester 1 – Spring		
MAB351	Introduction to Computing A	4
ACB181	Accounting Information Systems I	4
CMB106	Professional Communication	2
Semester 2 – Autumn		
ACB297	Introduction to Computing B	4
ACB281	Accounting Information Systems II	4
Semester 3 – Spring		
MAB355	Basic Mathematics A	4
MAB357	Applied Statistical Methods A	4
Semester 4 – Autumn		
MAB354	Computers and Programming	4
MAB356	Basic Mathematics B	4
MAB358	Applied Statistical Methods B	4
Semester 5 – Spring		
MAB659	Computer Logic	4
MAB653	Data Structures	4
ACB396	Information Systems A	4
Semester 6 – Autumn		
MAB652	Computer Organisation I	4
ACB496	Information Systems B	4
Semester 7 – Spring		
MAB655	Numerical Analysis IA	4
MAB657	Operations Research IA	4
Semester 8 – Autumn		
MAB654	Programming Languages	4
MAB656	Numerical Analysis IB	4
MAB658	Operations Research IB	4
Semester 9 – Spring		
MAB951	Systems Programming A	4
MAB953	Computer Organisation II	4
MAB959	Systems Performance Optimization	4

		Approx. Formal Hrs/wk.
Semester 10 – Autumn		
MAB952	Systems Programming B	4
ACB696	Information Systems C	4
Semester 11 – Spring		
	# Elective	4
	# Elective	4
Semester 12 – Autumn		
MAB960	Project Work	4
	# Elective	4
	# Elective	4

To be chosen from:

MAB956	Numerical Analysis II
MAB957	Operations Research IIA
MAB958	Operations Research IIB
MAB961	Special Studies
MNB081	Management
MNB091	Marketing
MNB608	Mathematical Statistics IIB

5. Pre-requisites and Co-requisites – see page 191.

MAJ133 BACHELOR OF APPLIED SCIENCE – MATHEMATICS

1. Entrance Requirements – see page 90.

2. General Course Rules – see page 121.

3. Criteria for the Award of the Degree of Bachelor of Applied Science – Mathematics.

   To be eligible for the award of the degree of Bachelor of Applied Science – Mathematics, a registered student will have successfully completed a study programme which is in accord with the following criteria:

   The course of study will comprise subject units selected from the list given below, having regard to specified pre-requisites and co-requisites and include:
   (i) all mandatory units;
   (ii) at least 14 units above first year level;
   (iii) at least 4 units above second year level;
   (iv) at least 28 units having a minimum total tuition time of 84 semester hours of scheduled lecture/practical work.

First year level –			*Approx. Formal Hrs/wk.*
MAB301	*	Calculus and Analysis A	3
MAB302	*	Calculus and Analysis B	3
MAB305	*	Introduction to Computing A	3
MAB306	*	Introduction to Computing B	3
MAB331	*	Introductory Vector Analysis	3
MAB310	*	Linear Algebra	3
MAB342	*	Mathematics of Finance	3
MAB317	*	Mathematical Statistics I	3
MAB318	*	Mathematical Statistics IIA	3
MAB309	*	Modern Algebra	3
	*	First year elective units	3-6
	*	First year elective units	3-6
		First year elective units	3-6
		First year elective units	3-6
Second year level –			
MAB601	*	Multivariable Calculus A	3
MAB612	*	Differential Equations	3
MAB602		Multivariable Calculus C	3
MAB604		Complex Variables	3
MAB606		Computers and Programming	3
MAB608		Mathematical Statistics IIB	3
MAB609		Algebraic Structures	3
MAB610		Applied Linear Algebra	3
MAB613		Numerical Analysis IA	3
MAB614		Numerical Analysis IB	3
MAB627		Operations Research IA	3
MAB628		Operations Research IB	3

Second year level (cont'd.) –		*Approx. Formal Hrs/wk.*
MAB635	Classical Theoretical Mechanics	3
MAB641	Actuarial Mathematics	3
CMB104	Professional Communication	3
	Second year elective units	3-9
	Second year elective units	3-9
Third year level –		
MAB906	Topics in Analysis	3
MAB907	Mathematical Statistics IIIA	3
MAB908	Mathematical Statistics IIIB	3
MAB913	Numerical Analysis II	3
MAB921	Methods of Mathematical Physics A	3
MAB922	Methods of Mathematical Physics B	3
MAB924	Applied Statistical Techniques	3
MAB927	Operations Research IIA	3
MAB928	Operations Research IIB	3
MAB929	Statistical Forecasting	3
MAB935	Continuum Mechanics	3
MAB941	Methods of Mathematical Economics	3
MAB960	Project Work	3

NOTE:

(i) The units which are asterisked are mandatory; the remainder are referred to as optional; optional units include approved elective units offered by other Departments (see (ii)).

(ii) The choice of 'elective units' will be subject to timetabling constraints but elective groupings for which timetabling arrangements may be expected to be made will include selections from the programmes offered by the following Departments – Physics, Chemistry, Biology and Environmental Science, Applied Geology, Accountancy and Management. No more than four elective units may be counted as second year level subjects. Students are required to consult the Head of Department prior to their initial enrolment in an elective unit.

(iii) For the purpose of this rule, when computing the total semester hours for a particular programme, the numerals in the above table which indicate the semester hours applicable to particular units will be used.

4. For a registered student in the full-time course, a normal mode of progression which enables the units and other work comprising the curriculum of the six semesters of study to be completed in the standard time is as follows –

Example of possible course.

FIRST YEAR		*Approx. Formal Hrs/wk.*
Semester 1 – Autumn (Total semester Hrs/wk. – 15)		
MAB301	Calculus and Analysis A	3
MAB305	Introduction to Computing A	3
MAB309	Modern Algebra	3
MAB317	Mathematical Statistics I	3
MAB331	Introductory Vector Analysis	3

		Approx. Formal Hrs/wk.
Semester 2 — Spring (Total semester Hrs/wk. — 15)		
MAB302	Calculus and Analysis B	3
MAB306	Introduction to Computing B	3
MAB310	Linear Algebra	3
MAB318	Mathematical Statistics IIA	3
MAB342	Mathematics of Finance	3

SECOND YEAR

Semester 3 — Autumn (Total semester Hrs/wk. — 15-21)		
MAB601	Multivariable Calculus A	3
	First year elective unit	3-6
	Three subject units chosen from among the following:	
MAB608	Mathematical Statistics IIB	3
MAB609	Algebraic Structures	3
MAB613	Numerical Analysis IA	3
MAB627	Operations Research IA	3
MAB635	Classical Theoretical Mechanics	3
MAB641	Actuarial Mathematics	3
CMB104	Professional Communication	3
	First year elective unit/s	3-6
Semester 4 — Spring (Total semester Hrs/wk. — 15-21)		
MAB612	Differential Equations	3
	First year elective unit	3-6
	Three subject units chosen from among the following:	
MAB602	Multivariable Calculus C	3
MAB604	Complex Variables	3
MAB606	Computers and Programming	3
MAB608	Mathematical Statistics IIB	3
MAB610	Applied Linear Algebra	3
MAB614	Numerical Analysis IB	3
MAB628	Operations Research IB	3
	First year elective unit/s	3-6

THIRD YEAR

Semester 5 — Autumn (Total semester Hrs/wk. — 12-18)		
	Four subject units chosen from among the following:	
MAB608	Mathematical Statistics IIB	3
MAB609	Algebraic Structures	3
MAB613	Numerical Analysis IA	3
MAB627	Operations Research IA	3
MAB635	Classical Theoretical Mechanics	3
MAB641	Actuarial Mathematics	3
MAB907	Mathematical Statistics IIIA	3
MAB921	Methods of Mathematical Physics A	3
MAB927	Operations Research IIA	3
MAB929	Statistical Forecasting	3
MAB935	Continuum Mechanics	3
MAB941	Methods of Mathematical Economics	3
CMB104	Professional Communication	3
	First year elective unit	3-6
	Second year elective unit/s	3-9

Semester 6 — Spring (Total semester Hrs/wk. — 12-18)		*Approx. Formal Hrs/wk.*
	Four subject units chosen from among the following:	
MAB602	Multivariable Calculus C	3
MAB604	Complex Variables	3
MAB606	Computers and Programming	3
MAB608	Mathematical Statistics IIB	3
MAB610	Applied Linear Algebra	3
MAB614	Numerical Analysis IB	3
MAB628	Operations Research IB	3
MAB906	Topics in Analysis	3
MAB908	Mathematical Statistics IIIB	3
MAB913	Numerical Analysis II	3
MAB922	Methods of Mathematical Physics B	3
MAB924	Applied Statistical Techniques	3
MAB928	Operations Research IIB	3
MAB960	Project Work	3
	First year elective unit	3-6
	Second year elective unit/s	3-9

NOTE:

(i) Students must consult the Head of Department prior to initial enrolment in elective units to ensure that they are fully aware of the particular knowledge requirements specified for the professions serviced by the course.

5. For a registered student in the part-time course commencing in the Autumn Semester a normal mode of progression which enables the units and other work comprising the curriculum of the twelve semesters of study to be completed in the standard time is as follows—

Example of possible course.

FIRST YEAR		*Approx. Formal Hrs/wk.*
Semester 1 — Autumn (Total semester Hrs/wk. — 6)		
MAB310	Linear Algebra	3
MAB342	Mathematics of Finance	3
Semester 2 — Spring (Total semester Hrs/wk. — 9)		
MAB301	Calculus and Analysis A	3
MAB305	Introduction to Computing A	3
MAB317	Mathematical Statistics I	3
Semester 3 — Autumn (Total semester Hrs/wk. — 9)		
MAB302	Calculus and Analysis B	3
MAB306	Introduction to Computing B	3
MAB318	Mathematical Statistics IIA	3
Semester 4 — Spring (Total semester Hrs/wk. — 6)		
MAB309	Modern Algebra	3
MAB331	Introductory Vector Analysis	3
Semester 5 — Autumn (Total semester Hrs/wk. — 6-9)		
MAB612	Differential Equations	3
	First year elective unit	3-6

		Approx. Formal Hrs/wk.
Semester 6 — Spring (Total semester Hrs/wk. — 6-9)		
MAB601	Multivariable Calculus A	3
	First year elective unit	3-6
Semester 7 — Autumn (Total semester Hrs/wk. — 6-9)		
	A maximum of three subject units chosen from among the following:	
MAB606	Computers and Programming	3
MAB608	Mathematical Statistics IIB	3
MAB609	Algebraic Structures	3
MAB613	Numerical Analysis IA	3
MAB614	Numerical Analysis IB	3
MAB627	Operations Research IA	3
MAB628	Operations Research IB	3
MAB635	Classical Theoretical Mechanics	3
MAB641	Actuarial Mathematics	3
	First year elective unit	3-6
	Second year elective unit/s	3-9
Semester 8 — Spring (Total semester Hrs/wk. — 6-9)		
	Two subject units chosen from among the following:	
MAB602	Multivariable Calculus C	3
MAB604	Complex Variables	3
MAB606	Computers and Programming	3
MAB608	Mathematical Statistics IIB	3
MAB610	Applied Linear Algebra	3
MAB613	Numerical Analysis IA	3
MAB614	Numerical Analysis IB	3
MAB627	Operations Research IA	3
MAB628	Operations Research IB	3
CMB104	Professional Communication	3
	First year elective unit	3-6
	Second year elective unit/s	3-9
Semester 9 — Autumn (Total semester Hrs/wk. — 6-9)		
	A maximum of three subject units chosen from among the following:	
MAB606	Computers and Programming	3
MAB608	Mathematical Statistics IIB	3
MAB609	Algebraic Structures	3
MAB613	Numerical Analysis IA	3
MAB614	Numerical Analysis IB	3
MAB627	Operations Research IA	3
MAB628	Operations Research IB	3
MAB635	Classical Theoretical Mechanics	3
MAB641	Actuarial Mathematics	3
MAB907	Mathematical Statistics IIIA	3
MAB913	Numerical Analysis II	3
MAB921	Methods of Mathematical Physics A	3
MAB927	Operations Research IIA	3
MAB928	Operations Research IIB	3
MAB929	Statistical Forecasting	3
MAB935	Continuum Mechanics	3
MAB941	Methods of Mathematical Economics	3
	First year elective unit	3-6
	Second year elective unit/s	3-9

		Approx. Formal Hrs/wk.
Semester 10 — Spring (Total semester Hrs/wk. — 6-9)		
	Two subject units chosen from among the following:	
MAB602	Multivariable Calculus C	3
MAB604	Complex Variables	3
MAB606	Computers and Programming	3
MAB608	Mathematical Statistics IIB	3
MAB610	Applied Linear Algebra	3
MAB613	Numerical Analysis IA	3
MAB614	Numerical Analysis IB	3
MAB627	Operations Research IA	3
MAB628	Operations Research IB	3
CMB104	Professional Communication	3
MAB906	Topics in Analysis	3
MAB908	Mathematical Statistics IIIB	3
MAB913	Numerical Analysis II	3
MAB922	Methods of Mathematical Physics B	3
MAB924	Applied Statistical Techniques	3
MAB927	Operations Research IIA	3
MAB928	Operations Research IIB	3
	First year elective unit	3-6
	Second year elective unit/s	3-9
Semester 11 — Autumn (Total semester Hrs/wk. — 6-9)		
	Two subject units chosen from among the following:	
MAB606	Computers and Programming	3
MAB608	Mathematical Statistics IIB	3
MAB609	Algebraic Structures	3
MAB613	Numerical Analysis IA	3
MAB614	Numerical Analysis IB	3
MAB627	Operations Research IA	3
MAB628	Operations Research IB	3
MAB635	Classical Theoretical Mechanics	3
MAB641	Actuarial Mathematics	3
MAB907	Mathematical Statistics IIIA	3
MAB913	Numerical Analysis II	3
MAB921	Methods of Mathematical Physics A	3
MAB927	Operations Research IIA	3
MAB928	Operations Research IIB	3
MAB929	Statistical Forecasting	3
MAB935	Continuum Mechanics	3
MAB941	Methods of Mathematical Economics	3
MAB960	Project Work	3
	First year elective unit	3-6
	Second year elective unit/s	3-9
Semester 12 — Spring (Total semester Hrs/wk. — 6-9)		
	Two subject units chosen from among the following:	
MAB602	Multivariable Calculus C	3
MAB604	Complex Variables	3
MAB606	Computers and Programming	3
MAB608	Mathematical Statistics IIB	3
MAB610	Applied Linear Algebra	3
MAB613	Numerical Analysis IA	3
MAB614	Numerical Analysis IB	3
MAB627	Operations Research IA	3
MAB628	Operations Research IB	3
CMB104	Professional Communication	3
MAB906	Topics in Analysis	3

Semester 12 — Spring (cont'd.)		*Approx. Formal Hrs/wk.*
MAB908	Mathematical Statistics IIIB	3
MAB913	Numerical Analysis II	3
MAB922	Methods of Mathematical Physics B	3
MAB924	Applied Statistical Techniques	3
MAB927	Operations Research IIA	3
MAB928	Operations Research IIB	3
MAB960	Project Work	3
	First year elective unit	3-6
	Second year elective unit/s	3-9

NOTE:

(i) Students must consult the Head of Department prior to initial enrolment in elective units to ensure that they are fully aware of the particular knowledge requirements specified for the professions serviced by the course.

(ii) Registered students may be accepted into the part-time course in the Spring Semester. A normal mode of progression in these cases is available from the Department on request.

6. Pre-requisites and Co-requisites — see page 191.

PHJ127 BACHELOR OF APPLIED SCIENCE – PHYSICS

1. Entrance Requirements – see page90.

2. General Course Rules – see page 121.

3. For a registered student in the full-time course, the subjects and other work of the six semesters of study comprising the curriculum are as follows –

Normal Course Programme –

Six semesters full-time		*Approx. Formal Hrs/wk.*
Semester 1 – Autumn		
PHB101	Physics IS	3
PHB106	Experimental Physics I	3
CHB141	Chemistry I	6
CMB101	Professional Communication A	2
MAB251	Mathematics I	4
	Elective subject(s)	6
	Suitable units are:	
BEB102	Biology I	6
ESB113	Earth Science I	6
MNB181	Australian National Government B	3
MNB232	Macroeconomic Analysis	3
CMB191	Fundamentals of Photography	3
MNB103	Management I	3
MNB101	Applied Psychology	3
MAB310	Linear Algebra	3
ASB100	Earth and Life Science	3
	OR another elective*	3

*The Head of Department is available for consultation with regard to programme selection.

Semester 2 – Spring		
PHB201	Physics IIS	3
PHB206	Experimental Physics II	3
CHB241	Chemistry II	6
CMB102	Professional Communication B	2
MAB160	Mathematics II	4
	Elective Subject(s)	6
	Suitable units are:	
BEB202	Biology II	6
ESB213	Earth Science II	6
MNB181	Australian National Government B	3
MNB232	Macroeconomic Analysis	3
CMB191	Fundamentals of Photography	3
MNB201	Introduction to Human Resource Management	3
MNB103	Management I	3
MNB133	General Economics	3
MNB203	Management II	3
MAB309	Modern Algebra	3
PNB120	Human Cytology	6
MNB101	Applied Psychology	3
	OR another elective*	3

*The Head of Department is available for consultation with regard to programme selection.

Semester 3 – Autumn		*Approx. Formal Hrs/wk.*
PHB304	Physics III	4
PHB306	Experimental Physics III	5
MAB459	Mathematics IIIP	6
PHB307	Experimental Electronics	3
MEB371	Workshop Technology	3
MAB305	Introduction to Computing A	3
Semester 4 – Spring		
PHB401	Physics IVA	3
PHB402	Physics IVB	3
PHB406	Experimental Physics IV	5
MAB252	Statistics	2
MAB460	Mathematics IVP	6
	Elective subject	3-6
	Suitable units are:	
ESB411	Earth Resources	4
ESB421	Soil Science	4
MAB655	Numerical Analysis IA	4
Semester 5 – Autumn		
PHB501	Physics VA	3
PHB502	Physics VB	3
PHB503	Physics VC	3
PHB504	Electronics	6
PHB506	Experimental Physics V	8
MAB759	Mathematics VP	2
Semester 6 – Spring		
PHB601	Physics VIA	3
PHB602	Physics VIB	3
PHB603	Physics VIC	2
PHB606	Experimental Physics VI	9
	*Electives (TWO of the following):	
PHB607	Materials	3
PHB608	Applied Acoustics	3
PHB609	Radiation Physics A	3
PHB611	Astronomy	3
PHB612	Physical Methods of Analysis	3
PHB613	Biophysics	3
PHB614	Physics Education	3
	OR any other suitable subject	

*The topics offered will be determined by demand and staffing.

4. For a registered student in the part-time course, the subjects and other work of the twelve semesters of study are as follows –

Normal Course Programme –

Semester 1 – Autumn (to be offered in 1984)		*Approx. Formal Hrs/wk.*
CHB141	Chemistry I	6
BEB102	Biology I	6

		Approx. Formal Hrs/wk.
Semester 2 – Spring (to be offered in 1984)		
CHB241	Chemistry II	6
BEB202	Biology II	6
Semester 3 – Autumn (1983)		
PHB101	Physics IS	3
PHB106	Experimental Physics I	3
MAB251	Mathematics I	4
Semester 4 – Spring (1983)		
PHB201	Physics IIS	3
PHB206	Experimental Physics II	3
CMB102	Professional Communication B	2
MAB160	Mathematics II	4

5. Pre-requisites and Co-requisites – see page 191.

Diploma courses

PHK205 DIPLOMA OF APPLIED SCIENCE – DIAGNOSTIC RADIOGRAPHY

1. Entrance Requirements – see page 90.

2. General Course Rules – see page 121.

3. (i) Candidates for enrolment in this course must be trainees who have been accepted for employment within an approved Department or Practice. Documentary evidence of such employment must accompany the application for registration and enrolment.

   (ii) Except in exceptional circumstances and where approval has been obtained from the Head of Department of Physics, a student enrolled in a Radiography course must continue in employment within an approved Department or Practice for the duration of the course.

4. A student enrolled in a Radiography course may attempt to recover a failed subject while unemployed provided that –

   (i) the Clinical Procedures Record Book is assessed as satisfactory for the period of employment corresponding to the initial examination attempt at the failed subject;

   (ii) employment was terminated for reasons other than unacceptability as a potential radiographer;

   (iii) continuation of the course after recovery will be subject to normal enrolment conditions.

5. As set out in Rule 6, the course is comprised of two semesters of full-time attendance at the QIT to undertake formal course work, three semesters of full-time attendance in the clinical situation, and one semester of essentially full-time attendance in the clinical situation with some day release to undertake formal course work.

6. For a registered student in the Diagnostic Radiography course, the subjects and other work comprising the curriculum are as follows –

Semester 1 –		*Approx. Formal Hrs/wk.*
Clinical Orientation of approx. 3 weeks prior to commencement of QIT academic semester, then full-time attendance at the QIT to undertake formal course work. Subjects undertaken during this semester are –		
NSD101	Hospital Practice & Care of Patient	1.4
PHD172	Radiographic Physics I	5
PHD173	Radiographic Technique I	6
PHD174	Radiographic Equipment I	2
PHD175	Radiographic Processing	2
PND110	Anatomy and Physiology	8
BED100	Introduction to Cell Biology	1

		Approx. Formal Hrs/wk.
Semester 2 –		
Full-time attendance in the clinical situation.		
PHD277	Clinical Practice ID	
Semester 3 –		
Full-time attendance in the clinical situation		
PHD377	Clinical Practice IID	
PHD310	Radiographic Technology I	
Semester 4 –		
Full-time attendance at the QIT to undertake formal course work.		
Subjects undertaken during this semester are –		
PHD471	Radiobiology and Protection	2
PHD472	Radiographic Physics II	2
PHD473	Radiographic Technique II	4
PHD474	Radiographic Equipment II	6
PHD475	Ultrasonics	2
PND410	Pathology	4
PND411	Applied Radiographic Anatomy	2
MNA129	General Psychology I	2
Semester 5 –		
Essentially full-time attendance in the clinical practice with day release part-time attendance at the QIT to undertake the following course work –		
PHD572	Complementary Imaging Techniques	4
PHD573	Radiographic Technique III	3
PHD574	Radiographic Equipment III	3
PHD577	Clinical Practice IIID	
CMB102	Professional Communication B OR Equivalent elective.	2
Semester 6 –		
Full-time attendance in the clinical situation		
PHD677	Clinical Practice IVD	
PHD610	Radiographic Technique 2	

7. Pre-requisites and Co-requisites – see page 191.

PHK206 DIPLOMA OF APPLIED SCIENCE – THERAPEUTIC RADIOGRAPHY

1. Entrance Requirements – see page

2. General Course Rules – see page 121.

3. (i) Candidates for enrolment in this course must be trainees who have been accepted for employment within an approved Department or Practice. Documentary evidence of such employment must accompany the application for registration and enrolment.

   (ii) Except in exceptional circumstances and where approval has been obtained from the Head of Department of Physics, a student enrolled in a Radiography course must continue in employment within an approved Department or Practice for the duration of the course.

4. A student enrolled in a Radiography course may attempt to recover a failed subject while unemployed provided that –

   (i) the Clinical Procedures Record Book is assessed as satisfactory for the period of employment corresponding to the initial examination attempt at the failed subject.

   (ii) employment was terminated for reasons other than unacceptability as a potential radiographer;

   (iii) continuation of the course after recovery will be subject to normal enrolment conditions.

5. As set out in Rule 6, the course is comprised of one semester of full-time attendance at the QIT to undertake formal course work, and five semesters of attendance in the clinical situation with course work undertaken at the QIT by day release or evening classes.

6. For a registered student in the Therapeutic Radiography course, the subjects and other work comprising the curriculum are as follows –

Semester 1 –		*Approx. Formal Hrs/wk.*
Clinical Orientation of approx. 3 weeks prior to commencement of QIT academic semester, then full-time attendance at the QIT to undertake formal course work. Subjects undertaken during this semester are –		
NSD101	Hospital Practice and Care of Patient	14
PHD172	Radiographic Physics I	5
PHD186	Radiotherapy Practice I	3
PHD188	Principles of Pathology	2
PND110	Anatomy and Physiology	8
MND313	Psychology	4
BED100	Introduction to Cell Biology	1

		Approx. Formal Hrs/wk.
Semester 2 –		
Full-time attendance in clinical situation. Formal course work undertaken at QIT in evenings.		
PHD287	Clinical Practice IT	
PHD282	Radiotherapy Physics I	4
PHD286	Radiotherapy Practice II	3
PHD288	Tumour Pathology	0.7
Semester 3 –		
Attendance in clinical situation with day release to undertake formal course work at the QIT.		
PHD382	Radiotherapy Physics II	4
PHD383	Principles of Treatment I	2
PHD387	Clinical Practice IIT	
PHD384	Radiotherapy Practice III	3
Semester 4 –		
Attendance in clinical situation with day release to undertake formal course work at the QIT.		
PHD485	Principles of Treatment II	2
PHD486	Radiotherapy Practice IV	3
PHD487	Clinical Practice IIIT	
PHD475	Ultrasonics	2
Semester 5 –		
Attendance in clinical situation with day release to undertake formal course work at the QIT.		
PHD586	Radiotherapy Practice V	3
PHD584	Complementary and Evolving Techniques	4
PHD587	Clinical Practice IVT	
PHD588	Clinical Radioisotopes	2
Semester 6 –		
Attendance in clinical situation with day release to undertake formal course work at the QIT.		
PHD686	Comparative Radiotherapy Practice	3
PHD687	Clinical Practice VT	
CMB102	Professional Communication B OR Equivalent elective	2

7. Pre-requisites and Co-requisites – see page 191.

Associate Diploma courses

BEL180 ASSOCIATE DIPLOMA IN APPLIED BIOLOGY

1. Entrance Requirements – see page 90.

2. General Course Rules – see page 121.

3. For a registered student in the full-time course, the subjects and other work of the four semesters of study are as follows –

		Approx. Formal Hrs/wk.
Semester 1 – Autumn		
BEA107	Biological Systems	3
BEA198	Microscopy Techniques	3
MAA251	Statistics and Data Processing	2
PNA113	Introductory Biochemistry	3
CHA111	Laboratory Techniques	3
CHA140	Introductory Chemistry	3
PHA154	Introductory Physics	3
Semester 2 – Spring		
BEA202	Cell Structure and Function	3
BEA297	Biological Data Handling	3
BEA298	Data Presentation Techniques	4
CHA218	Analytical Chemistry I	3
CHA340	Instrumental Techniques	5
CMA133	Communication Techniques	2
Semester 3 – Autumn		
BEA305	Population Biology	3
BEA398	Animal and Plant Techniques	6
BEA389	Visits and Excursions III	2
MAA163	Computing	2
	Electives	6
BEA340	Selected Study Topic	1
Semester 4 – Spring		
BEA403	Environmental Biology	3
BEA498	Field Techniques	6
BEA489	Visits and Excursions IV	2
CHA440	Laboratory Management	2
CHA112	Workshop Practice	2
	Electives	6

4. For a registered student in the part-time course, the subjects and other work of the eight semesters of study are as follows –

		Approx. Formal Hrs/wk.
Semester 1 – Autumn		
BEA107	Biological Systems	3
CHA140	Introductory Chemistry	3
PHA154	Introductory Physics	3

		Approx. Formal Hrs/wk.
Semester 2 — Spring		
BEA198	Microscopy Techniques	3
CHA110	Laboratory Techniques	3
PNA113	Introductory Biochemistry	3
MAA251	Statistics and Data Processing	2
Semester 3 — Autumn		
BEA202	Cell Structure and Function	3
BEA297	Biological Data Handling	3
CHA218	Analytical Chemistry I	3
Semester 4 — Spring		
BEA298	Data Presentation Techniques	4
CHA340	Instrumental Techniques	5
CMA133	Communication Techniques	2
Semester 5 — Autumn		
BEA305	Population Biology	3
	Electives	6
Semester 6 — Spring		
BEA398	Animal and Plant Techniques	6
MAA163	Computing	2
BEA340	Selected Study Topics	1
Semester 7 — Autumn		
BEA403	Environmental Biology	3
CHA440	Laboratory Management	2
CHA112	Workshop Practice	2
	Elective	3
Semester 8 — Spring		
BEA498	Field Techniques	6
	Elective	3

5. A range of electives is available for this course, including subjects presented in other Associate Diploma programmes in the Institute. A list of subjects which may be available is presented in Rule 12. Other electives may be approved by the Head of Department.

6. Enrolment for subjects from other Associate Diploma courses will be totally subject to the rules governing the course within which the subject is offered. Students will be expected to complete any necessary pre-requisite requirements, or to obtain exemption from such requirements from the Head of Department responsible for the subject concerned.

7. In all cases, students will be expected to select their elective programme in consultation with the Head of Department of Biology and Environmental Science or his nominee.

8. Provision of electives will depend on numbers of applicants.

9. Students with relevant technical experience may seek total or partial exemption from one or more of the elective units of the course.

10. Students may undertake to have their current employment arranged and assessed in lieu of one or more electives. In such cases, the employer, in consultation with the Head of Department, will nominate an honorary supervisor at the student's workplace. Student's work experience will be assessed by the honorary supervisor in collaboration with a departmental tutor. Under such an arrangement students will be required to maintain a work log and complete such exercises and assignments as required.

11. Students will be expected to participate in excursions and field work where these form part of the curriculum. Occasionally field work may be scheduled at weekends or during QIT recess periods.

12. Units Available for Study in the Elective Area:

N.B. Students undertaking elective subjects in other courses must conform to the rules of those courses.

	Subject		*Subject*
BEA011	Animal Physiology	BEA024	Plant Diversity
PHA461	Biophysical Measurement	BEA020	Plant Histology
BEA042	Entomology I	BEA021	Plant Physiology I
BEA044	Entomology II	BEA121	Plant Physiology II
ESA310	Geology	BEA004	Taxonomy
BEA060	Hydrobiological Techniques	BEA025	Vegetation Mapping
BEA012	Invertebrate Biology	BEA017	Vertebrate Morphology
MSA151	Microbiology I	BEA061	Principles of Ecology I
MSA152	Microbiology II	BEA062	Principles of Ecology II
BEA023	Plant Anatomy	BEA099	External Projects II
BEA090	External Projects I		

13. Pre-requisites and Co-requisites — see page 191.

CHL181 ASSOCIATE DIPLOMA IN APPLIED CHEMISTRY

1. Entrance Requirements — see page 90.
2. General Course Rules — see page 121.
3. A registered student may enrol either as a full-time student or a part-time student.
4. For a registered student in the full-time course, the subjects and other work comprising the curriculum are as follows —

Normal Course Programme
Four Semesters full-time

		Approx. Formal Hrs/wk.
Semester 1 — Autumn		
CHA111	Laboratory Techniques	3
CHA112	Workshop Practice	2
CHA140	Introductory Chemistry	3
MAA251	Statistics and Data Processing	2
MAA163	Computing	2
PHA154	Introductory Physics	3
CMA133	Communication Techniques	2
CHA120	Tutorials	2
Semester 2 — Spring		
CHA218	Analytical Chemistry I	3
CHA219	Qualitative Analysis	3
CHA230	Chemistry of Inorganic Materials	2
CHA270	Physical Chemistry I	3
CHA340	Instrumental Techniques	5
CHA250	Organic Chemistry I	3
CHA220	Tutorials	1
Semester 3 — Autumn		
CHA318	Instrumental Analytical Chemistry	4
CHA319	Analytical Chemistry II	3
CHA370	Physical Chemistry II	2
CHA320	Chemical Process Principles I	3
CHA350	Organic Chemistry II	3
CHA440	Laboratory Management	2
	Elective*	3
CHA580	Food Chemistry I OR	3
ESA310	Geology OR	3
MSA161	Microbiology I OR	3
	any other elective which may be offered.	
Semester 4 — Spring		
CHA368	Industrial Chemistry	3
CHA670	Physical Chemistry III	3
CHA410	Computers in Chemistry	3
CHA610	Industrial Analysis	3
CHA550	Organic Chemistry III	3
	† Liberal Studies	3
CHA460	Laboratory and Factory Visits	2
	Elective*	3
CHA680	Food Chemistry II OR	3
ESA510	Mineralogy Techniques OR	3
MSA162	Microbiology II OR	3
CHA520	Chemical Process Principles II	3
	or any other elective which may be offered.	

* *The electives to be offered may vary from year to year depending on enrolments, timetabling etc. Students should consult with the Head of the Chemistry Department when deciding their elective subjects.*

† *For the subject listed as Liberal Studies, a student may select any subject within the QIT to which he can gain admission, provided it is of at least 3 hours duration per week and approved by the Head of the Chemistry Department.*

5. For a registered student in the part-time course, the subjects and other work are as follows –

Normal Course Programme
Eight semesters part-time

		Approx. Formal Hrs/wk.
Semester 1 – Autumn		
CHA111	Laboratory Techniques	3
CHA140	Introductory Chemistry	3
PHA154	Introductory Physics	3
CHA112	Workshop Practice	2
Semester 2 – Spring		
CMA133	Communication Techniques	2
MAA251	Statistics and Data Processing	2
CHA250	Organic Chemistry I	3
MAA163	Computing	2
Semester 3 – Autumn		
CHA218	Analytical Chemistry I	3
CHA270	Physical Chemistry I	3
CHA440	Laboratory Management	2
CHA230	Chemistry of Inorganic Materials	2
Semester 4 – Spring		
CHA219	Qualitative Analysis	3
CHA340	Instrumental Techniques	5
CHA350	Organic Chemistry II	3
Semester 5 – Autumn		
CHA550	Organic Chemistry III	3
CHA318	Instrumental Analytical Chemistry	4
CHA370	Physical Chemistry II	2
Semester 6 – Spring		
CHA319	Analytical Chemistry II	3
CHA410	Computers in Chemistry	3
CHA670	Physical Chemistry III	3
Semester 7 – Autumn		
CHA320	Chemical Process Principles	3
CHA610	Industrial Analysis	3
	Elective*	3
CHA580	Food Chemistry I OR	3
ESA310	Geology OR	3
MSA161	Microbiology I OR	3
	any other elective which may be offered.	

Semester 8 — Spring		*Approx. Formal Hrs/wk.*
CHA368	Industrial Chemistry	3
	† Liberal Studies	3
CHA460	Laboratory and Factory Visits	2
	Elective*	3
CHA680	Food Chemistry II OR	3
ESA510	Mineralogy Techniques OR	3
MSA162	Microbiology II OR	3
CHA520	Chemical Process Principles II OR	3
	any other elective which may be offered.	

* *The electives to be offered may vary from year to year depending on enrolments, timetabling etc. Students should consult with the Head of the Chemistry Department when deciding their elective subjects.*

† *For the subject listed as Liberal Studies, a student may select any subject within the QIT to which he can gain admission, provided it is of at least 3 hours duration per week and approved by the Head of the Chemistry Department.*

6. Pre-requisites and Co-requisites — see page 191.

PHL183 ASSOCIATE DIPLOMA IN APPLIED PHYSICS

1. Entrance Requirements — see page 90.

2. General Course Rules — see page 121.

3. For a registered student in the full-time course, the subjects and other work of the four semesters of study comprising the curriculum are as follows — †

Normal Course Programme —
Semesters 1 and 2 of this course will not be offered in 1983. Students wishing to recover units in these semesters should consult the Head of Department.

		Approx. Formal Hrs/wk.
Semester 3 — Autumn		
PHA350	Physics IIIA	2
PHA358	Radiation Physics	2
PHA359	Modern Physics	2
PHA353	Safety Procedures	1
PHA352	Electrical Technology	4
MEA270	Workshop Practice and Engineering Drawing	4
PHA355	Instrumentation I	2
MAA163	Computing	2
Semester 4 — Spring		
PHA451	Methods of Physical Analysis	4
MEA030	Materials Technology	3
PHA453	Instrumentation II	1
CHA440	Laboratory Management	2
EET824	Process Control	1
PHA454	Seminars	2
PHA456	Project	2
	TWO Electives	6

4. For a registered student in the part-time course, the subjects and other work of the eight semesters of study are as follows — †

Normal Course Programme —
Semesters 1 and 2 of this course will not be offered in 1983. Students wishing to recover units in these esemesters should consult the Head of Department.

		Approx. Formal Hrs/wk.
Semester 3 — Autumn		
PHA257	Optics	3
PHA258	Electricity	2
MEA270	Workshop Practice and Engineering Drawing	4
MAA162	Mathematics II	2
Semester 4 — Spring		
PHA254	Electronics	4
PHA255	Physics IIA	4
PHA253	Vacuum Techniques	1

† *The sequence and availability of subjects shall be determined by the Head of Department, depending on enrolments.*

		Approx. Formal Hrs/wk.
Semester 5 – Autumn		
PHA350	Physics IIIA	2
PHA358	Radiation Physics	2
PHA359	Modern Physics	2
PHA352	Electrical Technology	4
Semester 6 – Spring		
PHA357	Monitoring the Environment	3
PHA355	Instrumentation I	2
MAA163	Computing	2
PHA353	Safety Procedures	1
PHA354	Photographic Techniques	1
Semester 7 – Autumn		
CHA440	Laboratory Management	2
MEA030	Materials Technology	3
PHA453	Instrumentation II	1
PHA456	Project	2
Semester 8 – Spring		
PHA451	Methods of Physical Analysis	3
EET824	Process Control	1
	TWO Electives	6

5. Electives for both full-time and part-time courses will be chosen from the following topics –

		Approx. Formal Hrs/wk.
PHA466	Geophysics Instrumentation	3
PHA458	Nuclear Reactor Technology	3
PHA459	Vacuum Technology	3
PHA460	Ionizing Radiation Technology	3
PHA461	Biophysical Measurements	3
PHA462	Signal Processing Techniques	3
PHA463	Science, Technology and Society	3
CMA139	Technical Literature	3
PHA464	Materials Testing	3
PHA465	Medical Instrumentation	3
	or any other suitable unit at an appropriate time.	

Approximately 30 hours in Semester 4 (full-time) will be spent in visits to industrial and laboratory sites.

It is expected that students in the part-time programme will be employed in a wide range of different vocations, and may be eligible for exemptions from some units. Students wishing to claim exemption should discuss the matter with the Head of the Department.

6. Pre-requisites and Co-requisites – see page 191.

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Pre-requisites and Co-requisites

PRE-REQUISITES AND CO-REQUISITES

(i) A *pre-requisite* unit is one which must be passed before proceeding to a further unit which has the pre-requisite so specified.

(ii) A *co-requisite* unit is one which, if not previously passed, must be studied concurrently with another unit with which it is a co-requisite.

(iii) Where a pre-requisite or co-requisite unit is designated as a *repeat-requisite* (indicated by the post-script [R]), the pre-requisite or co-requisite requirement may be satisfied by the student having attempted the unit but a passing grade is not essential. A student is deemed to have attempted the unit if all assessment requirements have been attempted when registered for the unit. If failed, the repeat-requisite must be repeated at the first opportunity.

PRE-REQUISITES AND CO-REQUISITES

GRADUATE DIPLOMA COURSES

Subject	*Pre-requisite*	*Co-requisite*
ESP213 Applied Hydrogeology	ESP153 Principles of Hydrogeology	
ESP433 Basin Analysis		ESP223 Regional Hydrogeology ESP233 Regional Geophysics
CHP210 Chemical Analysis II	CHP110 Chemical Analysis I	
CHP310 Chemical Analysis III	CHP210 Chemical Analysis II	
CHP410 Chemical Analysis IV	CHP310 Chemical Analysis III MAP255 Statistics PHP150 Optics	
ESP313 Engineering Geophysics		ESP123 Groundwater Geophysics
ESP413 Engineering Hydrogeology	ESP143 Sedimentary Petrology	ESP213 Applied Hydrogeology
ESP123 Groundwater Geophysics		ESP113 Principles of Geophysics
ESP423 Hydrogeology Project		ESP223 Regional Hydrogeology
ESP233 Regional Geophysics	ESP123 Groundwater Geophysics ESP153 Principles of Hydrogeology	
ESP223 Regional Hydrogeology	ESP133 Stratigraphy & Sedimentation	ESP213 Applied Hydrogeology
ESP333 Sediment Analysis		ESP143 Sedimentary Petrology
ESP143 Sedimentary Petrology		ESP133 Stratigraphy & Sedimentation

BACHELOR COURSES

Subject	*Pre-requisite*	*Co-requisite*
ACB181 Accounting Information Systems I		MAB351 Introduction to Computing A
ACB281 Accounting Information Systems II	ACB181 Accounting Information Systems I	
MAB641 Actuarial Mathematics		MAB342 Mathematics of Finance
CHB615 Advanced Analysis	CHB515 Instrumental Analysis	
CHB635 Advanced Inorganic Chemistry	CHB435 Inorganic Chemistry II	

Subject	*Pre-requisite*	*Co-requisite*
CHB655 Advanced Organic Chemistry	CHB455 Organic Chemistry IV CHB555 Organic Chemistry V [R]	
CHB676 Advanced Physical Chemistry	CHB575 Electrochemistry [R]	
MAB609 Algebraic Structures	MAB309 Modern Algebra	
CHB115 Analytical Chemistry I		CHB145 Principles of Chemistry
CHB215 Analytical Chemistry II	CHB115 Analytical Chemistry I [R]	
CHB315 Analytical Chemistry III	*Either* CHB241 Chemistry II *Or* CHB215 Analytical Chemistry II CHB275 Physical Chemistry [R]	
CHB510 Analytical Chemistry V	CHB410 Analytical Chemistry IV	
CHB516 Analytical Chemistry	CHB241 Chemistry II	
CHB610 Analytical Chemistry VI	CHB410 Analytical Chemistry IV	
BEB411 Animal Physiology	BEB102 Biology I	
PHB608 Applied Acoustics	PHB304 Physics III	
ESB520 Applied Geochemistry	ESB321 Soil Science *Or* ESB421 Soil Science *Or* ESB403 Geochemistry	
BEB542 Applied Limnology	BEB312 Animal Diversity	
MAB610 Applied Linear Algebra	MAB310 Linear Algebra	MAB612 Differential Equations
BEB564 Applied Regional Ecology I	BEB472 Communities and Ecosystems	
MAB358 Applied Statistical Methods B	MAB357 Applied Statistical Methods A	
MAB924 Applied Statistical Techniques	MAB608 Mathematical Statistics IIB	
BEB342 Aquatic Ecology	BEB101 Cell Biology	
PHB611 Astronomy	PHB101 Physics IS PHB201 Physics IIS PHB206 Experimental Physics II	

Subject	*Pre-requisite*	*Co-requisite*
MSB737 Basic Immunology	MSB450 Microbiology III PNB401 Biochemistry IV PNB430 Human Physiology A PNB431 Human Physiology B	
CHB645 Biochemical Technology	CHB425 Transfer Operations II CHB555 Organic Chemistry V MSB450 Microbiology III	
CHB354 Bio-Organic Chemistry	*Either* CHB241 Chemistry II *Or* CHB245 Reaction Chemistry	CHB356 Organic Chemistry IIIC CHB355 Organic Chemistry III
PNB401 Biochemistry IV	CHB354 Bio-Organic Chemistry	
PNB407 Biochemistry IVB	PNB405 Biochemistry III	
BEB306 Biological Systems	*Either* MAB254 Biometrics *Or* MAB251 Mathematics I MAB257 Statistics MAB260 Introduction to Programming	
MAB254 Biometrics	MAB251 Mathematics I	
PHB613 Biophysics	PHB101 Physics IS PHB201 Physics IIS PHB206 Experimental Physics II	
MAB302 Calculus and Analysis B		MAB301 Calculus and Analysis A
CHB375 Chemical Energetics I	CHB145 Principles of Chemistry [R] MAB251 Mathematics I [R]	
CHB475 Chemical Energetics II	CHB275 Physical Chemistry [R] CHB375 Chemical Energetics I [R]	
CHB326 Chemical Process Principles	CHB275 Physical Chemistry	
CHB625 Chemical Process Technology	CHB525 Process Chemistry and Economics	
CHB241 Chemistry II	CHB141 Chemistry I [R]	
CHB343 Chemistry for Geologists III	CHB241 Chemistry II [R] CHB141 Chemistry I	
MAB635 Classical Theoretical Mechanics	MAB302 Calculus and Analysis A MAB331 Introductory Vector Analysis	
BEB472 Communities and Ecosystems	BEB202 Biology II BEB302 Population Ecology	

Subject	*Pre-requisite*	*Co-requisite*
MAB604 Complex Variables		MAB601 Multivariable Calculus A
MAB652 Computer Organisation I	MAB659 Computer Logic [R] MAB354 Computers and Programming	
MAB953 Computer Organisation II	MAB652 Computer Organisation I [R]	
MAB354 Computers and Programming	MAB351 Introduction to Computing A	
MAB606 Computers and Programming	MAB305 Introduction to Computing A	
MAB935 Continuum Mechanics	MAB601 Multivariable Calculus A MAB612 Differential Equations	
MAB653 Data Structures	MAB351 Introduction to Computing A	
MAB612 Differential Equations	MAB301 Calculus and Analysis A MAB302 Calculus and Analysis B MAB310 Linear Algebra	
ESB363 Economic Geology III	ESB113 Earth Science I ESB213 Earth Science II	
ESB513 Economic Geology V	ESB363 Economic Geology III	
CHB575 Electrochemistry	CHB475 Chemical Energetics II [R]	
PHB504 Electronics	PHB307 Experimental Electronics	
CHB646 Energy Technology	CHB525 Process Chemistry and Economics	
ESB653 Engineering Geology	ESB413 Petrology IV ESB493 Stratigraphy & Sedimentation ESB535 Structural Geology III	
CHB411 Environmental Analytical Chemistry	CHB241 Chemistry II [R] CHB141 Chemistry I	
CHB647 Environmental Chemistry	CHB245 Reaction Chemistry CHB275 Physical Chemistry	
BEB358 Experimental Design	MAB254 Biometrics	
MAB258 Experimental Design	MAB252 Statistics	
PHB106 Experimental Physics I		PHB101 Physics IS
PHB206 Experimental Physics II	PHB106 Experimental Physics I	PHB201 Physics IIS

Subject	*Pre-requisite*	*Co-requisite*
PHB306 Experimental Physics III	PHB101 Physics IS PHB201 Physics IIS PHB206 Experimental Physics II	PHB304 Physics III
PHB406 Experimental Physics IV	PHB306 Experimental Physics III	PHB401 Physics IVA *Or* PHB402 Physics IVB
PHB506 Experimental Physics V	PHB406 Experimental Physics IV	
PHB606 Experimental Physics VI	PHB506 Experimental Physics V	
ESB533 Exploration Geochemistry	ESB403 Geochemistry	
ESB633 Exploration Geophysics	ESB433 Geophysics	
ESB383 Field Excursions III	ESB113 Earth Science I ESB213 Earth Science II	SVB303 Surveying for Geologists
ESB483 Field Excursions IV	ESB383 Field Excursions III	
ESB573 Field Excursions V	ESB483 Field Excursions IV	
ESB673 Field Excursions VI	ESB573 Field Excursions V	
ESB393 Field Techniques		ESB353 Structural Geology III SVB303 Surveying for Geologists
CHB685 Food Science	*Either* CHB455 Organic Chemistry IV CHB555 Organic Chemistry V *Or* CHB456 Organic Chemistry IVC CHB556 Organic Chemistry VC	
ESB403 Geochemistry	*Either* CHB141 Chemistry I CHB241 Chemistry II [R] *Or* CHB245 Reaction Chemistry CHB275 Physical Chemistry [R]	
ESB433 Geophysics	PHB201 Physics IIS [R]	
* PNB430 Human Physiology A	PNB427 General Anatomy CHB241 Chemistry II	
PNB431 Human Physiology B	PNB430 Human Physiology A	
ESB523 Hydrogeology	ESB443 Introduction to Groundwater and Petroleum	
CHB450 Industrial Organic Chemistry IV	CHB350 Organic Chemistry III [R]	

* *Students wishing to enrol in PNB430 Human Physiology A and who do not have the required pre-requisites should consult the Head of the Department of Medical Laboratory Science.*

Subject	*Pre-requisite*	*Co-requisite*
CHB565 Industrial Visits	CHB515 Instrumental Analysis [R] CHB525 Process Chemistry and Economics [R]	
CHB660 Industrial Visits	CHB510 Analytical Chemistry V [R] CHB520 Chemical Technology V [R]	
ACB396 Information Systems A	ACB297 Introduction to Computing B	
ACB496 Information Systems B	*Either* ACB396 Information Systems A *Or*	ACB397 Information Systems I
ACB696 Information Systems C	ACB496 Information Systems B	
CHB335 Inorganic Chemistry I	CHB145 Principles of Chemistry [R]	
CHB336 Inorganic Chemistry IIIC	CHB241 Chemistry II [R]	
CHB435 Inorganic Chemistry II	CHB335 Inorganic Chemistry I	
CHB436 Inorganic Chemistry IVC	CHB336 Inorganic Chemistry IIIC	
CHB636 Inorganic Chemistry VIC	CHB436 Inorganic Chemistry IVC	
CHB515 Instrumental Analysis	*Either* CHB315 Analytical Chemistry III [R] CHB345 Spectroscopy *Or* CHB345 Spectroscopy	CHB516 Analytical Chemistry
MAB306 Introduction to Computing B	MAB305 Introduction to Computing A	
ACB297 Introduction to Computing B	MAB351 Introduction to Computing A	
BEB400 Introduction to Projects	BEB358 Experimental Design *Or* MAB258 Experimental Design	
PHB607 Materials	PHB401 Physics IVA *Or* PHB403 Physics IVC	
CHB595 Materials Science I	CHB475 Chemical Energetics II [R]	
CHB695 Materials Science II	CHB245 Reaction Chemistry CHB595 Materials Science I [R]	
MAB955 Mathematical Methods	MAB355 Basic Maths A MAB356 Basic Maths B	

Subject	*Pre-requisite*	*Co-requisite*
MAB317 Mathematical Statistics I		MAB301 Calculus and Analysis A
MAB318 Mathematical Statistics IIA	MAB301 Calculus and Analysis A MAB317 Mathematical Statistics I	
MAB608 Mathematical Statistics IIB	MAB318 Mathematical Statistics IIA OR MAB358 Applied Statistical Methods B [R] MAB356 Basic Mathematics B [R]	MAB601 Multivariable Calculus A
MAB907 Mathematical Statistics IIIA	MAB608 Mathematical Statistics IIB	
MAB908 Mathematical Statistics IIIB	MAB608 Mathematical Statistics IIB	
MAB160 Mathematics II	MAB251 Mathematics I	
MAB162 Mathematics IIG	MAB251 Mathematics I	
MAB459 Mathematics IIIP	MAB251 Mathematics I MAB160 Mathematics II	
MAB460 Mathematics IVP	MAB459 Mathematics IIIP	
MAB759 Mathematics VP	MAB460 Mathematics IVP	
MAB941 Methods of Mathematical Economics	MAB601 Multivariable Calculus A MAB612 Differential Equations	
MAB921 Methods of Mathematical Physics A	MAB601 Multivariable Calculus A MAB612 Differential Equations	
MAB922 Methods of Mathematical Physics B	MAB601 Multivariable Calculus A MAB612 Differential Equations	
MSB450 Microbiology III	PNB401 Biochemistry IV	
MSB453 Microbiology IVB	MSB450 Microbiology III PNB401 Biochemistry IV	
ESB613 Mineragraphy and Mining Geology	ESB363 Economic Geology III	
ESB320 Mineral Assemblages	ESB220 Mineralogy	
ESB313 Mineralogy	ESB113 Earth Science I	
CHB514 Minerals Analysis	CHB345 Spectroscopy CHB445 Separation Methods	
CHB626 Minerals Technology	CHB425 Transfer Operations II	
ESB693 Mining Property Evaluation	MNB025 Economic Analysis for Geologists	

Subject	*Pre-requisite*	*Co-requisite*
MAB601 Multivariable Calculus A	MAB301 Calculus and Analysis A MAB302 Calculus and Analysis B MAB331 Introductory Vector Analysis	
MAB602 Multivariable Calculus C	MAB331 Introductory Vector Analysis	MAB601 Multivariable Calculus A
MAB613 Numerical Analysis IA	MAB301 Calculus and Analysis A MAB310 Linear Algebra MAB305 Introduction to Computing A	
MAB655 Numerical Analysis IA	MAB351 Introduction to Computing A MAB355 Basic Mathematics A MAB356 Basic Mathematics B	
MAB614 Numerical Analysis IB		MAB613 Numerical Analysis IA
MAB656 Numerical Analysis IB		MAB655 Numerical Analysis IA
MAB913 Numerical Analysis II	MAB613 Numerical Analysis IA MAB614 Numerical Analysis IB	
MAB956 Numerical Analysis II	MAB655 Numerical Analysis IA MAB656 Numerical Analysis IB	
MAB627 Operations Research IA	MAB301 Calculus and Analysis A MAB310 Linear Algebra MAB305 Introduction to Computing A	
MAB657 Operations Research IA	MAB351 Introduction to Computing A MAB355 Basic Mathematics A MAB356 Basic Mathematics B	
MAB628 Operations Research IB		MAB317 Mathematical Statistics I MAB627 Operations Research IA
MAB658 Operations Research IB		MAB657 Operations Research IA MAB358 Applied Statistical Methods B
MAB927 Operations Research IIA	MAB627 Operations Research IA	
MAB957 Operations Research IIA	MAB657 Operations Research IA	

Subject	*Pre-requisite*	*Co-requisite*
MAB928 Operations Research IIB		MAB927 Operations Research IIA
MAB958 Operations Research IIB		MAB957 Operations Research IIA
ESB530 Ore Deposits	ESB320 Mineral Assemblages	
CHB155 Organic Chemistry I		CHB115 Analytical Chemistry I CHB145 Principles of Chemistry
CHB355 Organic Chemistry III	CHB245 Reaction Chemistry	CHB345 Spectroscopy
CHB356 Organic Chemistry IIIC	CHB241 Chemistry II	CHB345 Spectroscopy
CHB455 Organic Chemistry IV	CHB355 Organic Chemistry III [R]	
CHB456 Organic Chemistry IVC	CHB356 Organic Chemistry IIIC [R]	
CHB555 Organic Chemistry V	CHB355 Organic Chemistry III CHB455 Organic Chemistry IV [R]	
CHB556 Organic Chemistry VC	CHB356 Organic Chemistry IIIC CHB456 Organic Chemistry IVC [R]	
CHB650 Organic Chemistry VI	CHB450 Industrial Organic Chemistry IV	
CHB656 Organic Chemistry VIC	CHB456 Organic Chemistry IVC CHB556 Organic Chemistry VC [R]	
ESB603 Petroleum and Coal Geology	ESB443 Introduction to Groundwater and Petroleum [R] ESB493 Stratigraphy and Sedimentation	
ESB413 Petrology IV	ESB313 Mineralogy	
ESB543 Petrology V	ESB413 Petrology IV	
CHB275 Physical Chemistry	CHB145 Principles of Chemistry [R]	
CHB376 Physical Chemistry IIIC	CHB241 Chemistry II [R] MAB251 Mathematics I [R]	
CHB476 Physical Chemistry IVC	CHB376 Physical Chemistry IIIC [R]	

Subject	*Pre-requisite*	*Co-requisite*
CHB576 Physical Chemistry VC	CHB476 Physical Chemistry IVC [R]	
CHB670 Physical Chemistry VI	CHB370 Molecular Dynamics III CHB470 Phase Chemistry IV	
CHB677 Physical Chemistry VIC	CHB476 Physical Chemistry IVC CHB576 Physical Chemistry VC	CHB675 Surface Chemistry
PHB101 Physics IS		PHB106 Experimental Physics I
PHB201 Physics IIS		PHB206 Experimental Physics II
PHB304 Physics III	PHB101 Physics IS PHB201 Physics IIS MAB160 Mathematics II PHB206 Experimental Physics II	
PHB401 Physics IVA	PHB101 Physics IS PHB201 Physics IIS PHB206 Experimental Physics II MAB251 Mathematics I *Or* MAB160 Mathematics II	
PHB402 Physics IVB	PHB101 Physics IS PHB201 Physics IIS PHB206 Experimental Physics II MAB251 Mathematics I *Or* MAB160 Mathematics II	
PHB403 Physics IVC	PHB101 Physics IS PHB201 Physics IIS PHB206 Experimental Physics II MAB160 Mathematics II *Or* MAB251 Mathematics I	
PHB501 Physics VA	PHB304 Physics III PHB402 Physics IVB MAB460 Mathematics IVP	
PHB502 Physics VB	PHB304 Physics III MAB459 Mathematics IIIP	
PHB503 Physics VC	PHB304 Physics III	

Subject	*Pre-requisite*	*Co-requisite*
PHB601 Physics VIA	PHB401 Physics IVA PHB501 Physics VA [R] MAB460 Mathematics IVP	
PHB602 Physics VIB	PHB304 Physics III PHB406 Experimental Physics IV	
PHB603 Physics VIC	PHB304 Physics III	
BEB421 Plant Physiology	BEB102 Biology I	
BEB654 Population and Ecosystem Management	BEB302 Population Ecology BEB472 Communities and Ecosystems BEB306 Biological Systems	
BEB302 Population Ecology	BEB202 Biology II MAB254 Biometrics	
CHB525 Process Chemistry and Economics	CHB326 Chemical Process Principles CHB425 Transfer Operations II [R] CHB475 Chemical Energetics II [R]	
MAB654 Programming Languages	ACB297 Introduction to Computing B MAB354 Computers and Programming	
CHB600 Projects	CHB510 Analytical Chemistry V *Or* CHB520 Chemical Technology V *AND Two of* CHB530 Inorganic Chemistry V CHB550 Organic Chemistry V CHB570 Physical Chemistry V	
CHB605 Projects CHB609 Projects	CHB515 Instrumental Analysis [R] *Or* CHB525 Process Chemistry and Economics [R] *AND Two of* CHB555 Organic Chemistry V CHB595 Material Science I CHB575 Electrochemistry	
ESB563 Project V	ESB413 Petrology IV ESB493 Stratigraphy and Sedimentation ESB353 Structural Geology III ESB393 Field Techniques SVB303 Surveying for Geologists	
ESB663 Project VI	ESB563 Project V	

Subject	*Pre-requisite*	*Co-requisite*
MAB960 Project Work	*For BAppSc (Mathematics):* Successful completion of at least two third year level optional subject units in addition to all mandatory mathematics units. *For BAppSc (Computing):* Successful completion of at least the equivalent of two-thirds of the normal course programme, plus CMB106 Professional Communication [R]	
BEB561 Projects in Ecology I	BEB400 Introduction to Projects	
BEB660 Projects in Ecology II	BEB561 Projects in Ecology I	
PHB609 Radiation Physics A	PHB402 Physics IVB	
CHB245 Reaction Chemistry	CHB145 Principles of Chemistry [R] CHB155 Organic Chemistry I	
ESB593 Sedimentary Petrology	ESB493 Stratigraphy and Sedimentation [R] ESB313 Mineralogy	
CHB445 Separation Methods	*Either* CHB241 Chemistry II *Or* CHB215 Analytical Chemistry II [R] CHB245 Reaction Chemistry [R] CHB275 Physical Chemistry [R]	
CHB696 Solid State Chemistry	CHB241 Chemistry II	
MAB961 Special Studies	Completion of the equivalent of at least one half of the normal programme of the BAppSc in Computing course.	
CHB345 Spectroscopy	CHB245 Reaction Chemistry CHB275 Physical Chemistry [R]	
MAB929 Statistical Forecasting	MAB608 Mathematical Statistics IIB	
MAB257 Statistics	MAB160 Mathematics II	
ESB493 Stratigraphy and Sedimentation	ESB213 Earth Science II	
ESB643 Structural Geology VI	ESB353 Structural Geology III	
CHB675 Surface Chemistry	CHB575 Electrochemistry *Or* CHB576 Physical Chemistry VC	

Subject	*Pre-requisite*	*Co-requisite*
MAB959 Systems Performance Optimization	MAB354 Computers and Programming MAB357 Applied Statistical Methods A ACB494 Information Systems B	
MAB951 Systems Programming A	MAB354 Computers and Programming MAB653 Data Structures	MAB953 Computer Organisation II
MAB952 Systems Programming B	MNB040 Management	MAB951 Systems Programming A
MNB053 Technological Management	MNB040 Management CHB525 Process Chemistry and Economics	
MAB906 Topics in Analysis	MAB601 Multivariable Calculus A MAB612 Differential Equations	
CHB325 Transfer Operations I	PHB121 Physics IIT [R]	
CHB425 Transfer Operations II	CHB325 Transfer Operations I [R]	
BEB429 Vegetation Mapping	BEB358 Experimental Design OR MAB258 Experimental Design	

DIPLOMA COURSES

Subject	*Pre-requisite*	*Co-requisite*
PND411 Applied Radiographic Anatomy	PND110 Anatomy and Physiology	
PHD577 Clinical Practice IIID	PHD277 Clinical Practice ID PHD377 Clinical Practice IID	
PHD487 Clinical Practice IIIT	PHD287 Clinical Practice IT PHD387 Clinical Practice IIT	
PHD677 Clinical Practice IVD	PHD277 Clinical Practice ID PHD377 Clinical Practice IID	
PHD587 Clinical Practice IVT	PHD487 Clinical Practice IIIT	
PHD687 Clinical Practice VT	PHD587 Clinical Practice IVT	
PHD588 Clinical Radioisotopes	PHD486 Radiotherapy Practice IV	
PHD485 Principles of Treatment II	PHD383 Principles of Treatment I	

Subject	*Pre-requisite*	*Co-requisite*
PHD474 Radiographic Equipment II	PHD172 Radiographic Physics I PHD174 Radiographic Equipment I	
PHD574 Radiographic Equipment III	PHD474 Radiographic Equipment II	
PHD472 Radiographic Physics II	PHD172 Radiographic Physics I	
PHD473 Radiographic Technique II	PHD173 Radiographic Technique I	
PHD573 Radiogrpahic Technique III	PHD473 Radiographic Technique II	
PHD282 Radiotherapy Physics I	PHD172 Radiographic Physics I	
PHD382 Radiotherapy Physics II	PHD282 Radiotherapy Physics I	
PHD286 Radiotherapy Practice II	PHD186 Radiotherapy Practice I	
PHD384 Radiotherapy Practice III	PHD286 Radiotherapy Practice II	
PHD486 Radiotherapy Practice IV	PHD382 Radiotherapy Physics II PHD384 Radiotherapy Practice III	
PHD586 Radiotherapy Practice V	PHD485 Principles of Treatment II PHD486 Radiotherapy Practice IV	
PHD288 Tumour Pathology	PND110 Anatomy and Physiology	

ASSOCIATE DIPLOMA COURSES

Subject	*Pre-requisite*	*Co-requisite*
CHA218 Analytical Chemistry I	CHA111 Laboratory Techniques [R]	
CHA319 Analytical Chemistry II	CHA218 Analytical Chemistry I CHA219 Qualitative Analysis [R]	
BEA297 Biological Data Handling	MAA251 Statistics and Data Processing	
CHA230 Chemistry of Inorganic Materials	CHA140 Introductory Chemistry [R]	
CHA320 Chemical Process Principles I	CHA270 Physical Chemistry I [R]	CHA370 Physical Chemistry II [R]
CHA520 Chemical Process Principles II	CHA320 Chemical Process Principles I [R]	

Subject	*Pre-requisite*	*Co-requisite*
CHA410 Computers in Chemistry	MAA163 Computing [R]	
PHA352 Electrical Technology	PHA254 Electronics [R] PHA258 Electricity [R]	
PHA258 Electricity	PHA152 Physics IB [R]	
PHA254 Electronics	PHA152 Physics IB	
CHA480 Food Chemistry I	CHA350 Organic Chemistry II [R] CHA319 Analytical Chemistry II [R] CHA318 Instrumental Analytical Chemistry [R]	
CHA680 Food Chemistry II	CHA580 Food Chemistry I	
CHA610 Industrial Analysis	CHA318 Instrumental Analytical Chemistry CHA319 Analytical Chemistry II	
CHA368 Industrial Chemistry	CHA250 Organic Chemistry I CHA320 Chemical Process Principles I [R]	
CHA318 Instrumental Analytical Chemistry	CHA340 Instrumental Techniques	
CHA340 Instrumental Techniques	CHA111 Laboratory Techniques [R] PHA154 Introductory Physics	CHA218 Analytical Chemistry I
PHA355 Instrumentation I	PHA255 Physics IIA [R] PHA258 Electricity [R]	
PHA453 Instrumentation II	PHA355 Instrumentation I [R] PHA254 Electronics	
MEA030 Materials Technology	PHA255 Physics IIA	
MAA162 Mathematics II	MAA161 Mathematics I	
PHA451 Methods of Physical Analysis	PHA258 Electricity PHA358 Radiation Physics [R] PHA359 Modern Physics [R]	MEA030 Materials Technology
MSA162 Microbiology II	MSA161 Microbiology I	
ESA510 Mineralogy Techniques	ESA310 Geology	
PHA359 Modern Physics	PHA151 Physics IA PHA153 Physics IC	
PHA357 Monitoring the Environment	PHA151 Physics IA [R] PHA152 Physics IB [R] PHA153 Physics IC [R]	
PHA257 Optics	PHA151 Physics IA [R] PHA153 Physics IC [R]	

Subject	*Pre-requisite*	*Co-requisite*
CHA250 Organic Chemistry I	CHA140 Introductory Chemistry [R]	
CHA350 Organic Chemistry II	CHA140 Introductory Chemistry CHA250 Organic Chemistry I	
CHA550 Organic Chemistry III	CHA350 Organic Chemistry II [R]	
PHA354 Photographic Techniques	PHA151 Physics IA [R]	
CHA270 Physical Chemistry I	CHA140 Introductory Chemistry [R]	
CHA370 Physical Chemistry II	CHA270 Physical Chemistry I	
CHA670 Physical Chemistry III	CHA370 Physical Chemistry II	
PHA255 Physics IIA	PHA151 Physics IA [R] PHA153 Physics IC [R]	
PHA350 Physics IIIA	PHA153 Physics IC	
BEA305 Population Biology	BEA202 Cell Structure and Function MAA251 Statistics and Data Processing	
PHA457 Process Control	PHA355 Instrumentation I [R]	PHA453 Instrumentation II
PHA456 Project		PHA451 Methods of Physical Analysis MEA030 Materials Technology PHA453 Instrumentation II
CHA219 Qualitative Analysis	CHA111 Laboratory Techniques [R]	
PHA358 Radiation Physics	PHA152 Physics IB	
PHA353 Safety Procedures	MEA270 Workshop Practice and Engineering Drawing PHA255 Physics IIA [R]	
PHA253 Vacuum Technology		PHA255 Physics IIA

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Synopses

SYNOPSES

ACB181 Accounting Information Systems I

A course containing an introduction to accounting concepts, ledger accounts and the double entry system, the accounting cycle. Accounting for cash, debtors and creditors, stocks, fixed assets, revenue and expenses.

ACB281 Accounting Information Systems II

A continuation of ACB181 covering accounting for ownership, departmental and branch accounts, holding companies and group accounts, managerial accounting, cost estimation, cost-volume-profit decisions, business investment decisions and capital budgeting.

MAB641 Actuarial Mathematics

The life table; demographic techniques; pure endowments and annuities; assurances; policy values; laws of mortality; benefits depending on other contingencies; pension funds.

MNB026 Administration for Geologists

Organisation and management; mineral industries studies, company structure.

BEP760 Administration of Environmental Protection

Principles of administration, decision making, critical path analysis, operations planning. Australian Government, State Government, and Local Government relationships and responsibilities in the fields of environmental protection and regional planning. Division and co-ordination of administration of Acts related to water pollution, air pollution, Public Health.

CHB615 Advanced Analysis

A course of lectures and practical work relating to the principles of automated analysis, data base systems and trace techniques to analytical chemistry.

CHB635 Advanced Inorganic Chemistry

A course of lectures and practical work dealing with organometallic chemistry, the non metals, lanthanides and actinides.

CHB655 Advanced Organic Chemistry

Advanced studies in the chemistry of biologically active compounds. Topics may include steroids, alkaloids, flavenoids, porphyrins, biosynthesis, major chemotherapeutic drugs and agricultural chemicals.

CHB676 Advanced Physical Chemistry

Advanced theory and experimentation in some of the following topics for any one year –

Kinetic techniques for fast reactions.
Kinetics and mechanism.
Rheology.
Corrosion.
Foundations of modern physical chemistry.
Statistical mechanics.
Spectroscopy.

PHD610 Advanced Radiographic Technique

Assignments must be submitted on topics specified with the areas of modern trends in x-radiographic technique; computerised tomography scanners; digital radiography; nuclear medicine imaging apparatus and other complementary imaging modalities. No formal lecture classes are required.

MAB609 Algebraic Structures

Sets; some elementary structures; groups; rings and ideals; polynomial rings; finite fields; modules; categories and functions.

CHB516 Analytical Chemistry

A course of lectures and practical work covering practices and principles of sample handling, titration theory, gravimetric theory and electrochemical methods.

CHA218 Analytical Chemistry I

This is a lecture and laboratory programme covering fundamental theory and techniques of titrimetric and gravimetric analysis.

CHB115 Analytical Chemistry I

A course of lectures and laboratory work in basic techniques (balance, burette, pipette, recrystallisation, distillation and filtration) together with an introduction to the analytical principles of acidimetry, alkalimetry and redoximetry.

CHA319 Analytical Chemistry II

A course of lectures and practical work designed to develop further the basic titrimetric and gravimetric analysis principles introduced in the unit CHA218. The practical programme will feature the analysis of commercial materials with emphasis on sample dissolution techniques.

CHB215 Analytical Chemistry II

A course of lectures and laboratory work demonstrating back titration techniques, complexometric methods, gravimetric analysis, qualitative analysis and simple instrumental methods.

CHB315 Analytical Chemistry III

A course of lectures and practical work covering practices and principles of sample handling, titration theory, gravimetric theory and electrochemical methods.

CHB510 Analytical Chemistry V

A course in modern methods of chemical analysis covering flame, x-ray and electrical excitation spectroscopy; and electrochemical methods. The laboratory programme includes the application of modern methods to the analysis of complex materials and commercial products.

CHB610 Analytical Chemistry VI

A course in the principles and techniques of nuclear and radiochemistry; environmental and trace analysis, mass spectrometric and thermal methods. An introduction to automated analysis and the on-line application of computers in chemistry. An examination of analyses in selected industries.

PND110 Anatomy and Physiology

This unit deals with normal human anatomy and physiology. The unit is structured into a core component of human anatomy and physiology common to students in Diagnostic Radiography and Therapeutic Radiography courses. Diagnostic Radiography students receive additional material on osteology and Therapeutic Radiography students receive additional material on physiology.

BEA398 Animal and Plant Techniques

Care and maintenance of animal and plant resources, both micro and macroscopic. The subject will thus cover animal handling, maintenance of glasshouse resources, culture collections and isolation techniques, together with the preparation of specimens for permanent collections, and the maintenance of such collections.

BEB312 Animal Diversity

This subject introduces schemes of animal classification and systematically considers the morphology, anatomy and life histories of major animal groups. Attention is given to the adaptive diversity of organisms within major groups and to methods of identification of individuals. In addition to lectures and laboratory periods, several field excursions are conducted.

BEA011 Animal Physiology

Introduces general ideas concerning the physical properties and chemical composition of animals and their normal environment. Vital processes (including respiration, osmotic and ionic regulation, sensory reception) are explained as far as possible in physical terms before biological adaptations relevant to their processes.

BEB411 Animal Physiology

An introduction to comparative animal physiology and energy exchange between animals and their environment. This unit will assess adaptations apparent in morphology, maintenance processes, activity and some behavioural patterns of animals.

PHB608 Applied Acoustics

A course of 15 lectures and associated practical work. Standards, principles of methods and instrumentation used in vibration, noise and sound measurements with emphasis upon architectural acoustics and traffic, industrial and community noise. Brief treatment of underwater acoustics and recording and reproduction of sound. Legal and technical aspects of professional practice.

ESB520 Applied Geochemistry

The purpose and types of geochemical surveys. Natural and unnatural associations of elements. Primary and secondary dispersion patterns. Analytical requirements for geochemistry. Optimum design and interpretation of geochemical surveys. Case histories of geochemical surveys. Sources of data on the abundance and mobility of individual elements in earth materials. The application of multipurpose regional geochemical mapping to land use evaluation. The relation of selected trace elements to health and disease in plants and animals. Practical work includes collection, preparation and chemical analysis of earth materials in the context of a project. Several days of field work may be required.

ESP213 Applied Hydrogeology

Details of drilling methods, bore construction and completion; sediment and water sampling; water quality; bore location; pump test analysis; groundwater chemistry; fractured rock and karastic aquifers. Pollution and waste disposal; the Water Acts. To gain field experience in the conduct of pumping tests, a field excursion of three days duration will be held.

BEB542 Applied Limnology

An introduction to inland waters and their ecology. Studies include the physico-chemical and biological characteristics of inland waters and their drainage basins, the progressively greater influence of man on the total complex of life and processes in these waters and water quality criteria and standards. Field studies form a significant part of the practical work of the course.

MAB610 Applied Linear Algebra

Vector spaces and matrices; vector and matrix norms; discrete Markov chains with a finite number of states; vector spaces over finite fields; quadratic forms, least square solution of linear equations; random vectors and matrices.

PND411 Applied Radiographic Anatomy

This unit deals with the normal and abnormal appearances on radiographs; variations in accepted techniques to demonstrate suspected pathological changes.

BEB564 Applied Regional Ecology I

A unit on natural resource analysis through intensive study of specific ecosystems in two regions of southern Queensland. Students investigate ecological relationships of biotic and abiotic components (flora, fauna, soils, climate and landforms) and link findings with ecological assessments of the impact of regional development. One exercise examines the natural capacity of a region significant for primary production, the other involves a comparative study of natural resource development in relation to land use constraints, options and priorities. Students gain practice in ecological field work in both individual and group activities. Two major field excursions are required.

BEB664 Applied Regional Ecology II

A continuation of the programme initiated in Applied Regional Ecology I through two detailed field investigations of changing land use accompanying urban development. One study evaluates ecological aspects of industrial development in a rapidly growing urban centre, the other analyses planning and environmental monitoring during development of urban utilities and services. Principles of ecosystem management relevant in multi-purpose landscapes are emphasized. Intensive practice in ecological field work in both individual and group activities is gained during two extended field excursions.

MAB357 Applied Statistical Methods A

Introduction to the theory of probability and probability distributions. Collection and representation of data; parameters and statistics. Elementary treatment of sampling theory leading to the Normal, t, F and χ^2 sampling distributions. Statistical estimation and tests of hypotheses based on the Normal, t, F and χ^2 distributions.

MAB358 Applied Statistical Methods B

Introduction to non-parametric tests of hypotheses. Simple and multiple linear regression. Correlation. Fundamentals of experimental design and the analysis of variance.

MAB924 Applied Statistical Techniques

The general linear model; errors in variables; autocorrelation; single equation problems; simultaneous equations problems; estimation methods.

BEB342 Aquatic Ecology

A systems approcah to aquatic environments with particular reference to south-east Queensland inland freshwater resources.

The subject will include studies of physicochemical characteristics, hydrology, bioecology of inland waters and their drainage basins and the impact of cultural activities on the total complex of life and processes in these waters. The students will develop familiarity with such field and laboratory techniques as related to qualitative and quantitative analysis of biota, productivity, energy conversions by organisms within aquatic ecosystems.

PHB611 Astronomy

A course of study dealing with astronomical co-ordinate systems, time systems, astronomical instruments, celestial mechanics and gravitation, the solar system, stellar measurements and stars.

Practical work involves analysing photographs, reduction of the resulting data and the analysis of recorded data. Observational sessions are held if weather permits.

MSB737 Basic Immunology

A study of the mechanisms of the immune process including the nature of antigens, antibodies, antigen-antibody reactions, antibody formation, control of the humoral and cell-mediated immune responses, hypersensitivity and allergy and immunisation of man against infections.

MAB355 Basic Mathematics A

An introductory course in mathematics providing the necessary mathematical basis for computing and covering vector spaces, matrices and eigenvalues and eigenvectors.

MAB356 Basic Mathematics B

A continuation of MAB355 covering the topics complex numbers and functions of a real variable with an introduction to partial differentiation and multiple integration.

ESP433 Basin Analysis

An overview of hydrological systems based upon historical development and the integration of available technical data (geological, hydrological, geophysical, mechanical).

CHB645 Biochemical Technology

A course of study in the principles of biochemical technology. Topics include fermentation technology and enzyme technology.

PNB405 Biochemistry III

An introductory course for biologists and industrial chemists, dealing with the chemistry and properties of biological molecules. Emphasis is placed on correlating chemical structure with biological activity, so the basic aim of the course is to teach students to predict logically the behaviour of biochemical systems. Topics covered include amino acids, proteins, enzymes, coenzymes, carbohydrates and lipids.

PNB401 Biochemistry IV

A course dealing with the biological regulation of pH and temperature, the structure and function of enzymes, enzyme kinetics and metabolic pathways.

PNB407 Biochemistry IVB

This course is an extension of PNB405 for biology students. Topics discussed include bioenergetics, carbohydrate and lipid metabolism, chemistry and function of nucleic acids, photosynthesis and protein biosynthesis.

BEA297 Biological Data Handling

Application of statistical procedures in relation to vegetation surveys, including point and area sampling; design of experiments involving live organisms, recognizing problems of variation and distribution. Principles of bioassay; measurement of synergism and antagonism in biological systems.

BEA107 Biological Systems

A general course in biology, including the origin of life and the diversity, structure, physiology, evolutionary relationships and classification of the major life forms. Selected aspects of reproduction, inheritance, growth, life cycles, animal behaviour and periodicity are studied.

BEB306 Biological Systems

This unit introduces the general theory of systems analysis and its application in studying simple biological systems. Emphasis is placed on the techniques of modelling and simulation employing a digital computer.

Students should note that they are expected to have mastered the basics of Fortran programming.

BEB102 Biology I

A general study of animal and plant biology covering cell and tissue biology and the structural and functional bases for animal and plant classification, including morphology, anatomy, physiology and ecology. There are a number of excursions.

BEB202 Biology II

An introduction to population, community and ecosystem studies. The major factors influencing the size of populations, variation within a species population, and rates and direction of change are examined. Community composition, species interactions and community activity within ecosystems are outlined. Ecosystem structure, energy and material transformations and biospheric phenomena are discussed in the context of general evolution. Field excursions are conducted within this unit.

MAB254 Biometrics

The collection, verification, summary and analysis of biological data using computer techniques for data storage and retrieval. The nature of science and the scientific method. Basic statistical methods, probability, sampling, t-distribution, statistical inference and estimation theory, regression and correlation. Introduction to computer hardware and software. Programming in Fortran. Tutorial exercises using biological data.

CHB354 Bio-Organic Chemistry

A course covering the fundamental mechanisms of organic chemical transformations which occur within cells. The course will provide a background for the study of metabolic pathways in PNB401 Biochemistry IV.

PHA461 Biophysical Measurements

Examination of the physical principles of instrumental methods applied to biophysical measurement. Theory and design of instruments for inter-cellular and inter-organ measurements e.g. flowmeters, microelectrodes, ion selective electrodes, transducers and various clinical instruments. Application to biology of techniques such as atomic absorption, neutron activation, electron microprobe, electron microscopy, radio-active particle counting etc.

PHB613 Biophysics

A course dealing with the biophysics of selected biological systems (e.g. electrical transmission systems, amplifiers, mechanical systems, molecular behaviour in fields) and instrumentation for inter-cellular and inter-organ measurements (microelectronics, transducers, etc.).

MAB301 Calculus and Analysis A

Real valued functions; differentiation; introduction to partial differentiation; integration; techniques of integration; elementary special functions.

MAB302 Calculus and Analysis B

Infinite series; improper integrals; complex numbers; functions of complex variables, analyticity; introduction to differential equations.

BEB101 Cell Biology

This unit introduces the biology of the cell, with an emphasis on structure and function. The relationships between physical principles and biological functions will also be taught through lectures and practical work.

BEA202 Cell Structure and Function

A general course in cell biology including the living cell and its processes, structure and function. Photosynthesis, respiration, intermediate metabolism. Elementary genetics.

CHP110 Chemical Analysis I

A course of advanced study dealing with sampling, gas and liquid chromatography, electrophoresis, electrochemical methods of analysis and thermal methods of analysis.

CHP210 Chemical Analysis II

X-ray fluorescence and diffraction, nuclear magnetic resonance, emission spectroscopy, atomic absorption and inductively coupled plasma techniques. Mass spectrometry, and gas chromatography/mass spectrometry/data system.

CHP310 Chemical Analysis III

Topics for study will be selected from the following:

Mineral analysis, food analysis, agricultural and related analyses, microbiological analysis, trace element analysis, environmental analysis, organic analysis, radiochemical analysis, forensic analysis.

CHP410 Chemical Analysis IV

An extension of the topics outlined for CHP310 Chemical Analysis III. Legal aspects of Analytical Chemistry. Automated analysis.

CHB375 Chemical Energetics I

Thermodynamics and thermodynamic processes, the Carnot cycle and its application to refrigeration. Ellingham diagrams and metallurgical processes. The kinetics of chemical reaction. The properties of real fluids.

CHB475 Chemical Energetics II

Application of thermodynamics to phase transition and equilibria. Chemical kinetics of polymerisation processes. Homogeneous and heterogeneous catalysis. Introduction to reactors and reactor design.

CHB326 Chemical Process Principles

An introductory study of the principles of chemical processing. Emphasis is placed on process calculations and their applications in industrial stoichiometry and material and energy balances, and in studies of the sources of energy and chemicals for the chemical process industries.

CHA320 Chemical Process Principles I

Material covered in this course discusses chemical reactors (both homogeneous and heterogeneous), unit operations (transport and preparation of materials and separation of materials) and material and energy balances in chemical processes.

CHA520 Chemical Process Principles II

This is a lecture and laboratory course which deals with measurement systems, the principles of process control and the applications of process control in the chemical industry.

CHB625 Chemical Process Technology

Measurement and control in large-scale chemical processing. Strategies of process technology including a study of process systems and optimization. The chemical industry and its role in society.

CHB141 Chemistry I

A chemistry course designed to introduce chemical principles to students commencing a degree course other than the B.App.Sc. (Applied Chemistry) course in the School of Applied Science.

The topics include the orbital concept, molecular bonding, molecular geometry; chemical equilibrium, electrochemistry, kinetics and an introduction to the chemistry of carbon compounds.

A laboratory programme accompanying the above theory is designed to complement it.

CHB241 Chemistry II

A chemistry course designed to follow on from CHB141 and intended for Applied Science degree students other than those enrolled in the B.App.Sc. (Applied Chemistry) course.

The course programme continues to expand on chemistry fundamentals laid down in CHB141 Chemistry I and includes such topics as periodicity, the main group of elements, coordination chemistry; gases, liquids and solutions; thermodynamics; spectrophotometry; continued introduction to chemistry of carbon compounds; functional group chemistry.

A laboratory programme accompanying the above theory is designed to complement it.

CHB343 Chemistry for Geologists III

A course in the theory and practice of instrumental and other methods of rock and mineral analysis.

CHB443 Chemistry for Geologists IV

Chemistry relevant to the understanding of crystallization from melts and metamorphic reactions. Organic chemistry of coal and petroleum. Further practice in analysis of rocks and minerals.

CHA230 Chemistry of Inorganic Materials

A course covering the occurrence, extraction/manufacture, properties and uses of the elements and the important inorganic compounds derived from a selection of members of the chemical groups.

MAB635 Classical Theoretical Mechanics

Mathematical model of Newtonian mechanics; statics; conservation laws of dynamics; impulsive motion in one dimension; motion of a particle in one dimension, examples; motion of a particle in two dimensions, examples.

PHD277 Clinical Practice ID
PHD377 Clinical Practice IID
PHD577 Clinical Practice IIID
PHD677 Clinical Practice IVD

Practical programmes carried out in approved clinical training centres under the supervision of qualified radiographers and radiologists. Detailed programmes for each semester are specified by a Clinical Practice Supervisory Committee.

PHD287 **Clinical Practice IT**
PHD387 **Clinical Practice IIT**
PHD487 **Clinical Practice IIIT**
PHD587 **Clinical Practice IVT**
PHD687 **Clinical Practice VT**

Practical programmes carried out in approved clinical training centres under the supervision of qualified radiographers and radiotherapists. Detailed programmes for each semester are specified by a Clinical Practice Supervisory Committee.

PHD588 **Clinical Radioisotopes**

Discussion of clinical and practical applications of radioisotopes; biological effects and protection relevant to handling of unsealed radioactive sources.

CMA133 **Communication Techniques**

An introduction to the techniques of technical writing appropriate to applied science vocations. Technical report writing, writing for non technical audiences, media liaison, business communications. Application of communication principles in technical writing. Application of communication principles to non-written communications. Individual and group speaking. Speech writing. Oral delivery of technical papers. Formal meeting procedure. Conferences, forums, panels, interviews, symposia, debates. Use of film in scientific communication.

BEB472 **Communities and Ecosystems**

A quantitative study of diversity, structure and dynamics of representative Australian biological communities leads to a process orientated evaluation of the function of ecosystems in terms of productivity and stability. Relevant climatic and edaphic properties are examined. Field excursions integrate major themes.

PHD686 **Comparative Radiotherapy Practice**

Practices employed in radiotherapy departments in other Australian states and overseas, for the treatment of particular conditions, are compared with those employed locally and treated in Radiotherapy Practice III, Radiotherapy Practice IV and Radiotherapy Practice V.

PHD584 **Complementary and Evolving Techniques**

Applications of the computer to radiotherapy planning, records, data collection and statistical abstraction. Consideration of the principles and merits of evolving techniques such as neutron therapy, pi meson therapy, diathermy etc.

PHD572 **Complementary Imaging Techniques**

This unit treats a number of topics which are complementary to diagnostic radiography and others in the fields of image presentation and evaluation, which are of potential importance in diagnostic radiography.

MAB604 **Complex Variables**

Topology of the complex plane, Cauchy representation theorem on a convex domain, properties of a holomorphic function in relation to its zeros; general forms of Cauchy's theorems; argument principle and Rouche's theorem; analytic continuation, conformal mapping.

MAB659 **Computer Logic**

A course designed to provide the necessary background for subsequent hardware topics. It includes the study of boolean algebra together with an introduction to switching theory and the theory of sequential state machines.

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. Nondecimal number systems. Counters, comparitors, shift registers and parity checkers. Memory technology. Characteristics of drum, disk and magnetic tape recording materials. Error detection and correction.

MAB953 Computer Organisation II

A course dealing with system organisation and architecture, Input-output facilities. System organisation. Reliability. Description and simulation techniques. Data transmission, networks and protocols, microcomputer technology.

MAB606 Computers and Programming

Computer structure and machine language; addressing techniques; digital representation of data; symbolic coding and assembly systems; macros; program segmentation and linkage; computer systems organisation; systems and utility programs; review of 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.

CHA410 Computers in Chemistry

This course will outline the use of computers in various aspects of the chemical industry – both in laboratory and plant. The different approaches to laboratory automation will be discussed, and a detailed study of computer control in a selected industry will be included.

MAA163 Computing

Computer utilisation; computer organisation; programming in BASIC; problem solving; analysis of numerical and non-numerical problems; introduction to FORTRAN.

MAB262 Computing

An introductory course in the use of digital computers for problem solving in the scientific sphere. The course includes a study of algorithm development, the specification of algorithms in a programming language and the concept of stored program execution. Special emphasis is placed on interactive programming and debugging techniques.

MAB935 Continuum Mechanics

Cartesian tensors; stress and strain tensors; motion and flow, rate of strain tensor; fundamental laws of continuum mechanics. Selection from one or more of the following: fluid dynamics, linear elasticity, plasticity, visco-elasticity.

MEA298 Data Presentation Techniques

Audio visual aids: care, use and maintenance of projectors, film repair, preparation of transparencies, tape recorder use, tape and film splicing. Draughting techniques, stencils, lettering, tracing and copying table use, blueprints etc. Basic darkroom techniques and simple photography.

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 structures in programming languages.

MAB612 Differential Equations

Vector spaces with inner product; linear operators in finite dimensional spaces; linear differential equations; series methods; Laplace transform; self adjoint boundary problems and Fourier series; partial differential equations.

BEB065 Dynamics of Populations

An introduction to theoretical processes involved in population dynamics and interactions that provide an opportunity to develop skills essential for practical studies in the ecology of animal and plant populations. Case studies are linked with the use of mathematical models. There will be one short field excursion which will stress population ecology of important local species.

ASB100 Earth and Life Science

Origin, internal structure, processes and history of the earth including plate tectonics and continental drift, earthquakes, mountain building, generation of magmas and the formation of igneous and metamorphic rocks. Weathering, erosion, sedimentation and landform development. The evolution of the atmosphere and hydrosphere, the geological time scale and the fossil record — individual organisms and biological evolution. An outline of biogeochemical cycles in the energy and material balance of the bioshpere. Environmental factors and population, community size and structure. Aquatic and terrestrial ecosystems. Practical field demonstrations.

ESB411 Earth Resources

An assessment of known resources and future alternatives. Topics discussed include crystal abundances and geochemical distributions; energy sources; metalliferous and non-metalliferous economic resources; geopolitics, realities of mineral distribution; limits of earth resources, conservation versus exploitation; waste disposal control; environmental pollution; future technological developments and their possible effects on mineral demands.

ESB113 Earth Science I

An introductory course in selected aspects of earth science. Basic geological principles and theories; uniformitarianism, superposition, evolution, geologic time. Origin and general constitution of the earth solar system. Physical and chemical properties of the earth. The concepts of isostasy, plate tectonics, orogeny, epeirogeny, eustatic adjustment, convection, heat flow etc. Crystallography: unit cells, crystal systems and classes, symmetry elements, crystallographic laws, habit, parameters, indices, twinning etc. Mineralogy: chemical and morphological classification of minerals, detailed study of various silicate groups. The structure, texture, mineralogy, mode of occurrence, origin, and classification of igneous, sedimentary, and metamorphic rocks. Structural geology: the origin, morphology, and recognition of faults, joints, folds, unconformities and related structures. Stereographic and orthographic solution of geological problems; other methods of data presentation. Economic geology; processes in the formation and accumulation of metalliferous economic materials. Field excursions as required.

ESB213 Earth Science II

A course in selected aspects of earth science. Physical geology: weathering, erosional processes. Geomorphology: topographic features resulting from erosion by marine, fluvial, glacial and aeolian agencies. Topographic maps and the interpretation of landforms. Pedology: factors of soil formation, soil components, chemical activity, climate and leaching, erosion, solonisation, study of the major soil groups. Hydrology: sources of groundwater, its storage, movement, exploitation and utilisation. Palaeontology: formation and preservation of fossils, the use of fossils, the principles of biological classification and nomenclature, evolutionary theory. Systematic palaeontology: classification, morphology, evolution and ecology of the major phyla within the plant and animal kingdoms. Stratigraphy: stratigraphic principles, subdivision of strata, concept of facies, geological time scale, stratigraphy of Queensland and its relationships to the stratigraphy of Australia as a whole. Field excursions as required.

BEP564 Ecology of Man

Concepts of material, biological and cultural structures and evolution. Human population dynamics: patterns of human settlement. Physiological tolerance, disease and vectors of disease. Human biology in relation to pollution.

MNB025 Economic Analysis for Geologists

Local and overseas investment; world mineral commodity markets; mineral development financing; taxation; mineral statistics; mineral industries studies.

ESB363 Economic Geology III

A systematic review of metalliferous and non-metalliferous economic materials covering aspects of mineralogy, genesis, use, value, ore beneficiation, major overseas deposits, Australian deposits. Laboratory techniques for testing and evaluating economic materials. Chemical mineralogy.

ESB513 Economic Geology V

Detailed studies of the genesis, discovery, exploitation, and use of economic materials. The following topics are introduced and references supplied for further reading – exploration programmes, crustal evolution and mineralisation, ore distribution in space and time, stratiform and stratabound ores, volcanogenic processes, wall rock alteration, gossans, mineral potential of the sea bed, uranium, magnetic geochemistry, isotope studies, geothermometry, clay technology, microchemical testing. Additional miscellaneous topics are dealt with as student seminars.

BEP667 Economics of Resources

Responsibility of public and private sectors of the economy for maintaining environmental quality. Accounting and evaluation of environmental amenities and resources. Impact of environmental policy on key areas of economic management.

BEP668 Ecosystem Management

The unit is flexible in content: in response to needs, a major emphasis may be developed in one or more of the following areas. Collation and evaluation of rough field data, techniques of pollution monitoring. Management and the theory of systems, systems philosophy, concepts and applications are studied through an emphasis on management techniques. Quantitative techniques and programmed management. Introduction to ecosystem modelling using systems analysis techniques, basic principles for conservative management of natural resource ecosystems, use of computers in the study of ecosystem dynamics. Advanced techniques in ecosystem analysis. Case studies of ecosystem analysis, e.g. IBP Investigations (1964 - 1975) Westernport and Botany Bay projects.

PHA352 Electrical Technology

Operational amplifiers, integrated circuits, special purpose devices (FET's etc), non-linear devices, digital electronics, power generation and distribution, electrical machines, maintenance procedures, practical construction, environmental control for instruments.

PHA258 Electricity

A course of lectures, tutorials and practical work on transients in d.c. circuits, thermo-electricity, alternating current theory and applications to meters, generators, motors and transformers, Hall effect.

CHB575 Electrochemistry

The electrochemistry of surfaces and electrodes. Electrochemical cells and fuel cells. The polarisation of electrodes. The mechanism and thermodynamics of corrosion and its prevention by various techniques.

PHA254 Electronics

DC circuits and components, AC circuits and components, circuit concepts, applications, diodes, transistors, amplifiers, power supplies, waveform generators, simple instruments.

PHB504 Electronics

A course of lectures and laboratory work on the theory and application of solid state devices. Includes thyristors, integrated circuits (analog and digital), RF circuits, pulse circuits and digital circuits.

PHP350 Electronics

Electronics will cover components and circuits, linear and digital circuits, applications in analytical instrumentation etc. Experiments in the laboratory programme will illustrate various aspects of the lecture course.

CHB646 Energy Technology

A study of energy conversion systems and energy economics including choice of fuels, distribution costs and net energy analysis.

ESB653 Engineering Geology

The application of geology to engineering, including an introduction to soil and rock mechanics, geological factors influencing engineering design and construction, and the use of geological materials in construction. Foundation conditions and site investigation techniques. Case histories of various construction projects, including dams, bridges, buildings, roads, railways, tunnels and slopes. Field excursions to appropriate construction sites.

ESP313 Engineering Geophysics

Methods applicable to civil engineering projects, site investigations and quarrying investigations, including seismic refraction, electrical resistivity, and well-logging. Field trips will be conducted to gain practical experience in geophysical methods.

ESP413 Engineering Hydrogeology

This unit covers those sections of applied hydrogeology relevant to the solution of underground water problems associated with engineering projects. A field trip of about 2 days will be held to visit sites where instructive problems may be examined.

BEA042 Entomology I

Collection of terrestrial anthropods. Aspirators, funnels. Killing and preservation methods, setting, drying, pinning, staging. Potash preparations, cleaning and mounting. Culture of insects. Immature insects. General anatomy and biology of insects. Principles of classification and nomenclature. Evolution and classification. Simple taxonomy to the level of order.

BEA044 Entomology II

Composition and distribution of the insect fauna. The micro-climate of an insect. Populations in nature. Populations in the laboratory. Insect physiology and behaviour. Adaptations to terrestrial and aquatic environments. Feeding habits. Insects as pests. Insects against man and domestic animals. Insects and food spoilage. Insects in the home. Control methods. Beneficial insects. Insects in the future. Detailed taxonomy and identification of important pest species.

CHB411 Environmental Analytical Chemistry

A course of lectures and practical work for students of biological sciences dealing with the principles and application of sampling, electrometric methods, spectroscopic methods, flame methods and separation methods to the analysis of materials from the bioshpere.

BEA403 Environmental Biology

An introduction to the principles and concepts of ecology in relation to the distribution of plants and animals in Australia, including man's impact on naturally occuring ecosystems. Short field excursions will be an integral component of the subject.

CHB647 Environmental Chemistry

A course of lectures and practical work covering various facets of atmospheric, water and soil chemistry.

BEP868 Environmental Impact Studies I

Need for and historical development of the EIS in North America, Europe and Australia. Problems of preparation and assessment.

BEP968 Environmental Impact Studies II

Multidisciplinary team approach to preparation of the EIS. Rule of simulated environmental decision making in preparation of the EIS. In depth studies of EIS that have been prepared in Queensland and Australia. Assessment of the EIS in the light of their objectives and the resources available. The class will work as a multidisciplinary team in the preparation of an EIS, including field work.

BEP660 Environmental Politics

Short history of conservation movement in Australia, USA and Europe. Politics of land tenure and resource utilization. Political intervention. The role of public opinion, pressure groups and corporations. Public and private interest and gains. Case studies.

BEP568 Environmental Quality

Engineering and the environment. Maintenance of environmental quality – water resources, highways, extractive industry, waste disposal. Location of industries, concentration or dispersal. Introduction to basic concepts of economics, resource utilization, environmental protection.

BEB358 Experimental Design

This subject is offered in two sections. The first section of 10 lecture-tutorials involves multiple and curvilinar regression, χ^2 goodness of fit, multiway analysis of variance, multiple range tests. The second section builds a practical extension on the theoretical basis of statistics, using experimental situations commonly met within biology.

MAB258 Experimental Design

This subject is offered in two sections. The first section of 10 lecture-tutorials provides an introduction to experimental method, basic logic of experimentation and the sources of error and uncertainty in experiments. The second section of 10 lectures and 10 tutorials introduces chi-square and F distribution, one-way and two-way analysis of variance, latin square and balanced incomplete block designs and multiple and curvilinear regression.

PHB307 Experimental Electronics

A course of lectures and associated practical work on electronic components and their function, circuit design concepts and feedback theory, and applications to amplifier and oscillator circuits.

PHB106 Experimental Physics I

A course of laboratory work including introductory experimental methods and skills, and laboratory experiments.

PHB206 Experimental Physics II

A course of laboratory work including both set experiments and short experimental investigations.

PHB306 Experimental Physics III

A course in practical work designed to train students in the method and details of experimentation. Contains a study of experimental methods, advanced experimental skills and laboratory experiments.

PHB406 Experimental Physics IV

A course of practical work consisting of some set experiments in radiation physics, but mainly a supervised experimental project.

PHB506 Experimental Physics V

Laboratory and field work in applied physics with emphasis on open ended experiments with modern equipment.

PHB606 Experimental Physics VI

A course of experimental physics consisting mainly of a supervised project. Students will also be required to present seminars on their project.

PHA156 Experimental Skills

Introductory laboratory skills — analysis of measurements, instruments, experimental exercises.

ESB533 Exploration Geochemistry

Techniques for establishing regional geochemical patterns. The application of geochemistry to the discovery of ore deposits and to environmental problems. A field project is a major component of the practical work. Students are required to attend appropriate field trips and these may involve one or two overnight and weekend commitments.

ESB633 Exploration Geophysics

The reduction and manipulation of geophysical data, and their interpretation in geological terms. Also included are field data acquisition and laboratory analog modelling. Field experience using a variety of geophysical methods will be gained during portions of ESB573 Excursions V and/or ESB673 Excursions VI.

BEA090 **External Projects I**
BEA099 **External Projects II**

These two elective subjects will be offered on occasion to enable a student to submit work experience for credit in the course. Design and assessment of the experimental work programme will be carried out by the employer in conjunction with a supervisor appointed by the Head of Department.

ESB383 **Field Excursions III**

An extended (5 day or more) excursion or a series of weekend excursions to selected areas of geological interest. It will be necessary for students to submit assignments based on these excursions.

ESB483 **Field Excursions IV**

An extended (5 day or more) excursion or a series of weekend excursions to selected areas of geological interest. It will be necessary for students to submit assignments based on these excursions.

ESB573 **Field Excursions V**

An extended (5 day or more) excursion or a series of weekend excursions to selected areas of geological interest. It will be necessary for students to submit assignments based on these excursions.

ESB673 **Field Excursions VI**

An extended (5 day or more) excursion or a series of weekend excursions to selected areas of geological interest. It will be necessary for students to submit assignments based on these excursions.

BEA498 **Field Techniques**

Types and use of maps, simple map-making; chain and compass survey, plane-table mapping and aerial photo interpretation. Environmental and micro-meteorological measurement. Field processing of specimens for field and laboratory study. Field collection and observation techniques. Field excursions: organization and provisioning, first aid and bushcraft. An extended field excursion is an integral part of the subject.

ESB393 **Field Techniques**

Methods of recording, analysing and presenting geological field data. Techniques for detailed mapping, reconnaissance and traverse methods, geobotany, sampling procedure. Preparation of photogeological maps and reports. Students may be required to participate in several field excursions of short duration.

CHA580 **Food Chemistry I**

Topics covered will include: structure of plant tissues, plant pigments, trisaccharides, starch, cellulose, pectin and lipids. Technology of preparation and modification of fats and oils. Single cell proteins, proteins of meat, fish and milk, food enzymes. A major assignment appropriate to the dairy industry is also incorporated.

CHA680 **Food Chemistry II**

A more advanced unit covering the chemistry and principle methods of food processing and preparation. A further major assignment appropriate to the dairy industry is incorporated.

CHB685 **Food Science**

A course examining facets of the food industry and covering the chemistry and technology of food products. Topics include food chemistry, food preservation and processing, together with food quality control and evaluation.

MNA129 General Psychology I

The course covers a general introduction to the social determinants of behaviour. The course deals with the early social behaviours in the developmental stage and traces the processes of socialisation that occur throughout life. Reference is made to pressures to conformity and specific culture factors which influence behaviour.

ESB403 Geochemistry

Distribution of elements in nature. Geochemical associations, mobility and dispersion. Sampling methods and design. Data processing, presentation and interpretation. Preparation of geochemical maps and reports. Practical aspects based on field work in selected localities.

ESA310 Geology

An introduction to geological materials, emphasising chemical concepts and processes. Aspects studied include the origin and constitution of the earth, introductory mineralogy, igneous, sedimentary and metamorphic petrology, study of physical and structural geology, geomorphology, stratigraphy, and economic geology. Field excursions as required.

ESB433 Geophysics

An introduction to the theory of exploration geophysics. Gravity, magnetic, radiometric, well logging, seismic refraction and reflection, electrical resistivity, induced polarisation and electromagnetic techniques.

PHA466 Geophysics Instrumentation

An applied course, studying the uses of radioactive dating, magnetism, gravity, seismology, and thermal properties, satellite surveys.

ESP323 Geophysics Project

A project designed, executed and presented by each student, on the application of geophysical methods in the areas of engineering site investigations or groundwater evaluation (either localised or regional). Depending on the topic chosen for the project, this may involve up to 5 days field work by each student.

ESP123 Groundwater Geophysics

A study of geophysical methods which are particularly suited to the local evaluation of groundwater. Up to 3 days of field excursions will be conducted to gain practical experience in the application of various geophysical techniques.

NSD101 Hospital Practice & Care of Patient

An introductory unit emphasising the importance of patients and their care, the care and preparation of patients, first aid, the principles of infection, sterilisation and asepsis are discussed.

PNB430 Human Physiology A

A study of systematic physiology covering basic areas in theoretical and experimental aspects. Topics considered include: the physiology of the cell, tissues and organs, blood and body fluids, energy metabolism and nutrition, nervous and endocrine systems.

PNB431 Human Physiology B

A continuing study of systematic physiology surveying alimentary, cardiovascular, respiratory and renal systems. Adaptation to environmental stress.

BEA060 Hydrobiological Techniques

Introduction to hydrobiology – types of water and aquatic ecosystems. Method for investigating physical and chemical characteristics of water – water sampling and preservation, instrumentation, sediment analysis. Introduction to methods of water chemistry. Sampling and preservation of plankton, neuston, nakton, benthos, macrophytes and periphytes of standing waters. Methods for investigating biological communities of running water. Estimation of community structure, primary and secondary productivity. Methods for biological estimation of water quality, species diversity indices, indicator organisms. Water quality criteria and standards. Field studies form a significant part of the practical work of the course.

ESB523 Hydrogeology

A continuation of the subject matter of ESB443 Hydrology IV, with the emphasis on practical aspects. The analysis of pumping tests made under a wide variety of geological conditions is studied, together with flow net analysis and the prediction of safe long term pumping rates.

ESP423 Hydrogeology Project

This project will be accompanied by field excursions totally (up to 5 days) to examine aspects of drilling. Completion, sampling and testing of water bores. The testing of samples and analysis of results and observations. Students are required to submit a report.

CHA610 Industrial Analysis

A course involving the use of both qualitative (semi-micro) and quantitative techniques in the analysis of commercially important materials, including ores, cement, fertilizer, fats and oils and sugar products.

CHA368 Industrial Chemistry

This subject aims to develop in the student an appreciation of the basic aspects of product and quality control, an understanding of the underlying fundamental chemistry and an overall concept of the chemical technology involved in, for example, the petroleum and petrochemical industry, the polymer, plastic and adhesive industries, the paint industry, the testile industry, the sugar industry, water treatment plants, the glass and ceramics industry, and the cement industry.

CHB565 Industrial Visits

Visits to selected industries providing a basis for a study of the industries selected together with an appreciation of the role of the chemist in those industries.

CHB660 Industrial Visits

Visits to selected industries providing a basis for a study of the industries selected together with an appreciation of the role of the chemist in those industries.

ACB396 Information Systems A

A course introducing the concepts and objectives involved in the use of the computer as a management tool in organisations. Content covers basic analysis and design of data processing systems.

ACB496 Information Systems B

A continuation of ACB396, covering the procedures relevant to system implementation and testing with particular attention paid to file processing in online systems. Practical work in COBOL is included.

ACB696 Information Systems C

This subject after continuing briefly with the study of online systems commenced in ACB496, is concerned largely with the evolution, design and objectives of database systems. A case study of an existing database system is included.

CHB335 Inorganic Chemistry I

A course of lectures in the area of general inorganic chemistry with topics including solvents, solutions, acids and bases, cation and anion chemistry and redox theory.

CHB435 Inorganic Chemistry II

A course of lectures and practical work relating to the principles of bioinorganic, nuclear, transition and post-transition chemistry.

CHB336 Inorganic Chemistry IIIC

A course of lectures in the area of general inorganic chemistry with topics including solvents, solutions, acids and bases, cation and anion chemistry and redox theory.

CHB436 Inorganic Chemistry IVC

A course of lectures and practical work relating to the principles of bioinorganic, nuclear, transition and post-transition chemistry.

CHB636 Inorganic Chemistry VIC

A course of lectures and practical work dealing with organometallic chemistry, the non metals, lanthanides and actinides.

CHB515 Instrumental Analysis

A course of lectures and practical work covering further spectroscopic techniques and other modern instrumental methods.

CHA318 Instrumental Analytical Chemistry

A course of lectures and practical work introducing the principles and practices of mass spectrometry, XRD and XRF, NMR, fluorescence spectroscopy and ICP together with further development of selected topics from the unit CHA340.

CHA340 Instrumental Techniques

A course of lectures and practical work to provide an introduction to the principles and analytical applications of UV-visible and infrared spectroscopy, atomic spectroscopy (emission and absorption), chromatographic techniques and electrochemistry together with an introduction to data recording and handling principles.

PHA365 Instrumentation I

Measurements, variables and methods, non destructive testing, acoustics, instrumentation, force variables, rate variables, other measurements (density, humidity etc).

PHA453 Instrumentation II

Electromagnetic waves, radio transmission and reception, antennas, radar, television.

BED100 Introduction to Cell Biology

This unit deals with cells and their survival as living units.

MAB305 Introduction to Computing A

An introduction to algorithms, programs and computers; basic programming; program structure; programming and computing systems; debugging and verification of programs; data representation; special programming topics; organisation and characteristics of computers; analysis of numerical and non-numerical problems; an introduction to PASCAL; survey of computers, languages and systems.

MAB351 Introduction to Computing A

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 FORTRAN and PASCAL. Survey of computers, languages, systems and applications.

MAB306 Introduction to Computing B

Introduction to COBOL programming; identification division; environment; division; data division; file section; working-storage section; elementary fields; procedure division; sorting, reporting and edition; program testing; COBOL arithmetic; record processing; COBOL ancillaries; term project.

ACB297 Introduction to Computing B

A course covering basic aspects of business data processing. Programming in COBOL.

BEP560 Introduction to Environmental Science

Basic ecological concepts and their application – a systems approach to the natural environment. Ecosystem theory in relation to Man. Pollution as perturbation of an ecosystem. A major field excursion of 1 to 2 days will form part of this unit.

ESB443 Introduction to Groundwater and Petroleum

Groundwater hydrology, emphasising the theoretical aspects of the subject. Consideration is given to basic equations of flow, the properties of water-bearing materials; the performance of pumping bores in steady state and unsteady states, and in confined and unconfined aquifers. Composition and origin of petroleum and the nature of the source beds. Migration and accumulation of petroleum and natural gas. The formation of structural, stratigraphic and combination forms of petroleum traps.

MAB260 Introduction to Programming

An introduction to computers incorporating theory of computer design, the uses of computers in relevant areas of industry; together with an introductory course in FORTRAN and flow charting structured to enable the student to proceed with practical applications of computing in further course studies.

BEB400 Introduction to Projects

This unit introduces students to the variety, scope, content, structure and rationale of previous and current student projects, such that subsequent allocation of student projects proceeds on an informed basis.

PNA113 Introductory Biochemistry

Molecular aspects of cellular structure and organisation. Nomenclature and basic chemistry of simple biological molecules. Amino acids and proteins: fibrous and globular proteins; enzymes and factors affecting their activity. Structure, function and reactions of carbohydrates and lipids, and their role as structural components and metabolites. Nucleic acids in cell growth and syntheses. Cell dynamics and analytical methods.

CHA140 Introductory Chemistry

An integrated course of fundamental chemistry covering: the nature of chemistry, atomic, molecular and nuclear structure, bonding and types of bonds; the structure and nature of matter; molecular formulae, atomic and molecular weights; the periodic classification; reduction/oxidation; chemical equilibria; liquids and solutions and simple phase equilibria; equilibria in electrolyte solutions; pH and its measurement. Carbon chemistry and functional groups. The chemistry and properties of some common laboratory chemicals. Practical applications are emphasised.

PHA154 Introductory Physics

An introduction to the basic concepts involved in the study of linear mechanics, ideal gases, liquids and solids, elasticity, surface tension, temperature and its measurements, heat content, heat transfer, reflection and refraction of light at plane surfaces, use of lenses in simple optical instruments, current electricity, e.m.f., resistance, circuit analysis, heating effect, electrical measurements using moving coil galvanometers, potentiometers and Wheatstone bridge, magnetic effects of a current and force on a current in a magnetic field with simple applications. A series of laboratory experiments is used to emphasise the above concepts.

MAB331 Introductory Vector Analysis

Introduction to determinants; addition and subtraction of vectors; vector products, physical and geometrical applications; differentiation and integration of vectors; differential geometry of curves; conic sections; kinematics of a particle; relative motion.

BEA012 Invertebrate Biology

Invertebrate groups, representative of the diversity of life forms and habits, studied in terms of the general body form and internal organization of typical members, adaptive diversity and abundance, reproductive patterns and life histories, behaviour and ecology.

PHA460 Ionizing Radiation Technology

Health Physics — hazards associated with ionizing radiation and control, waste disposal. Biological effects of ionizing radiation on cells and tissue. Industrial applications, measurements of flow rates, friction and wear, leak detection and thickness guaging.

CHP445 Laboratory Automation

A course designed to emphasis the application of digital computers in Analytical Chemistry. To include: off-line data reduction, on-line data acquisition and reduction, analog to digital conversion, interfacing for analytical instruments, real-time computer control in experimental systems, computer-based information retrieval system for i.r. and m.s. data. Microprocessor applications in the laboratory.

CHA460 Laboratory and Factory Visits

A series of organised visits to various chemical laboratories and chemical processing plants.

CHA440 Laboratory Management

Management function. Industrial awards; trade unions; conciliation and arbitration system. Laboratory organisation. Staffing; budget preparation; inventory control systems, purchasing.

CHP345 Laboratory Management

A course outlining the effective management of an analytical laboratory. Topics include a description of the organisation and its management, equipment policy and purchasing and financial control.

CHA111 Laboratory Techniques

A course introducing the student to safe and proficient procedures in the laboratory, and to give practice in the manipulation of common elementary laboratory apparatus, equipment and reagents. On completing the course the student should be able to handle, correctly and safely, all the basic pieces of laboratory equipment and be familiar with their main functions and limitations. Accuracy, cleanliness and safety will be stressed in all topics.

ESB473 Law for Geologists

Introduction to English law, legal reasoning, and the different legal systems. The Australian Constitution, Federal and State Government court systems. Contracts, torts and land law. The historical background and political framework of mining law. The legal meaning of 'mine' and 'minerals'. Mining Acts and Miner's Rights. Licensing procedures for prospecting, search and exploration. Mining leases on Crown Lands and mining on private land. The enforcement of mining interests. Petroleum legislation in Australia.

BEP766 Legislation and the Environment

History of laws and ordinances concerning pollution, concerning land use (use of common land) and concerning the high seas. History of recent attempts to curb the destructive polluter. National approaches: NEPA legislation, Canadian and British models. Australian Environmental legislation commissions of enquiry etc. UN sponsorship of global regulation of the environment.

MAB310 Linear Algebra

Matrices; vector spaces; linear transformations; eigenvalues and eigenvectors. Euclidean spaces; quadratic forms.

MNB040 Management

An introductory study of management including the functions of management, leadership, motivation and supervision of staff, and employee relations.

MNB081 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.

MNB091 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.

PHB607 Materials

A course of 15 lectures and associated practical work on the diffusion processes in crystal lattices, point defect impurities, dislocations, elastic and plastic deformation of materials, and mechanical properties of materials.

CHB595 Materials Science I

Classification and physical testing of materials. Crystalline materials and their analysis by X-ray. The Phase equilibria. Metals and alloys, including the chemistry of metal extraction.

CHB695 Materials Science II

Semiconductors and insulators. Cements and ceramics, glasses, inorganic and organic polymers.

MEA030 Materials Technology

Phase transformations, metals, colloids, structural imperfections and atomic movements, mechanical properties, high polymers, ceramics and related materials, thermal properties, corrosion, friction wear and lubrication.

PHA464 Materials Testing

The techniques and instrumentation used in industrial control and development laboratories will be covered. Techniques will include both destructive mechanical testing and non-destructive testing, thermal and electrical characteristic determinations. Types of materials concerned will include metallic and non-metallic, ceramics and polymers.

MAB317 Mathematical Statistics I

Collection and representation of data, parameters and statistics; introduction to the theory of probability and probability distributions; elementary treatment of sampling theory leading to the normal, t, F and χ^2 distributions; statistical estimation and tests of hypotheses based on the normal, t, F and χ^2 distributions.

MAB318 Mathematical Statistics IIA

Tests of hypotheses; interval estimation; introduction to quality control; simple linear regression; correlation; fundamentals of one factor experimental designs and the analysis of variance.

MAB608 Mathematical Statistics IIB

Hypergeometric, negative binomial, beta, gamma and exponential probability distributions; bivariate distributions and an introduction to multivariable distribution theory; multiple and curvilinear regression theory; two factor, factorial and fractional factorial experimental designs.

MAB907 Mathematical Statistics IIIA

Distributions of functions of random variables; estimation theory; introduction to multivariate normal distribution theory.

MAB908 Mathematical Statistics IIIB

Three factor designs, balanced incomplete designs, introduction to the analysis of covariance; introduction to stochastic processes, random walk, recurrent events, Markov chains; random and stratified sampling; sampling for proportions.

MAA161 Mathematics I

Functions, limits and continuity, ordinary differentiation, applications of differentiation, vectors, integration, approximation methods.

MAB251 Mathematics I

Data handling; determinants and matrices; differentiation with applications; partial differentiation; integral calculus with applications; numerical methods.

MAA162 Mathematics II

Partial differentiation, matrices, complex numbers, ordinary differential equations.

MAB160 Mathematics II

Analytical geometry; applications of differentiation and integration; complex numbers; infinite series; introduction to vector analysis.

MAB162 Mathematics IIG

Analytic geometry; applications of differentiation; applications of integration.

MAB459 Mathematics IIIP

Calculus of several variables; linear algebra; vector analysis.

MAB460 Mathematics IVP

Fourier series; ordinary differential equations; partial differential equations; functions of complex variables.

MAB759 Mathematics VP

Tensor analysis; Boolean algebra; information transmission and reception.

MAB342 Mathematics of Finance

Interest rates; solution of problems in compound interest; annuities; applications of annuities; valuation of securities; effects of taxation; introduction of basic modelling techniques.

PHA465 Medical Instrumentation

A study of the principles, operation and service of instrumentation commonly in use in medical or clinical establishments.

PHN100 Medical Physics I

Analog Electronics
Principles of electronics applicable in the medical field; discrete circuits and integrated circuits in common use – design and limitations.

Anatomy and Physiology I
A study of basic functional anatomy covering cells, tissues, and the organ systems of the human body. The lectures and practical work are integrated and emphasise the relationships between structure and function.

Medical Computing I
FORTRAN programming, algorithms, use of DEC10 system and terminals.

Professional Experience Tour
A study tour of local medical physics facilities to introduce new students to the range of activities and meet professional practitioners.

Radiation Physics
Deals with phenomena related to interaction of ionizing radiation with matter. Emphasis on aspects of actual or potential importance in a clinical environment. Isotope production, nuclear radiation detectors.

PHN200 Medical Physics II

Administration and Budgeting
Concepts of planning, organising, staffing, directing and controlling.

Biochemistry
A subject in modern biochemistry dealing with those concepts essential to an understanding of human biological functions. This subject is designed to supplement that in Anatomy and Physiology I. Includes the principles of biochemical analysis used in clinical laboratories; electrochemical electrodes, electrophoresis, dialysis, chromatography as well as the application of colorimetry, spectrophotometry, flame photometry, atomic absorption and fluorescence to clinical biochemistry.

Biomechanics
Study of mechanical principles and properties related to human tissues and physiological functions.

Ionizing Radiation Dosimetry
Study of principles and techniques of dosimetry of ionizing radiation with emphasis on aspects pertinent to actual or potential use in medicine.

(cont'd.)

Radiobiology and Genetics
A comprehensive study of the interaction of ionizing radiation with biological material with particular emphasis on mammalian cells and systems. The philosophy and techniques associated with radiation protection. Radiation genetics and man – ICRP recommendations.

Safety
Deals with philosophy, protocol and practices necessary to minimise hazards associated with electrical, mechanical and biological techniques used in hospitals. Radiation protection is also included.

PHN300 Medical Physics III

Anatomy and Physiology II
A study of the mechanisms and controls of body functions. Stress is placed on fundamental principles and the practical work serves to illustrate these principles as well as providing experience in physiological recording and investigative techniques.

Digital Electronics
Basic digital integrated circuits and their applications in logic design and microprocessor interfacing. Microprocessor programming and applications. Integrated with instrumentation and Medical Computing II to develop an understanding of microcomputer function and applications.

Instrumentation
This subject concentrates on gaining experience in the use of a wide range of instrumentation. Topics included are generalised instrument, data transfer, data interpretation, servomechanisms, data recorders, systems, practical aspects of instrument use. Laboratory learning experience in the gathering, conditioning, storage and analysis of data, using skills learned in digital electronics, computing and instrumentation.

Medical Computing II
Application of digital computers (including minicomputers) to clinical problems. Emphasis on efficient methods of data acquisition and processing (including numerical and statistical analyses), data storage and display.

Professional Experience Attachment
A two to three week programme of full-time attachment to a medical physics facility to gain experience by observation and limited participation in the activities of the host organisation.

PHN400 Medical Physics IV

Clinical Application of Ionizing Radiation
Considers the principles and techniques of clinical application of ionizing radiation for diagnostic and therapeutic purposes. Emphasis is on radiotherapy physics and diagnostic x-rays. Nuclear medicine is developed in the companion topic, Radioisotope Techniques.

Medical Application of Wave Physics
Discussion of principles and techniques of using non-ionizing electromagnetic, ultrasonic and other radiation for medical purposes. Dosimetry and hazards to be included.

Physical Measurements of Biological Parameters
Introduction to the principles and techniques of the direct and indirect measurement of physiological variables.

Radioisotope Techniques
Introduction to the principles and techniques of the handling, preparation and clinical use of unsealed radioisotopes. Includes in vivo, in vitro diagnostic tests and imaging instrumentation.

PHN520 **Medical Physics V**
PHN540 **Medical Physics V**

Professional Practice and Case Studies

Experience in real medical physics situations and problem-solving by attachment to medical physics groups, external as well as internal to the Queensland Institute of Technology.

Project

The project may take the form of research development, a design, a feasibility study of the collation of scattered information on a given topic. The project could be undertaken externally under Queensland Institute of Technology supervision. Time spent on projects will be variable and spread over more than one semester.

MAB941 **Methods of Mathematical Economics**

The nature of mathematical economics; elements of model construction; demand and production functions, equilibrium of the firm; aggregation; partial and general equilibrium models; special cyclic and growth models; input-output analysis.

MAB921 **Methods of Mathematical Physics A**

Equations of mathematical physics; mathematical methods, separation of variables; transform method; conformal transformation; theory of distributions and applications to Green's function method; finite difference method; two dimensional wave equations, examples; two dimensional heat equation, examples; two dimensional Laplace equation.

MAB922 **Methods of Mathematical Physics B**

Linear spaces; linear operators; inverse of linear operators in Hilbert spaces; spectral theory of linear operators; application to ordinary linear differential operators; application to linear partial differential equations, applications to quantum mechanics and scattering; approximation methods.

PHA451 **Methods of Physical Analysis**

X-ray fluorescence and diffraction, electron diffraction, optical metallography, optical emission and absorption spectrometry, mass spectrometry, atomic absorption, electron microscopy, nuclear methods, ESR, NMR, Mossbauer.

MSA161 **Microbiology I**

An introduction to the biology of bacteria, fungi, algae, protozoa and viruses, with consideration of structure, nutrition, reproduction, genetics, and classification systems.

ESB320 **Mineral Assemblages**

The geological and geochemical cycle. Origin, emplacement and composition of igneous rocks. Weathering processes. Origin and composition of sedimentary rocks and metamorphic rocks. Methods of mineral beneficiation; problems related to mineral assemblages and textures. Practical work: Hand specimen examination of rocks and ores. Elementary microscopic examination of thin and polished sections. Exercises in mineral separation.

ESB220 **Mineralogy**

Basic crystallography. Physical and optical properties of minerals and their origin. Classification of minerals. Systematic treatment of mineral groups in terms of structure, composition, properties, occurrence and use. Common rock-forming minerals. Common 'Economic' minerals. Practical work includes examination of crystal models, hand specimen examination and description of minerals, elementary optical examination of minerals in thin and polished sections and grains.

ESB313 Mineralogy

Chemistry, structure, properties and occurrence of selected mineral groups. The theory and methods of optical mineralogy. Identification of minerals in grain mounts and thin sections.

ESA510 Mineralogy Techniques

Fundamental crystallography including crystal systems, forms and symmetry. Stereographic projection of crystals. Systematic treatment of mineral groups, covering aspects of structure, chemistry, properties and uses. Introduction to ore genesis. Techniques of mineral identification.

CHB514 Mineral Analysis

A course of lectures and practical work relating to sampling and methods of analysis of selected minerals.

CHB626 Minerals Technology

A study of the theory and practice of mineral separation techniques including crushing and grinding, gravity method of separation, cycloning, filtration and flotation techniques.

ESB693 Mining Property Evaluation

Solutions of problems involving the concepts of present value of money, place value, unit value, recoverable value, cash flow, discounted cash flow, DCFROI, payback, discounted payback, net present value, depreciation, deplation, sinking fund, annuity, diminishing annuity, compound interest, taxation and its effect on ore reserves, price forecasting, metal marketing, sampling and tonnage grade calculation, ore reserves and sensitivity analyses.

MAB309 Modern Algebra

Set theory; relations and functions; binary operations; natural numbers; group theory; rings and fields.

MSA162 Microbiology II

The growth of microbial populations and methods of controlling growth, sterilisation and disinfection methods; enzymic activity of microorganisms; the identification of the microorganisms more important in public health; host parasite relationships and an introduction to immunity.

MSB450 Microbiology III

An introductory core unit of lectures and practical exercises in Microbiology dealing with cytology, nutrition, genetics, control of microbial populations, and principles of taxonomy.

MSB451 Microbiology IV

An introductory unit in microbiology combining MSB450 and MSB452.

MSB452 Microbiology IVA

An extension of the core course in microbiology (MSB450) which includes bacterial metabolism and biochemical reactions used in the identification of bacteria which cause disease in man, an introduction to immunology, an introduction to antibiotics and microbiological aspects of public health.

MSB453 Microbiology IVB

An extension of the core course in microbiology (MSB450) with emphasis on the applications of microbiology in industry. Topics studied include the enzymic capabilities of microorganisms and their applications in laboratory identification of bacteria and in industrial fermentations; an introduction to the microbiology of foods from the viewpoint of spoilage and public health problems; bacteriological control of water and sewage.

BEA198 Microscopy Techniques

The use and roles of various types of stereo and compound microscopes, and allied techniques: phase contrast and dark field illumination. Micromanipulation. Preparatory techniques: fixation, embedding, staining, simple histochemistry, wet and dry mounts, counting methods.

ESB613 Mineragraphy and Mining Geology

Methods of mineral search, ore prediction, exploratory drilling and mining geology. Mineral economics: fiscal conditions, financing, development and production costing. Principles of sampling and evaluation, processing of mapping, drill log and assay data. Ore reserve assessment and classification. Mining methods, grade control, comminution and beneficiation. Mineragraphy: optical properties of ore minerals, theory of reflected light, growth structures, deformation, twinning and annealing; textural interpretation, gossans. Detailed examination of ore mineral suites and host rocks. Field excursions as required.

PHA359 Modern Physics

A course of lectures, tutorials and practical work on: the Bohr atom and its energy levels. The wave - particle duality of matter and the concepts of wave mechanics. Conductors, insulators and semiconductors, p-n junctions, optical properties and luminescence. Magnetic materials.

PHA357 Monitoring the Environment

Measurement of physical parameters in environmental situations. Biological significance of their measurement and the physical basis of the instruments and techniques used. Field tripis will be included.

MAB601 Multivariable Calculus A

Differentiation, extrema, double integrals, triple integrals, surface integrals, complex integration.

MAB602 Multivariable Calculus C

Vector algebra; scalar and vector fields; line integrals; surface integrals; differential field operators; the integral properties of fields; curvilinear coordinates; application to potential theory, hydrodynamic theory and electromagnetic theory; calculus of variations, functionals; Euler's differential equation; variational problems with subsidiary conditions.

BEB563 Natural Resources

This unit provides a conceptual basis for aspects of ecosystem management related to naturally occurring materials and ecosystems subject to interactive use within the economy. Limitations on specific exploitation of natural resources are identified and linked with relevant aspects of land tenure, administration and law. Strategies leading to sustained yield and conservation are contrasted with those resulting in resource degradation.

PHA453 Nuclear Reactor Technology

Nuclear cross-sections. Fission threshold, energy distribution, fission neutron production. Physics of a reactive assembly, neutron cycle, reactor control and stability. Typical reactor materials, fuels, and fuel element design, moderator, coolant, shielding. Nuclear reactor types, thermal and fast, associated facilities.

MAB613 Numerical Analysis IA

Computing aids; errors; solution of non-linear equations; interpolation and approximation; numerical quadrature; numerical solution of ordinary differential equations.

MAB655 Numerical Analysis IA

A course in numerical methods developed and evaluated from the standpoint of efficiency, accuracy and suitability for high speed digital computing. Computing aids, errors, solutions of non-linear equations, interpolation and approximation, numerical quadrature and numerical solutions of ordinary differential equations.

MAB614 Numerical Analysis IB

Systems of linear equations; ordinary differential equations; interpolation and approximation.

MAB656 Numerical Analysis IB

An extension of MAB655 covering systems of linear equations and further experience with the eigenvalue problem.

MAB913 Numerical Analysis II

Interpolation and approximation; ordinary differential equations; partial differential equations; 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.

MAB627 Operations Research IA
MAB657 Operations Research IA

General linear programming models; transportation and trans-shipment models; assignment models; implementation and validity.

MAB628 Operations Research IB
MAB658 Operations Research IB

Networks; reliability; replacement and maintenance; inventory; queues.

MAB927 Operations Research IIA
MAB957 Operations Research IIA

Linear programming; integer and non-linear programming; dynamic programming; forecasting.

MAB928 Operations Research IIB
MAB958 Operations Research IIB

Simulation; heuristic methods; queueing; decision analysis; implementation in operations research.

PHA257 Optics

A course of lectures, tutorials and practical work on: geometrical optics, including image defects, optical instrumentation including applications of lasers, holography and Schliever techniques, and engineering uses, interferometry – principles and industrial applications, photometry and colour.

PHP150 Optics

A course covering prisms, gratings, optical geometry etc. as a basis of analytical instrumentation. Experiments in the laboratory programme will illustrate various topics covered in the lecture programme.

ESB530 Ore Deposits

A study of the mineralogy, genesis, use, value, mining methods, and beneficiation of selected commodities: metals of ultrabasic, pegmatic and acidic associations; gold and silver; copper, lead and zinc; antimony and mercury; beach placer metals of Australia; metals concentrated by residual processes; gem and abrasive minerals; mica and feldspar; refractories; asbestos; miscellaneous industrial minerals; evaporites; phosphate. Practical work involves examination of appropriate mineral samples and laboratory assignments introducing techniques associated with the evolution of earth resources and with mineral separation, e.g. panning, accurate specific gravity determination, micropanner separation, grain counting, sieve analysis etc.

CHA250 Organic Chemistry I

The study of basic functional group chemistry commenced in CHA140 Introductory Chemistry is continued and includes the chemistry of halogen derivatives of hydrocarbons, alcohols, phenols, ethers, carbonyl compounds, carboxylic acids, derivatives of carboxylic acids and amines.

CHB155 Organic Chemistry I

A course in the fundamental principles of the chemistry of organic compounds together with their industrial and biological importance. A reaction mechanism/functional group approach is used. Topics include the reactions of the carbon-hydrogen bond, carbon-halogen bond, hydroxyl group, ethers, thiols, amino groups and the carbon-carbon double bond.

CHA350 Organic Chemistry II

In this unit the chemistry of polyfunctional molecules, carbohydrates, lipids, amino acids and properties is studied.

CHA550 Organic Chemistry III

Material covered in this unit includes stereochemistry, heterocyclic compounds, free radicals in organic chemistry and further studies of polyfunctional molecules.

CHB355 Organic Chemistry III

A course of organic chemistry including a study of the chemistry of carbanions, stereochemistry, carbohydrates, amino acids, proteins and lipids.

CHB356 Organic Chemistry IIIC

A course of organic chemistry covering stereochemistry and selected polyfunctional compounds of synthetic and biological importance.

CHB455 Organic Chemistry IV

A course of organic chemistry including a study of reaction mechanisms, aromatic chemistry, heterocyclics and polyfunctional molecules.

CHB456 Organic Chemistry IVC

A course covering reaction mechanisms, aromaticity and the chemistry of selected heterocyclic and polyfunctional molecules.

CHB555 Organic Chemistry V

A course of advanced organic chemistry. Topics may include a study of the methodology of organic synthesis, structural determination, molecular rearrangements, orbital symmetry, free radical and photochemistry, aspects of the organic chemistry of sulphur and phosphorus.

CHB556 Organic Chemistry VC

An advanced course in organic chemistry covering topics such as organic synthesis, molecular rearrangements, orbital symmetry, free radical and photochemistry, organic sulphur and phosphorus compounds.

CHB650 Organic Chemistry VI

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.

CHB656 Organic Chemistry VIC

Advanced studies in the chemistry of biologically active compounds. Topics may include steroids, alkaloids, flavenoids, porphyrins, biosynthesis, major chemotherapeutic drugs and agricultural chemicals.

PND410 Pathology

This unit deals with the aetiology and pathology of various systems; their radiographic appearances; the use of contrast media as a diagnostic aid.

ESB603 Petroleum and Coal Geology

Regional geophysical methods relevant to petroleum and coal exploration; drilling techniques and geophysical and lithologic well logging as applied to petroleum and coal; qualitative well log interpretation and correlation; subsurface mapping techniques and sedimentary basin interpretation.

Coal properties, classification and analysis; hydrocarbon generation from coal and oil shale.

Oil field development and production; methods of primary, secondary and tertiary recovery.

Petroleum and coal production and economics.

ESB413 Petrology IV

The nature, origin and evolution of igneous rocks, with particular reference to abundant igneous rocks. A detailed study of metamorphism and metamorphic facies. Megascopic and microscopic examination of igneous and metamorphic rocks. Field excursions of short duration as required.

ESB543 Petrology V

Extension of the concepts studied in ESB413 Petrology IV with emphasis on the less abundant rock types. Assignments and a seminar form an integral part of this unit. Practical work includes the study of selected rock suites. Field excursions of short duration as required.

PHA354 Photographic Techniques

This unit deals with the practise of picture-taking, film development and printing, including the photographic process, darkroom equipment, camera types and controls, lenses and accessories, film types and printing techniques.

CHB275 Physical Chemistry

Introductory solution and phase chemistry, chemical equilibria and electrochemistry.

CHA270 Physical Chemistry I

This subject forms the first part of an integrated syllabus of physical chemistry in the Associate Diploma and is a study of the fundamental aspects of ionic equilibria; liquids and solutions; and electrochemistry. Practical applications are emphasised.

CHA370 Physical Chemistry II

This subject forms the second part of the integrated syllabus of physical chemistry of the Associate Diploma and covers the areas of energetics, chemical kinetics and introductory aspects of surface and colloid chemistry. Practical applications are emphasised.

CHA670 Physical Chemistry III

This subject forms the third part of the integrated syllabus of physical chemistry of the Associate Diploma and covers the areas of applied electrochemistry, corrosion, distillation and extraction. Practical applications are emphasised.

CHB376 Physical Chemistry IIIC

Thermodynamics and thermodynamic processes, the Carnot cycle and its application to refrigeration. Ellingham diagrams and metallurgical processes. The kinetics of chemical reaction.

CHB476 Physical Chemistry IVC

Application of thermodynamics to phase transition and equilibria. Chemical kinetics of polymerisation processes. Homogeneous and heterogeneous catalysis. Introduction to reactors and reactor design.

CHB576 Physical Chemistry VC

This unit includes the thermodynamics and electrochemistral properties of real solutions, and the determination and representation of phase equilibria on binary and ternary solid-liquid systems.

CHB670 Physical Chemistry VI

This final undergraduate course in physical chemistry deals with surface and colloid chemistry and reactor kinetics. Topics include adsorption and catalysis, the stability of foams, emulsions and suspensions and the principles of wetting and detergency. Other topics studied include chain and branched chain reactions.

CHB677 Physical Chemistry VIC

Advanced theory and experimentation in some of the following topics for any one year —

Kinetic techniques for fast reactions.
Kinetics and mechanism.
Rheology.
Corrosion.
Foundations of modern physical chemistry.
Statistical mechanics.
Spectroscopy.

PHB612 Physical Methods of Analysis

A course of lectures and associated practical work on a range of physical techniques of analysis, including x-ray fluorescence, x-ray diffraction, electron microscopy, electron microprobe analysis, neutron activation analysis, infrared spectroscopy, and mass spectroscopy. Emphasis is on the physical principle, instrumentation and nature of information available from each technique. Industrial visits may be included.

PHA151 Physics IA

A lecture and practical work course where geometrical and physical optics are studied from first principles, with practical applications to optical devices. The remaining 20% of this course comprises thermometry and transfer of heat.

PHA152 Physics IB

A lecture and practical work course where electrostatics, current electricity and magnetism are developed with application to electrical circuits and instruments.

PHA153 Physics IC

A lecture and practical work course in mechanics, waves and vibrations and properties of matter. Basic theory is applied by demonstrations and practical work to physical devices.

PHB101 Physics IS

A course of lectures on linear and rotational mechanics, SHM, fields, thermometry, thermodynamics and modern physics.

PHB120 Physics IT

A course of lectures, demonstrations and laboratory work in basic physical measurements, mechanics, properties of matter, heat, sound, AC and DC circuit theory, fields, waves and optics.

PHA255 Physics IIA

A course of lectures, tutorials and practical work on: heat capacity, kinetic theory of matter and transport phenomena, expansion of gases and condensed states of matter, the laws of thermodynamics and their application to heat engines and refrigeration. Gravitational fields, circular orbits and applications to satellites and rocketry.

PHB201 Physics IIS

A course of lectures on properties of matter, electricity and magnetism, SHM, waves, polarization, physical optics, geometrical optics and semi-conductor theory.

PHB121 Physics IIT

A course of lectures, demonstrations and laboratory work in elementary quantum principles, atomic structure of matter, nuclear physics, radioactivity, fluids, heat, particle motion in fields, instrumentation.

PHB304 Physics III

A study of AC circuit theory, solid state theory, and of vibrations, waves and optics.

PHA350 Physics IIIA

A course of lectures, tutorials and practical work on: laws of friction, friction between solids, properties of moving fluids, diffusion, viscosity and osmosis.

PHB401 Physics IVA

A study of statistical mechanics, thermodynamics and vacuum physics.

PHB402 Physics IVB

A study of relativity and particle physics.

PHB403 Physics IVC

A study of statistical mechanics, thermodynamics and vacuum physics. Also includes laboratory work.

PHB501 Physics VA

A course of lectures on quantum mechanics and theory of spectra.

PHB502 Physics VB

A course of lectures on electromagnetic wave theory. Includes static field theory, wave equation, plane and spherical wave solutions, properties of plane waves, reflection, refraction, wave guides, cavity resonators and radiation theory.

PHB503 Physics VC

A course of lectures on physical techniques and instrumentation. Industrial visits are included.

PHB601 Physics VIA

A course of lectures on the physics of materials, including mechanical, thermal and electrical properties.

PHB602 Physics VIB

A course of lectures on applied nuclear physics, neutron physics, reactor technology and energy.

PHB603 Physics VIC

A course of lectures on topics of current interest. In the past these have included acoustics, ultrasonics and geophysics.

PHB614 Physics Education

A course of lectures and practical exercises relating to aspects of physics education. Consideration of teaching techniques (individualized instruction etc.), laboratory work (objectives and assessment), use of computing, course assessment.

BEA023 Plant Anatomy

Development, distribution and structure of basic plant tissues – phloem, xylem, cambial regions, parenchyma. Seed anatomy and germination. Anatomy of monocotyledons, conifers; root, stem, leaf structure, specialized tissues, secondary thickening, xeromorphs and hydromorphs. Floral structure and modification, fruit structure, organs of perennation. Morphology and anatomy of 'Lower' plant groups: algae, bryophytes, fungi.

BEA024 Plant Diversity

An introduction to the morphology, anatomy and reproduction of major plant divisions and classes, both in the laboratory and in the field.

BEB322 Plant Diversity

Introduces students to the characteristic morphological, anatomical and reproductive features of the major plant taxa as a basis for subsequent studies, and complements a parallel session in plant physiology. The student is expected to develop a critical attitude to the investigation of plant species and to become familiar with relevant literature. Current aspects of research within plant groups are discussed. Two field excursions are scheduled.

BEA020 Plant Histology

Fixation, ideals and objectives, properties of common plant fixatives, practical examination of the response of plant tissues to fixation. Temporary preparations of fresh tissue using specific and non specific stains on hand cut sections; nile blue for total lipid, IKI zinc-chloride H_2SO_4 zinc chloride for cellulose, schiffs reaction for lignin. Staining of fixed tissues: aniline blud/HCl, safranin/fast green, PAS, correlation of results with fixative quantitative histo-chemistry: total hexose and pentose (orcinol method with spectrophotometer). Specialist techniques: meristem squashes for mitosis, meiosis, plasmodesmata preparations, maceration; epidermal strips and replicas. Epoxy embedding and sectioning techniques as used in histochemistry.

BEB421 Plant Physiology

The inter-relationships between plant structure and function are introduced. Topics include photosynthesis, respiration, nutrition, water relations and growth and development. The unit concludes with sections on plant interactions and stress physiology, thus encouraging students to relate the physiology and ecology of plants.

BEA021 Plant Physiology I

Basic cell structure and activity, cell physiology and the physiology of cells and their components as extracted by relevant methods of fractionation coupled with relevant methods of investigation; photosynthesis, respiration, microbial nitrogen fixation.

BEA121 Plant Physiology II

Plant tissues and organ systems, structure and physiological function. Plant nutrition, water uptake and transport, mineral economy, nutrient translocation. Growth and development, flowering plant reproduction, seed viability, post harvest physiology.

BEB654 Population and Ecosystem Management

This course teaches principles of population management and illustrates their application through case-histories and supervised exercises. Computer simulations are used where applicable. Two major themes emerge:

1. Maximising or optimising the production of desirable species.
2. Minimising economic damage due to pest species.

Whereas the life-systems of particular plant and animal populations are emphasised, each case-history is also examined in terms of the ecosystem that supports it. Appropriate management for sustained yield, production and/or conservation is stressed. Field exercises integrate major themes.

BEA305 Population Biology

A general course in population biology including the following: organization and dynamics of populations, preservation of variation, evolution in populations. Differentiation in populations, biogeography, speciation, gene flow. Organization of communities, structure and changes. Short field excursions will be an important component of this subject.

BEB302 Population Ecology

An introduction to theoretical processes involved in population dynamics and interactions that provide an opportunity to develop skills essential for practical studies in the ecology of animal and plant populations. Case studies are linked with the use of mathematical models. Several short field trips stress population ecology of important local species.

CHB145 Principles of Chemistry

An introductory course covering facets of atomic and molecular structure; properties of liquids and gases; elementary thermodynamics and reaction kinetics.

BEA061 Principles of Ecology I

Ecosystems, niches, adaptation; biogeochemical cycles, water, nitrogen, oxygen/carbon, phosphorus, energy, trophic levels and structure, productivity, limiting and ecological factors; populations at the species and community levels; field studies.

BEA062 Principles of Ecology II

World biomes; classes of ecosystem, terrestrial, marine and freshwater environments; applied ecology, natural resources, habitat manipulation, pollution. Field studies required.

ESP113 Principles of Geophysics

An introduction to exploration geophysics. Magnetics, gravity, electrical and seismic methods.

ESP153 Principles of Hydrogeology

An introduction to the occurrence of groundwater and its inter-relationship with surface waters, hydrological and runoff cycles, rainfall and stream flow, groundwater movement and recharge, evapotranspiration. Mechanics of flow in porous media. Simulation techniques.

PHD188 Principles of Pathology

An introductory unit dealing with elementary pathology, the biological effects and clinical aspects of radiation.

PHD383 Principles of Treatment I

After consideration of biological and physical principles, the treatment of cancer at various sites in the body is discussed in detail.

PHD485 Principles of Treatment II

A continuation of the detailed discussion started in PHD383 Principles of Treatment I.

CHB525 Process Chemistry and Economics

Chemical engineering process analysis and its application to selected industrial processes. An introductory study of basic economic principles and their applications to the chemical process industries.

EET824 Process Control

Feedback control, selection of feedback, controller, multiloop systems, applications.

CMB104 Professional Communication

Students will participate in single and group activities relating to English expression, public speaking, debating and discussion groups. The course covers business procedures, office aids and written expression. Students will receive oral and written assignments.

CMB106 Professional Communication

This subject includes an outline of human communication theory and a discussion of the relevance of such theory to computerization, and of techniques for improving communication in the computer field. There is special emphasis on report writing for management, computer system documentation and inter-personal communication in organizational settings.

CMB101 Professional Communication A

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.

CMB102 Professional Communication B

Introduction to practical vocational speech situations. Theory and practice of the conduct of meetings, seminars and other conferences. Evaluation of effectiveness of communication.

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.

PHA456 Project

Laboratory based project on some aspects of industrial application of techniques and processes covered in lecture courses.

ESB563 Project V

Students are required to produce an original detailed geological map of an area, prepare a preliminary geological report and deliver a seminar. Extensive field work is required.

ESB663 Project VI

The detailed analysis and interpretation of samples and information resulting from work done in ESB563 Project V. Preparation and presentation of a final detailed report. Some field work is required.

CHB600 Projects

A laboratory orientated investigation under the supervision of a member of staff. The project will require a literature search, further study, continuing discussion with the project supervisor and a laboratory research programme. The literature search, study and discussion component of CHB600 is aimed to develop student competence in search techniques and experience in experimental design. The laboratory programme is aimed to develop student competence in the use of experimental techniques as a basis for problem solving. Completion of the project requires the submission of a written technical report.

CHB605 Projects
CHB609 Projects

A laboratory oriented investigation under the supervision of a member of staff. The project will require a literature search, further study, continuing discussion with the project supervisor and a laboratory research programme. The literature search, study and discussion component of CHB605 and CHB609 is aimed to develop student competence in search techniques and experience in experimental design. The laboratory programme is aimed to develop student competence in the use of experimental techniques as a basis for problem solving. Completion of the project requires the submission of a written technical report.

BEB561 Projects in Ecology I

This unit develops a student's capacity for managing his own work and for persistence within a circumscribed subject area. Projects emphasise specific investigatory skills or ability at reviewing, collating, interpreting and presenting data. A contribution to a seminar is usually required. Projects are supervised by various staff members and are graded individually. The Head of Department co-ordinates assessment of the unit and may request external assessment. Projects are to be selected by the 12th week of the fourth semester of the course. There are a number of compulsory field trips. This unit normally leads into BEB660 Projects in Ecology II with assessment completed at the end of Spring semester.

BEB660 Projects in Ecology II

This unit is an elective which may be undertaken by students who have taken BEB561 Projects in Ecology I and who have the permission of the Head of Department to continue project work.

The student either:

(i) continues a project undertaken in BEB561, or
(ii) involves one or more additional projects aimed at developing to a greater depth aspects of the subject matter of experimental subjects previously completed, such projects being established for either individuals or groups. Assessment is conducted as for BEB561. Individual programmes for BEB660 are to be determined by the 12th week of the fifth semester of the course.

There are a number of excursions.

MAB960 Project Work

Students, either individually or in small groups, undertake a substantial project which is relevant to the needs of industry and which is designed to give students insight into industrial requirements. Each student, or group of students, undertakes a different project and is supervised generally by a member of staff who provides guidance throughout the duration of the project.

In addition, in the case of B.App.Sc.(Comp) students, there is a teaching contribution from the Department of Communication designed to develop the student's communication skills. This part of the subject focuses on the various aspects of reporting and communication relevant to the student's future work environment.

MND313 Psychology

This unit is designed to enable the student to develop an understanding of the factors which influence human behaviour; perceive the reciprocal relationship of behaviour between persons; appreciate the importance of an understanding of self as well as understanding of the interpersonal skills essential to competent interaction within the work situation.

CHA219 Qualititative Analysis

This course considers the behaviour of a range of common cations and anions towards common laboratory reagents. These reactions form the basis of procedures for the separation and identification of these cations and anions. Qualitative testing for elements in organic molecules together with test procedures for qualitative identification of functional groups in organic molecules will also be covered.

PHA358 Radiation Physics

A course of lectures, tutorials and practical work on: naturally occurring radioactivity and the nuclear atom, nuclear reactions, properties of alpha, beta and gamma rays and their reaction with matter. Radiation detectors. Health physics. Mass-energy equivalence, fission and fusion.

PHB609 Radiation Physics A

A course of 15 lectures and associated laboratory work covering special techniques of radiation counting and applications, health physics, radiation protection, and radiobiological effects.

PHD471 Radiobiology and Protection

This unit treats aspects of radiobiology necessary for an appreciation of the philosophy and protocol of radiation protection. The question of protection is treated in a manner which brings into perspective the many details of protection dealt with throughout other units of the diagnostic radiography course.

PHD174 Radiographic Equipment I

An introductory unit adopting a whole device approach to x-ray generators and ancillary equipment used in diagnostic radiography.

PHD474 Radiographic Equipment II

Detailed discussion of design, rating and circuitry of x-ray generator component; equipment used for beam collimation; reduction of scatter; fluoroscopy.

PHD574 Radiographic Equipment III

This unit covers the technology of x-ray equipment and its correct use in advanced radiographic techniques.

PHD172 Radiographic Physics I

A theoretical and practical unit dealing with the principles and concepts of physics necessary for understanding material treated throughout the radiography courses. The unit deals with electricity, magnetism, properties of matter, radiation and the interaction of radiation with matter; emphasis is placed on relevance to radiography.

PHD472 Radiographic Physics II

This unit extends the treatment of principles and concepts of physics necessary for diagnostic radiography students.

PHD175 Radiographic Processing

The principles and practices involved in obtaining a visible image in radiography are considered. The photographic process, processing, materials, techniques and equipment relevant to radiography are discussed.

PHD173 Radiographic Technique I

A theoretical and practical unit dealing with patient care and positioning to produce radiographs which will demonstrate any abnormalities. The unit also deals with the relevant exposure factors; the use of accessory positioning aids.

PHD473 Radiographic Technique II

This unit amplifies the material presented in Radiographic Technique I in relation to the more extensive preparation and techniques for specialised radiographic procedures. Attention is given to the anatomical and physiological basis of radiographic procedures. Students are made familiar with radiographic appearances, both of the normal subject and of common abnormal conditions where elementary knowledge of the pathology involved will ensure the application of the appropriate radiographic techniques.

PHD573 Radiographic Technique III

This section amplifies Radiographic Technique II in relation to the more extensive preparation and techniques for specialised radiographic procedures.

PHD310 Radiographic Technology

A subject designed to make students aware of x-ray technology and safety aspects of radiography as employed in the clinical situation. No formal lecture classes are required. Assignments must be submitted on topics specified within the areas of x-ray apparatus design and performance characteristics; radiological health and safety.

PHD282 Radiotherapy Physics I

Detailed discussion of therapeutic x-ray generator components, the equipment and principles of megavoltage and telecuric therapy and rotation therapy.

PHD382 Radiotherapy Physics II

Measurement and dosimetry of external beam x-ray and gamma-radiation relevant to radiotherapy. Technical aspects of sealed radio-active materials used in radiotherapy. Protection relevant to therapeutic radiography.

PHD186 Radiotherapy Practice I

An introductory unit dealing with beam directing devices and mathematics pertinent to the use of such devices.

PHD286 Radiotherapy Practice II

Detailed consideration of planning procedures and principles, including mathematical and technical applications.

PHD384 Radiotherapy Practice III

This unit covers full details of techniques and procedures used in treatment with emphasis on practical considerations.

PHD486 Radiotherapy Practice IV

This unit covers full details of techniques and procedures used in treatment with emphasis on practical considerations.

PHD586 Radiotherapy Practice V

This unit covers details of techniques and procedures used in treatment with emphasis on practical considerations.

CHB245 Reaction Chemistry

A course containing the study of the fundamental principles of organic chemistry and non-carbon chemistry. Topics include the reactions of carbonyl compounds, acyl compounds, carbon-carbon triple bonds, carbon-nitrogen triple bonds, the aromatic nucleus. Periodic classification and the chemistry of selected main group elements including nitrogen, phosphorus and the halogens.

ESP233 Regional Geophysics

Geophysical methods applicable to groundwater resource evaluation on a regional scale, including potential field, seismic, remote sensing, and well-logging techniques.

ESP223 Regional Hydrogeology

Analysis of regional groundwater problems, including analysis of aquifer systems. Water budgets; statistics; computer applications; groundwater dating and recharge studies; groundwater management; the effects of water mining; hydrogeology in environmental impact studies.

PHA353 Safety Procedures

Fire, electrical, radiation and radioactivity, mechanical, chemical and non ionizing radiation, hazards and procedures.

PHA463 Science, Technology and Society

This course examines the innovative role of technology as a link between science and human society, including historical aspects, environmental and energy considerations, innovation rate and human trauma, and behavioural modifications linked to technology.

ESP333 Sediment Analysis

Theoretical and practical aspects of the analysis of sediments, including grain-size and textural parameters, mineralogical and heavy mineral analyses, the testing of properties by microscopic and bulk methods.

ESP143 Sedimentary Petrology

The petrological properties of rocks and sediments forming aquifers, aquitards, aquicludes and aquifuges.

ESB593 Sedimentary Petrology

Provenance, lithification and diagenesis of sediments. Sandstones: principles of classification and the concept of maturity, petrology, diagenesis. Carbonate rocks: composition, classification and environment of deposition of recent and ancient carbonates. Diagenesis of carbonate sediments. Dolomites and other carbonate rocks. Characteristics and origin of other biogenic and chemical sedimentary rocks such as chert, phosphorite and ironstone.

BEA340 Selected Study Topic

This weekly tutorial subject will be to extend previous and concurrent studies in population biology, biological data handling and computer use into a working context, e.g. by case studies. Continuous assessment will be based on student participation and will relate to oral and written work. Discussions will include: quantitative methods in field studies, interpretation of ecosystem models, application of biometrics in biological case studies, analysis of biological systems, application of computers to problem solving.

BEB600 Selected Topics in Biology

Specific topics from Biology and Environmental Science are introduced, in some cases to broaden coverage of the course and in others to look in greater depth at a restricted subject. The formal programme normally includes lectures and/or seminars followed by discussion and a reporting session. Students are expected to read selected reference material and to write a summary report to be brought to the reporting session for assessment.

PHA454 Seminars

Industrial scientists discuss their particular expertise in the industrial context. Some industrial visits will also be undertaken.

CHB445 Separation Methods

A course of lecture and practical work covering various facets of solvent extraction and chromatography.

PHA462 Signal Processing Techniques

A practice-oriented course on the use of modern digital and analogue techniques in signal processing, including modern instruments, correlation techniques, FFT analysis, signal recovery and conditioning.

ESB321 Soil Science

An introductory course to soils and soil processes. The properties of soil profiles and their significance in pedogenesis; the influence of parent substrates, climate, relief and biological agents; solonisation within the Australian continent and past climatic changes; clays, weatherable and stable soil minerals; soil chemistry; soil physics, soil water relationships; soil classification and nomenclature; erosion; description and recognition of the major soil groups of Australia. Twelve selected profiles in the Moreton District are examined and discussed in the field. Laboratory work examines physical and chemical characteristics of soils.

ESB421 Soil Science

An introductory course in soils oriented towards the field. Topics discussed include profile features and their significance in pedogenesis; the influence of parent material, climate, relief and biological agents; solonisation within the Australian continent; clays, and soil minerals; soil classification; description of the major soils of Australia. Seven selected profiles in the Moreton District are examined and discussed in the field.

CHB696 Solid State Chemistry

The theory and practise of x-ray crystallography as applied to materials and metallic structures. The chemistry and physical properties of inorganic and organic polymers and their applications in composites and adhesives.

MAB961 Special Studies

Students are required to carry out project work in one or more areas relating particularly to special topics of new technological developments in computing. Such project work will be introduced or complemented where necessary by appropriate lecture material.

CHB345 Spectroscopy

Basic theory, instrumentation and applications of UV-vis, IR, NMR and fluorescence spectroscopy.

MAB929 Statistical Forecasting

Introduction; smoothing methods; decomposition methods; ARMA time series methods; Box-Jenkin method, casual models; quantitative and technological methods of forecasting; comparison and selection of forecasting methods.

MAB252 Statistics

A course in statistical methods involving elementary probability; discrete and continuous probability distributions; sampling, t-distribution; statistical inference and estimation theory; regression and correlation.

MAB257 Statistics

A course in statistical methods involving elementary probability; discrete and continuous probability distributions; sampling theory; t, χ^2 and F distributions; statistical inference; regression and correlation and experimental design.

MAP255 Statistics

A selection will be made from the following topics:

Errors in Quantitative Analysis; The Normal Distribution; Confidence Intervals; Regression Analysis; Experimental Design; Analysis of Variance; Sampling Techniques.

The course will feature the application of statistical methods generally in the field of Chemical Analysis. The laboratory sessions will be concerned with problem solving and include the use of calculating machines and computers.

MAA251 Statistics and Data Processing

A basic course in statistics, including statistical terminology and organization of data, elementary probability, binomial and normal distribution, sampling theory, regression and correlation.

ESB493 Stratigraphy and Sedimentation

Processes of formation of sedimentary rocks; weathering and erosion, sediment transport, environment of deposition, the role of tectonism in sedimentation. Sedimentary structures and textures. Marine geology: topography structure and sedimentation of the continental margins and the ocean basins. Stratigraphic subdivision and nomenclature, the facies concept, transgression and regression, principles of correlation and the use of fossils in stratigraphy. Stratigraphy of Australia based on the tectonic evolution of the continent.

ESP133 Stratigraphy and Sedimentation

This unit deals with basic stratigraphic, sedimentological and mapping methods relevant to the study of underground water.

ESB353 Structural Geology III

Stress-strain relationships, rock deformation by brittle fracture, petrofabrics; geometric, kinematic and dynamic analysis of folded rocks.

ESB643 Structural Geology VI

Geotectonics. Structure of the earth's crust. World structural patterns. Salt tectonics. Deformation of lineations in folded rocks. Folding of inclined surfaces, unconformities, superimposed folding. Structural methods for exploration.

CHB675 Surface Chemistry

Surface and colloid chemistry with applications to adhesion, froth flotation of ores and the stability of foams and emulsions.

SVB303 Surveying for Geologists

Theories of surface and sub-surface surveying techniques, their application and practice. The principles of photogrammetry and photointerpretation.

MAB959 Systems Performance Optimization

This subject deals with the quantitative analysis and critical assessment of data management techniques used in both large and medium scale information processing systems.

MAB951 Systems Programming A

A course consisting of batch processing systems programs, multi-programming and multiprocessor systems, addressing techniques, process and data modules and job scheduling.

MAB952 Systems Programming B

An extension of MAB951 containing file system organisation and management, explicit input-output references, real time systems and virtual memory.

BEA004 Taxonomy

Systematics, classification, taxonomy and nomenclature. Investigation and identification of local flora and fauna; use and construction of keys. Short lectures and tutorials will be held to discuss topics in theoretical aspects of taxonomy.

CMA139 Technical Literature

Technical report writing, editing and compilation of technical information and data. Preparation of technical catalogues and operation manuals. Introduction to technical library searching and abstracting.

MNB053 Technological Management

Further studies of management with particular reference to systems science, production management, optimization techniques and decision making, socio-technical systems and industrial case studies.

BEP767 Technology Assessment and Forecasting

Brief history of some major technological developments and their effects on social patterns and standard of living. Methods of predicting the direction and the long-range impact of technological developments on the environment and society. Illustrations by case studies of specific technological developments. Emphasis will be placed on the methodologies of assessment and forecasting; techniques to include systems analysis, simulation, modelling. Delphi, extrapolation, normative methods, morphological analysis and modern decision theory, and the use of the computer where appropriate. Effect of government and corporate policy on technological developments.

BEB067 Terrestrial Ecosystems

A quantitative study of the diversity, structure and dynamics of representative terrestrial Australian communities, leading to a process oriented evaluation of the functions of ecosystems in terms of productivity and stability. Relevant climatic and edaphic features are examined, and major themes are integrated by field excursions.

MAB906 Topics in Analysis

Topics selected from the following: measures; Lebesque integrals; product of measures; normed spaces; metric spaces; constrained optimisation, Gateaux and Frechet derivatives.

CHB425 Transfer Operations II

Separation of materials in large-scale chemical processing including separation and purification of gases and liquids, concentration of solutions and fluid-solid separations.

PHD288 Tumour Pathology

An introduction to aetiology, incidence, classification and metastasis of tumours of man.

PHD475 Ultrasonics

This unit introduces radiography students to the basic physical principles and clinical applications of high frequency mechanical waves. Major emphasis will be placed on basic physics of generation, detection, measurement, interaction processes; state of the art 'technology and instrumentation'; clinical scanning techniques, tomographic versus orthographic imaging; sonobiology and exposimetry; equipment, calibration and performance assessment.

PHA253 Vacuum Techniques

Use of vacuum, pumping speeds, pumps and components, vacuum gauges. Their use, precautions, limitations, design, leak detection.

PHA459 Vacuum Technology

Pertinent equations of kinetic theory and the flow of gases at low pressures through orifices and tubes, surface effects. Pumps, mechanical, diffusion, sorption, sputter and cryogenic types. Equipment components, materials, joining. Vacuum measurements and gauges. Leak detection. Industrial applications.

BEA025 Vegetation Mapping

Pattern and process in plant succession, climax vegetation, Braun-Blanquet and Raunkier systems. Correlation of vegetation with environmental factors. History of vegetation mapping in Australia, use of vegetation maps. Types and purpose of maps, pattern, colours, symbols; boundaries and transitions. Use and interpretation of aerial photographs. Physiognomic analysis: woody and herbaceous vegetation; structural categories, special life form categories. Mapping of dynamic features. Practical examples: Braun-Blanquet table method, Gaussens ecological method, Kulchers comprehensive method. This unit will have associated field mapping exercises.

BEB429 Vegetation Mapping

The unit introduces many of the techniques used in vegetation mapping. Basic topics covered include: vegetation classification, floristics, sampling techniques, field surveying techniques and aerial photo-interpretation. There are several compulsory field excursions.

BEA017 Vertebrate Morphology

A course treating in some detail the complexities of the vertebrate body. Typical development patterns and differentiation of tissues traced to the adult body, a comparison of selected forms to illustrate adaptive modifications.

BEA389 Visits and Excursions III
BEA489 Visits and Excursions IV

A series of organised visits to various industrial, educational and research institutions throughout the semester.

CHA112 Workshop Practice

A course of practical work in elementary workshop skills, including familiarisation with basic tools and their use in maintenance and repair of laboratory equipment. Some experience in soldering, brazing, glass-working and plastic work will be provided.

MEA270 Workshop Practice and Engineering Drawing

Bench work, the lathe, screw cutting and thread forms, milling, grinding, joining, miscellaneous operations (e.g. shaping, pressing, stamping, etc.). Workshop drawing, measuring and marking out materials.

MEB371 Workshop Technology

A course of lectures and practical work on introductory engineering drawing, design, engineering materials, workshop tools and practices.

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Changes in Subject Codes and/or Titles

CHANGES IN SUBJECT CODES AND/OR TITLES

1982 Code	Subject Name	1983 Code	Subject Name
CHA218	Analytical Chemistry IA	CHA218	Analytical Chemistry I
CHA310	Analytical Chemistry II	CHA319	Analytical Chemistry II
CHA410	Application of Computers in Industry	CHA410	Computers in Chemistry
CHA360	Industrial Chemistry	CHA368	Industrial Chemistry
CHA140	Chemistry I	CHA140	Introductory Chemistry

Notes