University of Technology, Sydney

Department of Chemistry

1989 Handbook

CONTENTS

ENROLMENT - 1989

ALL STUDENTS ARE REQUIRED TO ATTEND BOTH AUTUMN AND SPRING ENROLMENT SESSIONS

GENERAL NOTES.

Autumn Semester Enrolment

At the Autumn semester enrolment session you must select subjects for both the Autumn and Spring semesters and write these on your enrolment form. In addition you should select classes for the Autumn semester and ensure that your name is entered on the appropriate class lists.

Spring Semester Enrolment

Upon receipt of the Autumn semester examination assessments you should reconsider your Spring semester enrolment.

If, as a result of failures or withdrawals, there are any subjects in your Spring program for which pre-requisites have not been successfully completed, then variations of the Spring enrolment should be made.Variations may also be made for other valid reasons.

In addition to selecting or confirming subjects for the Spring semester, you must also select classes and again make sure that your name is entered on the appropriate class lists. Spring semester class lists will only be made up at the Spring enrolment session and will not be carried over from the Autumn semester session.

Times and location for the Spring semester enrolments will be forwarded with the Autumn semester assessments.

Laboratory Class Places

Students will only be allowed to attend laboratory classes in Stages 2-6 Chemistry subjects if they have been allocated a place in each particular class at the time of enrolment.i.e their names have been entered on the appropriate class lists.

Enrolment in "INDUSTRIAL TRAINING"

Sandwich students entering an Industrial semester must enrol in:

62496 Industrial Training 1 for the first Industrial semester
62497 Industrial Training 2 for the second Industrial semester

Part-Time Students in Stages 3-6 must enrol in:

62498 Industrial Training P/T each year

YOUR ENROLMENT AND THE HIGHER EDUCATION CONTRIBUTORY SCHEME (HECS)

Effect on Variation of Course Program/Addition or Withdrawal from Subjects.

With the introduction of the HECS (graduate tax) next year it is important that you are aware of the following:

1. You must pay this tax by 23rd March in Autumn Semester and 23rd August in Spring semester

OR

provide or apply for a taxation file number on enrolment.

If this is not done your enrolment is automatically terminated.

2. The last day you can add a subject is: 10th March in Autumn semester, 11th August in Spring semester.

3. The last day you can lodge an application to **drop a subject** or **withdrawal entirely** from a course, or apply to the Registrar for Leave of Absence **without incurring the HECS penalty is:**

- 30th March in Autumn semester,
- 30th August in Spring semester.

4. **NOTE:** If academic approval is subsequently gained to withdraw from a subject/course/or leave of absence you will **still be liable** to the Australian Taxation Office for HECS charges.

5. If you have been sick, had an accident or some other misfortune that has forced you to reduce your studies during the semester then you may appeal to the Commonwealth Government to seek a refund or have your liability reduced.

Forms for adding/dropping subjects and change of course are available from the Student Information Office or the Faculty Office (Building 4, Room 308).

The Student Information Office can be contacted by telephone. The number is 218-9145/9262.

Course Progression Rules

It is the student's responsibility to see that he or she observes the following progression rules.

(a) All pre-requisites must be met. Enrolment in a subject not having passed the necessary pre-requisites will lead to removal from the subject.

(b) Students must not enrol in subjects with overlapping timetables.

(c) Students should have completed all Stage 1 subjects before attempting any Stage 4 or Stage 5 or Stage 6 subjects.

(d) Students must have completed all Stage 1 + 2 subjects before attempting any Stage 5 or Stage 6 subject.

(e) Students must have completed all Stage 1, 2 + 3 subjects before attempting any Stage 6 subject.

(f) Students should not span more than two stages of chemistry subjects at any time. This means that all students must have passed all Stage 2 chemistry subjects before attempting any Stage 4 chemistry subjects, etc.

(g) Students are not permitted to undertake a project until after completing all subjects in Stages 1-4 inclusive.

These rules will be rigidly enforced at the time of enrolment.

However, in cases where extreme difficulty in completing a reasonable program is experienced, students may lodge an appeal in writing to the Head of Department within the first week of semester.

These appeals should indicate the subjects in which enrolment is sought (but for which pre-requisites are not completed) and the reasons why the student feels consideration is warranted.

The results of all appeals will be published on notice boards in Building 4 by the end of the second week of semester.

Applied Chemistry Degree - Prerequisites

Subjects	Prerequisites
Chem 2M	Chem 1M
Organic 1	-------
Sc.Maths 2	Sc.Maths 1
Stats 1	Sc.Maths 1
Physics 2	Physics 1, Sc.Maths 1.
Stage 3	
Computing 1	Sc.Maths 1 + 2
Str.Inorg.	Chem 1M + 2M
Chem.Anal.1	Chem 1M + 2M
Chem.Spec.	Chem 1M + 2M, Organic 1
Intr.Mat.Sc	Chem 1M
Written + Oral	-------
Stage 4	**All Stage 1 subjects, plus**
T.C.D	Chem 2M, Organic 1, Sc.Maths 2, Stats 1.
Organic 2	Chem 2M, Organic 1, Chem.Spec.
Phys.Chem 1	Chem 2M, Organic 1, Sc.Maths 2, Chem.Spec.
Elec. + Instr.	Chem 2M, Organic 1, Physics 2
Chem.Anal.2	Chem 2M, Organic 1, Chem.Anal.1, Str.Inorg
Stage 5	**All Stage 1 + 2 subjects, plus**
Oral Comm.	Written + Oral
Chem.Tech.	Chem.Anal.1, Str.Inor., Chem.Spec.
Chem.Anal.3	Chem.Anal.1,Str.Inorg.,Chem.Spec., Chem.Anal.2., Phys.Chem.1.
Chem.Project	All Stage 1-4 subjects.

Stage 6	**All Stage 1, 2 + 3 subjects, plus**
Ind.Chem.	Phys.Chem.1 (concurrent) + Industrial Experience.
Phys.Chem.2	Phys.Chem.1., T.C.D.
Adv.Chem.Project	All Stage 1-4 subjects.
Bus.Org.	-------

Chemistry Electives	**All Stage 1, 2 + 3 subjects, plus**
App.Organic 1	Organic 2
App.Organic 2	Organic 2
App.Inorg.Chem.	---------
Met.Chem.	Phys.Chem.1
Corr.Science	Phys.Chem.1
Env.Chem.	----------

COURSE INFORMATION APPLIED CHEMISTRY DEGREE COURSE

The purpose of this course is to provide a program of instruction, which together with concurrent work experience, will prepare a student for entry to professional work in the field of applied chemistry. By taking an appropriate selection from a range of subjects a student can prepare for laboratory, plant or sales work in industries concerned with plastics, paints, foods, metals and alloys, solvents or industrial chemicals.

The course consists of six stages and may be completed by a number of different patterns of attendance:

- two years of full-time attendance followed by one year in industry and one year of full-time attendance;

- two years of full-time attendance followed by two years of part-time attendance;

- six years of part-time attendance.

Other patterns of attendance may also be permitted.

COURSE PROGRAM

SANDWICH

Each Stage corresponds to one semester of full-time attendance.

STAGE 1

Autumn Semester	**Hours/week**
33160 Science Mathematics 1	6
91388 Concepts in Biology	6
or	
62311 Geology 1	6
62414 Chemistry 1M	6
63211 Physics 1	6

STAGE 2

Spring Semester	
33141 Statistics 1	3
33163 Science Mathematics 2	3
62423 Organic Chemistry 1	6
62424 Chemistry 2M	6
63221 Physics 2	6

STAGE 3

Autumn Semester	
31799 Computing 1	4
51368 Written & Oral Reporting	2
62431 Structural Inorganic Chemistry	5
62433 Chemical Analysis 1	4
62436 Chemical Spectroscopy	5
63724 Introduction to Materials Science	4

Spring Semester	
62496 Industrial Training 1 **	6

STAGE 4

Autumn Semester	
62497 Industrial Training 2 **	6

Spring Semester

62432	Organic Chemistry 2	5
62435	Treatment of Chemical Data	2
62441	Physical Chemistry 1	6
62442	Electronics and Instrumentation	6
62443	Chemical Analysis 2	6

STAGE 5

Autumn Semester

21139	Business Organisation	2
51357	Oral Communication	2
62452	Chemical Technology 1 (2 sem)	3
62453	Chemical Analysis 3	6
.....	Elective *	6
6248O	Advanced Chemistry Project (2 sem) ***	4

STAGE 6

Spring Semester

62434	Industrial Chemistry, Safety & the Law	3
62451	Physical Chemistry 2	6
62452	Chemical Technology 1 (2 sem)	3
.....	Elective *	
6248O	Advanced Chemistry Project (2 sem) ***	6

PART-TIME

Each stage corresponds to two semesters of part-time attendance.)

STAGE 1

Autumn Semester

33159	Science Mathematics 1 P/T (2 sem)	3
91378	Concepts in Biology P/T (2 sem)	3
or		
62312	Geology 1 P/T (2 sem)	3
62412	Chemistry 1 P/T (2 sem)	3
63212	Physics 1 P/T (2 sem)	3

Spring Semester

33159	Science Mathematics 1 P/T (2 sem)	3
91378	Concepts in Biology P/T (2 sem)	3
or		
62312	Geology 1 P/T (2 sem)	3
62412	Chemistry 1 P/T (2 sem)	3
63212	Physics 1 P/T (2 sem)	3

STAGE 2

Autumn Semester

33141	Statistics 1	3
33163	Science Mathematics 2	3
62422	Chemistry 2 P/T (2 sem)	3
63222	Physics 2 P/T (2 sem)	3

Spring Semester

62423	Organic Chemistry 1	6
62422	Chemistry 2 P/T (2 sem)	3
63222	Physics 2 P/T (2 sem)	3

STAGE 3

Academic Requirements

Autumn Semester

51368	Written and Oral Reporting	2
62433	Chemical Analysis 1	4
62436	Chemical Spectroscopy	5

Spring Semester

31799	Computing 1	4
62431	Structural Inorganic Chemistry	5
63724	Introduction to Materials Science	4

Industrial Requirements

62498	Industrial Training P/T **	3

STAGE 4
Academic Requirements
Autumn Semester

62432 Organic Chemistry 2	5
62435 Treatment of Chemical Data	2
62441 Physical Chemistry 1	6

Spring Semester

62442 Electronics and Instrumentation	6
62443 Chemical Analysis 2	6

Industrial Requirements

62498 Industrial Training P/T **	3

STAGE 5
Academic Requirements
Autumn Semester

51357 Oral Communication	2
62452 Chemical Technology 1 (2 sem)	3
62453 Chemical Analysis 3	6

Spring Semester

62434 Industrial Chemistry, Safety & the Law	3
6245[illegible] Physical Chemistry 2	6
62452 Chemical Technology 1 (2 sem)	3

Industrial Requirements

62498 Industrial Training P/T **	3

STAGE 6
Academic Requirements
Autumn Semester

21139 Business Organisation	2
..... Elective	6
6248O Advanced Chemistry Project (2 sem)***	4

Spring Semester

..... Elective	6
6248O Advanced Chemistry Project (2 sem)***	6

Industrial Requirements

62498 Industrial Training P/T **	3

* Chemistry Electives offered (subject to satisfactory enrolments):

62454 Applied Inorganic Chemistry (A)	6
62455 Applied Organic Chemistry 1 (S)	6
62462 Environmental Chemistry (A)	6
62465 Metallurgical Chemistry (S)	6
62467 Applied Organic Chemistry 2 (A)	6
62468 Corrosion Science (S)	6

** Industrial experience is an integral part of the course. The minimum period of relevant employment required is the equivalent of one year's full-time employment. The Industrial Training Committee of the Chemistry Department provides guidance on this occupational requirement. It is recommended that the Industrial Training component in the sandwich program be undertaken after the completion of the third or fourth semester of academic work.

*** To be eligible for consideration for an honours award students must complete a minimum of 144 semester hours and include an advanced chemistry project of eight to twelve semester hours. Students wishing to be considered only for a pass award must complete a minimum of 134 semester hours, including two approved electives. A project is not compulsory for students seeking only a pass award, but students may undertake a project in lieu of one of their electives. Any chemistry project undertaken must be of at least four semester hours duration.

PROGRAM FOR CHEMISTRY CERTIFICATE HOLDERS

Holders of the Chemistry Certificate are exempted the following subjects:

	Hours/Week
Chemistry IM	6
Chemistry 2M	6
Organic Chemistry I	6
Chemical Analysis 1	4
Fourth Stage I Subject	6
Written and Oral Reporting	2

The part-time and full-time programs for the Certificate holders are set out below.

PART-TIME
STAGE 2
Autumn Semester

63212 Physics I P/T (2 sem)	3
33159 Science Mathematics I P/T (2 sem)	3
63724 Introduction to Materials Science	4

Spring Semester

63212 Physics I P/T (2 sem)	3
33159 Science Mathematics I P/T (2 sem)	3
62431 Structural Inorganic Chemistry	5

STAGE 3
Autumn Semester

63222 Physics 2 P/T (2 sem)	3
33163 Science Mathematics 2	3
62436 Chemical Spectroscopy	5

Spring Semester

63222	Physics 2 P/T (2 sem)	3
33141	Statistics I	3
31799	Computing I	4

Stages 4, 5 and 6
Identical to Applied Chemistry Part-Time Program.

FULL-TIME
Stage 2
Autumn Semester

33160	Science Mathematics 1	6
63211	Physics 1	6
62431	Structural Inorganic Chemistry	5
33141	Statistics 1	3

Spring Semester

33163	Science Mathematics 2	3
51357	Oral Communication	2
63221	Physics 2	6
62436	Chemical Spectroscopy	5
62432	Organic Chemistry 2	5

Stage 3-6 To be selected in consultation with academic advisors.

Program for Associate Diploma Holders

Holders of the Chemical Technology Associate Diploma (Course NO. 6120) undertaken the same program as Chemistry Certificate Holders, as detailed above, in the first year of their degree studies.

The diploma students will be granted the exemptions shown above and some additional exemptions in later years. These exemptions have not

yet been finalised, but will include Oral Communication and Computing, as will as some Chemistry subjects.

SCIENCE DIPLOMA COURSE

The Science Diploma is a single course with majors available in Chemistry, Geology and Physics. The course is intended primarily to meet the educational needs of students concurrently in employment requiring to upgrade their qualifications or develop their knowledge of Science. The award for successful completion of the course is a Diploma in Technology (Science).

The Science Diploma Course may be completed by five years of part-time attendance or on the basis of one year full-time attendance followed by three years of part-time attendance or, subject to approval from the appropriate Head of School, equivalent periods involving more than one year of full-time attendance. There are no specific occupational requirements for the Science Diploma Course.

Students enrolling in the Science Diploma Course must provide an initial indication of the discipline in which they wish to major. A firm decision on this matter will be required of students upon entry to Stage 3.

The course program in the Chemistry major strand includes a firm foundation in the basic sciences, and development in the particular discipline of chemistry, emphasising chemical analysis, both classical and instrumental and supporting theory. Students may vary their program in the latter stages by the choice of approved electives but those wishing to meet the academic requirements for entry to the Royal Australian Chemical Institute are advised to include at least 60 semester hours of chemistry subjects.

The course program consists of the first five stages of the Applied Chemistry Degree course. It does not include any Industrial Training.

APPLIED CHEMISTRY DEGREE COURSE

TIMETABLE 1989

AUTUMN SEMESTER

DEPARTMENT OF CHEMISTRY

62412 01 Chemistry 1 P/T (2 sem)	Tue	1-2	L
		2-3/5	T/P
62414 01 Chemistry 1M	Mon	2-5	P
	Wed	11-12	L
	Thu	11-1	L
62414 02 Chemistry 1M	Wed	11-12	L
		2-5	P
	Thu	11-1	L
62422 01 Chemistry 2 P/T (2 sem)	Thu	5.30-6.30 L	
		6.30-7.30/9.30	T/P
62423 01 Organic Chemistry 1	Wed	9-10	L
		10-1	P
	Fri	10-12	L
62431 01 Struct. Inorg. Chemistry	Wed	9.30-12.30	P
	Fri	11-1	L
62431 02 Struct. Inorg. Chemistr	Mon	9.30-12.30	P
	Fri	11-1	L

62432	01	Organic Chemistry 2	Wed	5.30-7.30	L
			Thu	5.30-8.30	P
62433	01	Chemical Analysis 1	Thu	1-2	L
				2-5	P
62433	02	Chemical Analysis 1	Wed	9.30-12.30	P
			Thu	1-2	L
62433	03	Chemical Analysis 1	Wed	5.30-9.30	L/P
62435	01	Treatment of Chem. Data	Tue	6-7/9	L/P
62436	01	Chemical Spectroscopy	Tue	2-4	L
				5-8	P
62436	02	Chemical Spectroscopy	Tue	2-4	L
			Thu	9.30-12.30	P
62441	01	Physical Chemistry 1	Mon	5.30-7.30	L
				1-2	T
				2-5	P
62441	02	Physical Chemistry 1	Mon	5.30-7.30	L
			Thu	1-2	T
				2-5	P
62452	01	Chemical Technology 1 (2 sem)	Thu	2-5	L/T/P
62452	02	Chemical Technology 1 (2 sem)	Mon	5.30-8.30	L/T/P
62452	03	Chemical Technology 1 (2 sem)	Thu	10-1	L/T/P

62453	01	Chemical Analysis 3	Tue 9-1	P
			Wed 5.30-7.30	L
62453	02	Chemical Analysis 3	Wed 5.30-7.30	L
			Thu 5.30-9.30	P
62454	01	Applied Inorg. Chemistry	Mon 5.30-7.30	L
			Tue 1-2	L
			2-5	P
62462	01	Environment Chemistry	Fri 1-5	P
			5.30-7.30	L
62467	01	Applied Org. Chemistry 2	Mon 5.30-7.30	L
			Wed 1-5	P

DEPARTMENT OF APPLIED GEOLOGY

62311	01	Geology 1 F/T	Mon 2-3	L
			3-5	P
			Tue 1.45-2.45	T
			Thu 2-3	L
			3-5	P
62312	01	Geology 1 P/T (2 sem)	Mon 5.30-6.30	L
			6.30-8.30	P

DEPARTMENT OF PHYSICS

63211 01 Physics 1	Tue	3-4.15	L
		4.15-5	T
	Wed	12.15-1.15	L
		2.30-5	P
	Thu	9.30-10.45	L
63211 02 Physics 1	Tue	3-4.15	L
		4.15-5	T
	Wed	12.15-1.15	L
	Thu	9.30-10.45	L
	Fri	10-12.30	P
63212 01 Physics 1 P/T (2 sem)	Thu	5.15-6.30	L
		6.30-7.30/9	T/P
63221 01 Physics 2	Mon	2-4.30	P
		5.15-6.30	L
	Tue	2-3.15	L
		3.15-4.15	T
63222 01 Physics 2 P/T (2 sem)	Mon	5.15-6.30	L
		6.30-7.30/9	T/P

DEPARTMENT OF MATERIALS SCIENCE

63724 01 Intro to Materials Science	Thu	10-12	P
	Wed	1-3	L
63724 02 Intro to Materials Science	Wed	1-3	L
		3-5	P

SCHOOL OF MATHEMATICAL SCIENCES

33141 01 Statistics 1	Thu	2-5
33141 02 Statistics 1	Thu	5.30-8.30
33141 03 Statistics 1	Mon	10-1
33159 01 Science Maths 1 P/T (2 sem)	Tue	5.30-8.30
33160 01 Science Maths 1 F/T	Tue Fri 2-5	9.30-12.30
33160 02 Science Maths 1 F/T	Thu Thu	9.30-12.30 2-5
33163 01 Science Maths 2	Wed	9-12
33163 02 Science Maths 2	Fri	5.30-8.30

SCHOOL OF COMPUTING SCIENCES

31799 01 Computing 1 (Science)	Tue Fri	9-11 9-11
31799 02 Computing 1 (Science)	Thu	5-9

FACULTY OF BUSINESS STUDIES

21139 01 Business Organisation	Thu	11-1
21139 02 Business Organisation	Wed	5.30-7.30

FACULTY OF HUMANITIES AND SOCIAL SCIENCES

51357 01 Oral Communication	Tue	5.30-7.30	
51357 02 Oral Communication	Mon	3-5	
51368 01 Written & Oral Reporting	Tue	11-1	
51368 02 Written & Oral Reporting	Thu	2-4	
51368 03 Written & Oral Reporting	Thu	5.30-7.30	

FACULTY OF LIFE SCIENCES

91378 01 Concepts in Biology P/T (2 sem)	Wed	5.30-6.30	L
		6.30-7.30	T
		7.30-9.30	P
91388 01 Concepts in Biology	Fri	10-11	L
		11-12	T
		12-1	L
		2-5	P

APPLIED CHEMISTRY DEGREE COURSE

TIMETABLE 1989

SPRING SEMESTER

DEPARTMENT OF CHEMISTRY

62412 01 Chemistry 1 P/T (2 sem)	Tue	1-2	L
		2-3/5	T/P
62422 01 Chemsitry 2 P/T (2 sem)	Thu	5.30-6.30	L
		6.30-7.30/9.30	T/P
62424 01 Chemistry 2M	Mon	9-10	L
		10-11	T
	Tue	9.30-12.30	P
	Wed	10-11	L
62424 02 Chemistry 2M	Mon	9-10	L
		10-11	T
	Wed	10-11	L
		2-5	P
62423 01 Organic Chemistry 1	Tue	1-3	L
		3-6	P
	Wed	5.30-6.30	L
62423 02 Organic Chemistry 1	Tue	1-3	L
	Wed	2-5	P
		5.30-6.30	L

62431 01 Structural Inorg. Chem.	Mon	2-5		P
		5.30-7.30		L
62431 02 Structural Inorg. Chem.	Mon	5.30-7.30		L
	Thu	5.30-8.30		P
62432 01 Organic Chemistry 2	Mon	2-5		P
	Thu	10-12		L
62434 01 Industrial Chemistry,	Mon	4-5		L
Safety and the Law	Wed	10-12		P
62434 02 Industrial Chemistry	Mon	4-5		L
Safety and the Law	Thu	5.30-7.30		P
62435 01 Treatment of Chem. Data	Tue	2-3/5	L/T	
62436 01 Chemical Spectroscopy	Wed	9.30-12.30		P
	Fri	10-12		L
62441 01 Physical Chemistry 1	Mon	9.30-10.30		T
		10.30-1.30		P
	Fri	9.45-11.45		L
62442 01 Electronics & Instrument.	Tue	9-1		P
	Thu	1-3		L
62442 02 Electronics & Instrument.	Thu	1-3		L
		5.30-9.30		P
62443 01 Chemical Analysis 2	Wed	5.30-9.30		P
	Thu	3.15-5.15		L
62443 02 Chemical Analysis 2	Thu	3.15-5.15		L
	Fri	12-15-4.15		P

62451	01	Physical Chemistry 2	Mon	1-3	L
			5.30-9.30		P
62451	02	Physical Chemistry 2	Mon	1-3	L
			Wed	1-5	P
62452	01	Chemical Technology 1 (2 sem)	Tue	9.30-12.30	L/T/P
62452	02	Chemical Technology 1 (2 sem)	Wed	5.30-8.30	L/T/P
62452	03	Chemical Technology 1 (2 sem)	Thu	9.30-12.30	L/T/P
62455	01	Applied Org. Chemistry 1	Tue	5.30-7.30	L
			Thu	1-5	P
62465	01	Metallurgical Chemistry	Tue	5.30-7.30	L
			Thu	10-1	P
				1-2	L
62465	02	Metallurgical Chemistry	Tue	5.30-7.30	L
			Thu	1-2	L
				2-5	P
62468	01	Corrosion Science	Tue	1-5	P
			Wed	5.30-7.30	L
				7.30-9.30	P

DEPARTMENT OF APPLIED GEOLOGY

62412 01 Geology 1 P/T	Mon	5.30-6.30	L
		6.30-8.30	P

DEPARTMENT OF PHYSICS

63211 01 Physics 1	Mon	2-4.30	P
	Thu	5.15-6.30	L
		6.30-7.30	T
	Fri	9-10.15	L
		10.15-10.45	T
63212 01 Physics 1 P/T	Thu	5.15-6.30	L
		6.30-7.30/9	T/P
63221 01 Physics 2	Mon	11.15-12.30	L
		2-4.30	P
	Wed	9-10	L
	Fri	12-1.15	L
63222 02 Physics 2	Mon	11.15-12.30	L
	Tue	2-4.30	P
	Wed	9-10	L
	Fri	12-1.15	L
63222 01 Physics 2 P/T	Mon	5.15-6.30	L
		6.30-7.30/9	T/P

DEPARTMENT OF MATERIALS SCIENCE

63724 01 Intro. to Materials Science	Wed	1-5	L/P

SCHOOL OF MATHEMATICAL SCIENCES

33141 01 Statistics 1	Tue	9-12
33141 02 Statistics 1	Tue	5.30-8.30
33141 03 Statistics 1	Thu	2-5
33159 01 Science Mathematics 1 P/T	Tue	5.30-8.30
33160 01 Science Mathematics 1 F/T	Tue Thu	10-1 2-5
33163 01 Science Mathematics 2	Fri	2-5
33163 02 Science Mathematics 2	Thu	10-1
33163 03 Science Mathematics 2	Fri	5.30-8.30

SCHOOL OF COMPUTING SCIENCES

31799 01 Computing 1 (Science)	Thu	1-5
31799 02 Computing 1 (Science)	Fri	5-9

FACULTY OF BUSINESS STUDIES

21139 Business Organisation	Tue	10-12

FACULTY OF HUMANITIES AND SOCIAL SCIENCES

51357	Oral Communication	Wed	5.30-7.30	
51368 01	Written & Oral Reporting	Tue	2.30-4.30	
51368 02	Written & Oral Reporting	Thu	2-4	
51368 03	Written & Oral Reporting	Thu	5.30-7.30	

FACULTY OF LIFE SCIENCES

91378 01	Concepts of Biology P/T	Wed	5.30-6.30	L
			6.30-7.30	T
			7.30-9.30	P

SYNOPSES OF SUBJECTS

DEPARTMENT OF CHEMISTRY

62412 Chemistry 1 P/T
Six semester hours (3 s/h/week over 2 semesters)
Assumed Knowledge: HSC Science (any course) or equivalent.
Revision of basic concepts. Atomic structure. Periodic table. Bonding. Stoichiometry. Heat changes in chemical reactions. Structure of matter. Changes of state. Redox reactions.

62414 Chemistry 1M F/T
Six semester hours
Assumed knowledge: Core of HSC Chemistry 2U course or equivalent.
Preparation for practical work, atomic structaure, periodic table, chemical bonding, Redox reactions, chemical energetics, properties of matter.

62422 Chemistry 2 P/T
Six semester hours (3 s/h/week over 2 semesters)
Pre-requisite: Chemistry 1 or Chemistry Certificate (Sydney Technical College).
Chemical equilibrium. Acid-base theory. Reaction kinetics. Electrochemistry. Manufacture of chemicals. Introduction to organic chemistry.

62423 Organic Chemistry I
Six semester hours (3 s/h lectures/tutorial, 3 s/h practical).
Assumed Knowledge: HSC Science (any cource) or equivalent.
Introduction to organic chemistry. Nomenclature, functional groups, reaction mechanisms, stereochemistry, chemical and instrumental analysis.

62424 Chemistry 2M F/T
Six semester hours
Pre-requisite: Chemistry IM F/T or equivalent.
Chemical kinetics, chemical equilibrium, enthalpy and entropy, acid-base theory, complex ions, electrochemistry, manufacture of chemicals.

62431 Structural Inorganic Chemistry
Five semester hours (2 s/h lectures, 3 s/h practical)
Pre-requisite: Chemistry 1M + Chemistry 2M or equivalent.
Chemical bonding and molecular structure. Introduction to transition metal chemistry. Co-ordination complexes and co-ordinate bonds. Introduction to basic concepts in solid state structural chemistry.

62432 Organic Chemistry 2
Five semester hours (2 s/h lectures, 3 s/h practical)
Pre-requisite: All stage 1 subjects, Stage 2 Chemistry subjects plus Chemical Spectroscopy.
Aromatic syntheses. Polynuclear aromatic hydrocarbons. Carbanion reactions. Carbohydrates. Heterocyclic chemistry.

62433 Chemical Analysis 1
Four semester hours (1 s/h lecture, 3 s/h practical)
Pre-requisite: Chemistry 1M + Chemistry 2M.
An introduction to the theory and practice of qualitative and gravimetric analysis in inorganic chemistry. Classical methods of qualitative separation, identifying reactions of metal ions. Spot tests. Gravimetric separation methods. Theory of errors. Sampling methods.

62434 Industrial Chemistry, Safety and the Law
Three semester hours (3 s/h lectures)
Pre-requisite: All Stage 2 subjects plus Industrial Training.
Co-requisite: Physical Chemistry 1.
Principles of the processes used in industry. Efficiency of production, consumption of raw materials and energy; industrial fuels and water. Materials used.

62435 Treatment of Chemical Data

Two semester hours (2 s/h lectures/tutorials)

Pre-requisites: All Stage 1 subjects, Stage 2 Chemistry subjects plus Science Mathematics 2; Statistics 1.

Method of measurement and chemical data collection; sources of experimental errors, statistical and non-statistical treatment of errors; graphical and numerical methods of data presentation and interpretation; use of dimensions in unit conversion, equation checking and equation formulation; representation of physical chemical data by mathemataical relationships; computer applications.

62436 Chemical Spectroscopy

Five semester hours (2 s/h lectures/tutorials, 3 s/h practical)

Pre-requisites: Chemistry 2M or Chemistry 2 P/T; Chemistry 1M; plus Organic Chemistry 1.

This subject is an introduction to the theory and applications of spectroscopy, including electronic, infrared, n.m.r. and mass spectroscopy.

62441 Physical Chemistry 1

Six semester hours (2 s/h lectures, 1 s/h tutorial, 3 s/h practical)

Pre-requisites: All Stage 1 subjects, Stage 2 Chemistry subjects plus Science Maths 2, Chemical Spectroscopy.

This subject provides a firm foundation in the principles and applications of thermodynamics and a comprehensive course in basic electrochemistry treated substantially from the kinetic viewpoint.

62442 Electronics and Instrumentation

Six semester hours (2 s/h lectures, 4 s/h practical)

Pre-requisite: All Stage 1 subjects, Stage 2 Chemistry subjects plus Physics 2.

Electronics: components, relays, DC and AC circuit theory, meters, transistors, integrated circuits. Digital electronics. Microcomputer hardware, data acquisition and control. Noise. Instrumentation: pH and

conductivity measurement, op-amp based voltammetric analyzers,spectrometers, chromatographs, vacuum technology.

62443 Chemical Analysis 2
Six semester hours (2 s/h lectures, 4 s/h practical)
Pre-requisites: All Stage 1 subjects, Stage 2 Chemistry subjects plus Chemical Analysis 1, Structural Inorganic Chemistry.
A lecture series with associated practical work on separation techniques and volumetric procedures used in analytical chemistry.

62451 Physical Chemistry 2
Six semester hours (2 s/h lectures, 4 s/h practical)
Pre-requisite: All Stage 3 subjects plus Physical Chemistry 1, Treatment of Chemical Data. Kinetics: Rate laws, reaction mechanisms, rate theory. Surface Chemistry: Interfacial phenomena, surface active agents, catalysis, rheology.

62452 Chemical Technology 1
Six semester hours (2 s/h lectures, I s/h tutorial, 3 s/h practical)
Pre-requisites: All Stage 2 subjects plus Stage 3 Chemistry subjects.
Practical and theoretical treatment of automatic control. Development of differential equations for the process. Control problems solved using the analogue computer. Unit operations of fluid flow, and heat transfer treatment.

62453 Chemical Analysis 3
Six semester hours (2 s/h lectures, 4 s/h practical)
Pre-requisites: All Stage 2 subjects, Stage 3 Chemistry subjects plus Physical Chemistry 1, Chemical Analysis 2.

Spectroscopic analysis. X-ray fluorescence analysis. Electroanalytical chemistry. Radiochemistry.

62454 Applied Inorganic Chemistry
Six semester hours (2 s/h lectures, 4 s/h practical)
Pre-requisites: All Stage 3 subjects.

Ligands and their industrial applications. Crystal field theory and mineralogical applications. Biological applications of co-ordination chemistry. Concepts in solid state structural chemistry. Technological applications of inorganic solids.

62455 Applied Organic Chemistry 1
Six semester hours (3 s/h lectures/tutorials, 3 s/h practical)
Pre-requisites: All Stage 3 subjects plus Organic Chemistry 2.
The chemistry of natural and synthetic polymers. Polymerisation processes, mechanisms and kinetics. Molecular weight determinations. The properties of polymers in relation to structure and molecular weight.

62462 Environmental Chemistry
Six semester hours (2 s/h lectures, 4 s/h practical)
Pre-requisites: All Stage 3 subjects.
The chemical nature and control of natural and polluted systems in the atmosphere and hydrosphere. The use of modern analytical techniques in study of such systems.

62465 Metallurgical Chemistry
Six semester hours (3 s/h lectures, 3 s/h practical)
Pre-requisites: All Stage 3 subjects plus Physical Chemistry 1
Occurrence of minerals. Comminution and the theory of fine particles. Extractive metallurgy including physical separation methods, flotation, hydrometallurgy and pyrometallurgy.

62467 Applied Organic Chemistry 2
Six semester hours (3 s/h lectures, 3 s/h practical)
Pre-requisite: All Stage 3 subjects plus Organic Chemistry 2.
Selected advanced topics in organic chemistry including organic synthesis, photochemistry, natural products and instrumental methods.

62468 Corrosion Science
Six semester hours
Pre-requisites: All Stage 3 subjects plus Physical Chemistry 1.

The subject provides a detailed survey of the various forms of corrosion, and the use of appropriate anti-corrosion techniques are discussed in terms of modern theory and practice. Some attention is given to the economics of alternative anti-corrosion methods. Lectures are complemented by extensive practical work which emphasises the applied nature of the subject.

62472-8O Chemistry Project
Two-ten semester hours
Pre-requisites: All Stage 4 subjects.
Students may choose a topic from a wide range on which to carry out work of an individual, investigative nature.

DEPARTMENT OF PHYSICS

63211 Physics 1
Six semester hours (31/2 s/h lecture/tutorials, 21/2 s/h practical).
Co-requisite: Science Mathematics 1
Text: Sears, Zemansky and Young - 'University Physics' (Addison-Wesley)
Introduction to the fundamental laws of mechanics, thermal physics, wave motion and optics.

6321.1 Physics 2
Six semester hours (21/2 s/h lectures, 1 s/h tutorial, 21/2 s/h practical)
Pre-requisite: Physics 1
Text: Sears, Zemansky and Young - 'University Physics'(Addison-Wesley)
Introduction to electrostatics, electromagnetism and circuit analysis, properties of matter and optics. For Chemistry and Geology students: modern physics instead of gravitation and additional optics.

DEPARTMENT OF MATERIALS SCIENCE

63724 Introduction to Materials Science
Four semester hours (2 s/h lectures, 2 s/h practical)

Pre-requisite: Chemistry 1M or Chem 1. (P/T)
This subject examines the relationship between the properties and behaviour of different classes of materials and their structures.

DEPARTMENT OF APPLIED GEOLOGY

62311 Geology 1 F/T
62312 Geology 1 P/T
Six semester hours (2 s/h lectures, 4 s/h practical)
Texts: Press and Siever - 'Earth' (Freeman, 1974); Branagan and Packham - 'Field Geology of N.S.W.' (Science Press)
The Earth's surface and physical processes operating on it; properties and behaviour of the crust of the Earth; mineral products, especially power, metals and water; maps and geological structures; minerals, rocks and fossils. Three one-day field excursions.

FACULTY OF LIFE SCIENCES

61388 Concepts in Biology F/T
61378 Concepts in Biology P/T
Six semester hours (2 s/h lectures, 1 s/h tutorial, 3 s/h practical)
The subject is designed primarily as a terminating one-semester course in Biology for students in Physical Sciences. It provides an introduction to the major principles of biological science, and the importance of this branch of science in a world of advanced technology.
Life exists in general on three planes of organisation; cell, organism and population. Life is self-perpetuating, diverse and evolving. The biosphere represents a complexly balanced system involving a cycling of materials and a continuous flow of energy.
The course is presented in two 3 semester-hour units, with the characteristics of living things and life-activities; with the diversity of living things, and the dynamics of population with environment.

FACULTY OF MATHEMATICAL AND COMPUTING SCIENCES

31799 Computing 1
Four semester hours (2 s/h lectures, 2 s/h practical)
Pre-requisite: Science Mathematics 2 or equivalent
Elements of FORTRAN programming; the use of a digital computer; introduction to numerical solutions of problems in science and engineering using digital computers; solution of linear and non-linear equations; numerical integration; linear algebra and matrices; solutions of ordinary differential equations.

33141 Statistics 1
Three semester hours
Pre-requisite: Science Mathematics 1
Descriptive statistics. Basic probability theory. Binomial and normal distribution. Standard tests of significance. Correlation and regression. Distribution-free tests.

33160 Science Mathematics 1 F/T
33159 Science Mathematics 1 P/T
Six semester hours (3 s/h lectures, 3 s/h tutorial)
Assumed Knowledge: HSC 2U Mathematics or equivalent
Introduction to the derivative, local and global extreme values; instantaneous rates of change; non-time rates; continuity; introduction to the integral; area-predicting formulas; volumes of geometric solids; calculation of work; improper integrals; first and second derivative test; mean value principle; composite functions and the chain rule; related rates; l'hopitals rule; differentials and implicit differentiations; change of variables technique in integration; the indefinite integral; integration by parts.

33163 Science Mathematics 2
Three semester hours (11/2 s/h lectures, 11/2 s/h tutorial)
Pre-requisite: Science Mathematics 1
More antiderivatives; logarithmic laws and their applications; integrations using the natural logarithmic function; the number e; the concept of

inverse functions; the exponential function and its properties; arc length; surface area; method of partial fractions; introduction to differential equations; separation of variables technique.

FACULTY OF HUMANITIES AND SOCIAL SCIENCES

51357 Oral Communication
Two semester hours
This is a practical, workshop subject. Speaking and presentation skills are developed in several contexts: popular, academic and industrial. In any one semester these may include the communication of science on radio and television, seminar presentations and conferences, interviewing, and formal
presentations. The focus is on the oral presentation of scientific and technical information.

51368 Written and Oral Reporting
Two semester hours
A course in the principles and practice of effective written and oral reporting, designed to help students in research, organising, writing and presenting material appropriate to technical and commercial contexts. Adaptation of material and communication techniques to selected channels of communication. Letters, memoranda, reports, articles, graphs, tables, diagrams. Short talks on technical subjects and introduction to visual aids.

FACULTY OF BUSINESS STUDIES

21139 Business Organisation
Two semester hours
This subject examines the various types of private sector business in Australia; studies the manner in which these businesses are managed; and develops decision-making, problem-solving and planning skills.

RECOMMENDED CHEMISTRY TEXTBOOKS

62412 Chemistry 1 P/T
Brown & LeMay, 'Chemistry', Prentice Hall
Aylward & Findlay, SI Chemical Data, Wiley
Sleet, 'Chemical Calculations', Science Press

62414 Chemistry 1M
Brady & Humiston, 'General Chemistry', 4th (SI)
Aylward & Findlay, SI Chemical Data, Wiley

62422 Chemistry 2 P/T
AS FOR CHEMISTRY 1 P/T

62423 Organic Chemistry 1
NONE

62424 Chemistry 2M
AS FOR CHEMISTRY 1M

62431 Structural Inorganic Chemistry
Cotton & Wilkinson, 'Basic Inorganic Chemistry', Wiley
Greenwood & Earnshaw, 'Chemistry of the Elements', Pergamon
Mackay & Mackay, 'Introduction to Modern Inorganic Chemistry'

62432 Organic Chemistry 2
Morrison & Boyd, 'Organic Chemistry', Allyn & Bacon

62433 Chemical Analysis 1
NONE

62434 Industrial Chemistry, Safety & the Law
Aust. Code for the Transport of Dangerous Goods by Road & Rail, Aust. Government Publishing Service Gazette

62435 Treatment of Chemical Data
NONE

62436 Chemical Spectroscopy
Moore, 'Basic Physical Chemistry', Prentice Hall
Silverstein, Bassler & Morrill, 'Spectrometric Identification of Organic Compounds', Wiley

62441 Physical Chemistry 1
Warn, 'Concise Chemical Thermodynamics', Van Nostrand Reinhol
Bockris & Reddy, 'Modern Electrochemistry', Vol.2, Plenum Rosella

62442 Electronics & Instrumentation
(Recommended)
Skoog, 'Principles of Instrumental Analysis', Saunders
trobel, 'Chemical Instrumentation', Addison Wesley

62443 Chemical Analysis 2
Pietrzyk & Frank, 'Analytical Chemistry', 2nd Ed., Academic Press

62451 Physical Chemistry 2
Shaw, 'Intro. to Colloidal Surface Chemistry', Butterworths
Avery, 'Basic Reaction Kinetics and Mechanisms', MacMillan

62452 Chemical Technology 1
NONE

62453 Chemical Analysis 3
Skoog, 'Principles of Instrumental Analysis', 3rd Ed., Saunders

62454 Applied Inorganic Chemistry
Greenwood & Earnshaw, 'Chemistry of the Elements', Pergamon Press

62455 Applied Organic Chemistry 1
Billmeyer, 'Polymer Science', Collier MacMillan, 3rd Ed.

62461,
62471-8O Chemistry Project
NONE

62462 Environmental Chemistry
Manahan, 'Environmental Chemistry', Willard Grant
Bockris, 'Environmental Chemistry', Plenum
(Recommended)

62465 Metallurgical Chemistry
Wills, 'Mineral Processing Technology', Pergamon

62467 Applied Organic Chemistry 2
Sternhell & Kalman, 'Organic Structures from Spectra', Wiley

62468 Corrosion Science
Fontana 'Corrosion Engineering', 3rd Ed McGraw Hill

GENERAL INFORMATION

Administrative Matters

The Students Administrative Unit is responsible for administrating the Rules & Regulations which relate specifically to the students body.

Enquiries regarding administrative matters should be made at the **STUDENT INFORMATION OFFICE** which is located on level 4 of the Tower building. Information and assistance are available on courses, admission requirements, enrolment,examinations, variation of course/program and withdrawal from course.

Student Identification Card

An identification (ID) card will be issued to students during enrolment. This card should be carried at all times as such identification is required for the use of computer and library facilities and for admission to formal examinations.

Notification of Changes

It is the students responsibility to ensure that any changes, such as address and name changes be provided to the University. Forms are available at the Student Information Office. The University does not accept responsibility if official mail does not reach students due to a failure to notify a change of address.

Subject Exemptions/Admission with Advanced Standing

Students who have previously completed appropriate subjects of courses at recognised tertiary institutions may be granted subject exemptions. Students wishing to apply should fill in an Exemption Application Form available from the Student Information Office.

YOUR ENROLMENT AND THE HIGHER EDUCATION CONTRIBUTORY SCHEME (HECS)

Effect on Variation of Course Program/Addition or Withdrawal from Subjects.

With the introduction of the HECS (graduate tax) next year it is important that you are aware of the following:

1. You must pay this tax by 23rd March in Autumn Semester and 23rd August in Spring semester

OR

provide or apply for a taxation file number on enrolment.

If this is not done your enrolment is automatically terminated.

2. The last day you can add a subject is: 10th March in Autumn semester, 11th August in Spring semester.

3. The last day you can lodge an application to **drop a subject** or **withdrawal entirely** from a course, or apply to the Registrar for Leave of Absence **without incurring the HECS penalty is:**

- 30th March in Autumn semester,
- 30th August in Spring semester.

4. **NOTE:** If academic approval is subsequently gained to withdraw from a subject/course/or leave of absence you will **still be liable** to the Australian Taxation Office for HECS charges.

5. If you have been sick, had an accident or some other misfortune that has forced you to reduce your studies during the semester then you may appeal to the Commonwealth Government to seek a refund or have your liability reduced.

Forms for adding/dropping subjects and change of course are available from the Student Information Office or the Faculty Office (Building 4, Room 308).

The Student Information Office can be contacted by telephone. The number is 218-9145/9262.

Student Services

The student services unit is also located on level 3A of the Tower building and can be contacted by telephone on 218-9145/9147/9262. This unit is to assist students to perform to the best of their abilities and to gain the most from their education. It provides such services as

Student Counselling - Problems of a personal nature, study difficulties or anything else likely to affect a student's progress may be discussed with complete confidentiality.

Student Health Service - This service is staffed by a Medical Practitioner and nursing sister and provides a free service to all students.

Student Welfare Service - This service covers such things as accommodation, Austudy, help with appeals, disadvantaged and disabled students, students loan fund.

Library Facilities

The University's main library is located at the Markets Campus on the corner of Hay Street and Ultimo Road. Hours of opening are posted at the library and on notice boards at the Faculty Office students may borrow from the library on presentation of their University ID card. No limits are placed on the number of books which may be borrowed, but overdue items must be returned before further loans are made. There are audio-visuals in the library, including a wide variety of videotaped material. Photocopying facilities and computer terminals are available.

Students are encouraged to ask the librarians on duty at the information desk for any help they need in using the library. Library orientation tours are held early in each semester. Leaflets on the literature of various subjects are available.

Computing Services

The Computer Centre provides a comprehensive range of facilities and services to meet the major computing requirements of the University.The central computer installation is located on level 9 of the Tower. Collections of terminals are located at various positions. Tower Building, level 10, room 1013, Building 4, rooms 438 & 440.

Intending users of Computing Centre facilities must first register and production of ID card is required for collection of jobs and use of terminals.

For detailed information about the various administration, academic and social aspects of UTS get a copy of the UTS Brochure - Undergraduate Studies, 1989 from the Student Information Office or the Faculty of Physical Sciences Office.

The Calendar, the official information quide to courses, rules and regulations may be purchased from the Union Shop in the Tower. Copies of the Calendar are available for perusal at the Library and at the Student Information Office.

Academic Progression

ACADEMIC PROGRAM - Your academic program is selected and approved at the time of enrolment. As far as possible it should conform with the course patterns published in this handout. Obviously, when failures occur or timetable difficulties arise, this is not always possible. Careful attention should then be given to selecting subjects for which all the necessary pre-requisites have been completed. Combinations of subjects must not span more than three stages of the course. It is essential

that you seek advice at this stage and that your program is officially approved by a member of the academic staff.

Listings of current subject enrolments are produced in Weeks 5, 10 and 15 of each semester. These are displayed on the third floor of Building 4 in the case of Applied Chemistry, Applied Geology and Material Science students and on the tenth floor of Building 1 for Applied Physics students. You should check these listings to ensure that you are enrolled in the correct subjects and that any variations have been recorded.

EXAMINATION TIMETABLES - Provisional and final examination timetables are displayed on the notice boards. It is the students' responsibility to notify the Registrar if a clash of times occurs in their examination program.

ASSESSMENT - The measurement of performance in individual subjects may take into account work completed in the laboratory and in class tests and/or assignments given throughout each semester as well as results obtained at formal examinations.

The formal assessment periods for the courses within the School are as follows -

ATTENDANCE PATTERN	**ASSESSMENT PERIOD**
Full-time or sandwich	One semester
Part-time	Two semesters

This means that full-time or sandwich students will be formally assessed at the end of each semester. Part-time students will be formally assessed at the end of the Spring Semester, although results may be obtained at the Autumn Semester for subjects taken in that semester.

Formal assessment means that a student's overall performance in the assessment period will be expressed as a Weighted Average Mark (W.A.M.) and an appropriate progression category awarded.

The WAM measures the performance of a student in a particular assessment period and is calculated from the results of all subjects completed within that assessment period.

$$\text{WAM} = \frac{\text{Sum of (W.F. x mark)}}{\text{Sum of WF}}$$

Where WF = subject weighting factor (semester hours) and mark = subject assessment (%).

CONCEDED PASSES - In the event of failing one subject within an assessment period a student may be granted a conceded pass in that subject on the following conditions -

i a mark of 45 to 49 in that subject;
ii a WAM of at least 55% for that assessment period;
iii no previous failure in that subject.

PROGRESSION AND PROBATION - Students whose scholastic performance is satisfactory in a given assessment period will continue to proceed normally through the course (Progression Category A).

In the case of students whose scholastic performance is unsatisfactory, a system of academic probation applies. This system is not intended as a penalty, but is meant to assist students to remedy the deficiencies in their performance. However it should be recognised that failures, particularly failures sufficient to lead to probation, can give rise to consistent difficulties in selecting a program once you are 'out of phase' in a given course.

All students on probation or continuing probation are assigned an academic adviser whose assistance should be regularly sought in order to speed up a return to normal progression.

Students may be placed on probation (Progression Category P) at the end of an assessment period for any of the following reasons -

i a WAM less than 45%;
ii failure in all subjects taken in that period;
iii failure in a subject for a second time;
iv generally unsatisfactory performance.

A student on probation will continue on probation (Progression Category R) if his/her WAM at the end of the next assessment period is less than 50%.

EXCLUSION - A student may be excluded from the course in which he/she is enrolled for any of the following reasons -

i obtaining a WAM < 40% while on probation;
ii obtaining a WAM < 50% while on continued probation;
iii failure in a subject for the third time, regardless of Progression Category (A, P or R);
iv consistently unsatisfactory performance.

APPEALS AND RE-ADMISSION - Students may appeal against exclusion only on the grounds of clearly relevant accredited evidence. Readmission to a course after a period of exclusion is possible but not automatic.

STUDENT ADVICE - Because of the possible consequences you are urged to work hard to avoid probation, or if on probation to work even harder, and to avail yourself of as much assistance as possible, both in determining a suitable program and in carrying out the studies involved. This should mean regular communication with all your lecturers, and with your Head of Department or Head of School if particular difficulties arise.

The following staff are available to provide general advice on academic and administrative matters.

The Graduate Assistant
Miss Barbara Kitto
Telephone: 218-9947

Chemistry Department
Assoc. Professor W. Stern
Head of Department
Telephone: 218 9402
Room 4/217

Dr. G. Norton
Senior Lecturer
Telephone 218-9462
Room 4/430

FACULTY INFORMATION

THE FACULTY OF PHYSICAL SCIENCES

The Faculty of Physical Sciences consists of one School, the School of Physical Sciences. The principal academic and administration officers of the Faculty and School are:

Dean of Physical Sciences, Head of School and Professor of Chemical Technology
RJ Breakspeare, Ph D (Exeter), FRSC, CChem, ARACI,

Sub Dean
BJ Franklin BSc (Syd), MSc PhD (NSW), MAIG, FGAA

Deputy Head of School
RW Jones, BSc, Dip Ed (Melb), PhD (Cantab), C Chem, ARACI

NSWIT Reader
GB Smith, BSc (UNE), PhD (Monash), MAIP

Administrative Officer
BJ Kitto, BA (Macq)

The School is divided into four separate Departments, each of which offer a full degree program on a sandwich or part-time basis extending over four to six years. The Departments are:

Applied Chemistry
Applied Geology
Applied Physics
Materials Science

The degree courses all include a requirement of a minimum of one year's appropriate industrial experience which must be undertaken prior to, or concurrent with the final stage of the course.

(a) A high standard of achievement in the formal course work associated with the degree program.

(b) Presentation of an acceptable report on project work undertaken in conjunction with an industrial concern and/or within the University.

(c) Satisfactory completion of any advanced reading assignments, seminars, and such additional work as may be approved by the Head of Department.

(d) The completion of a program of study and industrial experience extending over a minimum of four years full-time. The program may be completed by an equivalent part-time pattern.

FACULTY OFFICE

To help students in the Faculty of Physical Sciences with any advice they need or difficulties they may experience a Faculty Information Office has been set up in Building 4, Room 308, directly opposite the Harris Street lifts. This office is open five days a week from 8-30 am to 1-00 pm & from 1-30 pm to 5-00 pm and students requiring information will be directed to the relevant academic and/or technical person.
In addition course & subject variation forms,examination timetables, etc are available from this office.

The Faculty Office can be contacted by telephone. The number is 218-9951.

The semester timetables, listing of current enrolments and examination results will be posted as they become available on notice boards adjacent to this office for students from all Departments, excepting

Applied Physics whose enrolment details and timetables will be available from the 10th floor, Tower Building. You should check these listings to ensure you are correctly enrolled and that any variations have been recorded.

STUDENT ADVICE

Because of the possible consequences you are to work hard to avoid probation, or if on probation to work even harder, and to avail yourself of as such assistance as possible, both in determining a suitable program and in carrying out the studies involved. This should mean regular communication with all your lecturers, and with your Head of Department or Head of School if particular difficulties arise.

Students seeking any advice should see the following:

(a) for **Applied Physics** subjects

Associate Professor A R Moon
Room 1/1230 (Tower building)
Tel. 218-9468

Dr P Logan
Room 1/1122A (Tower building)
Tel. 218-9525

(b) for **Applied Geology** subjects

Associate Professor E Leitch
Room 4/318B
Tel. 218-9457

Dr B Franklin
Room 4/324B
Tel. 218-9570

(c) for **Applied Chemistry** subjects

Associate Professor W Stern
Room 4/217
Tel. 218-9402

Dr G Norton
Room 4/430
Tel. 218-9462

(d) for **Materials Science** subjects

Associate Professor R McMillan
Room 4/427
Tel. 218-9460

APPLIED CHEMISTRY DEPARTMENT

ACADEMIC STAFF

HEAD OF DEPARTMENT

W Stern BSc, PhD (NSW), ASTC, CChem, FRACI

SENIOR LECTURERS

R A Ashby BSc, PhD (NSW), CChem, ARACI, MAIP
J P Byrne BSc, PhD (Syd)
A J Cameron MSc, PhD (Syd), CChem, ARACI, AMAusIMM
G R Draper BSc, PhD (NSW), CChem, ARACI
R W Jones BSc, DipEd (Melb), PhD (Cantab), CChem, ARACI
D A Kairaitis BSc (WA), MSc, PhD (UNE)
T L Mullins BA, MSc (Hawaii), PhD (NSW), ACS, CChem, ARACI
G P Norton BSc (Syd), MSc, PhD (NSW), CChem, ARACI
J H Sharp BSc, PhD (NSW), CChem, ARACI
R J Sleet MSc, PhD (Syd), CChem, ARACI

LECTURERS

R Armstrong MSc, DipEd (Syd), DipEdTech (Plym), CChem, ARACI
A Baker BSc, PhD (NSW)
B R Crawford MSc, PhD (NSW), ASTC
J R Kalman BSc, PhD (Syd)

SENIOR TUTOR

A.Wilson BSc(St And),MEd(PNG), PhD (Ncle),MRSC

CHEMISTRY PRIZES & SCHOLARSHIPS

1. Robert K Murphy Awards.

To perpetuate the name of Dr. R K Murphy, who was for 25 years Lecturer-in-Charge of the Chemistry Department and subsequently Principal of Sydney Technical College, the Sydney Technical College Science Association sponsored a fund to which a number of chemical industries also subscribed.

(a) Robert K Murphy Prize

To a student in the Applied Chemistry Degree (part-time or full-time) who gained admittance by way of the Chemistry Certificate. The Prize is valued at $250.

(b) Robert K Murphy Research Scholarship

To a student in the Applied Chemistry Degree who can show that a Scholarship is warranted to assist in research or advanced study. The prize is valued at $250.

(c) Robert K Murphy Research Prize

To a student in the Applied Chemistry Degree, for the best original Chemistry project in the year for which the award is made. The prize is valued at $250.

2. Francis E Feledy Prize

Awarded to the part-time Physical Sciences student about to enter the final year of their course who has the best performance so far in their course. The prize is valued at $100.

3. RACI Prize

This prize from the Royal Australian Chemical Institute is awarded annually to an outstanding student in the final year of studies in the Applied Chemistry Degree. The prize is valued at $100.

4. TICS Prize

This prize was established by The Institute Chemical Society and is offered annually to the student in the Applied Chemistry Degree course who obtains the highest weighted average mark in Stage 3 of the course. The prize is valued at $50.

5. National Safety Council of Australia Prize

Established by the National Safety Council of Australia this prize is to be offered annually to the student in the Applied Chemistry Degree course who obtains the best performance in the subject Industrial Chemistry, Safety and the Law. The prize is valued at $100.

6. Chemistry Department Prize

This prize was established from earnings of the H.S.C. Chemistry Review courses and is to be offered annually to the student in the Applied Chemistry Degree course who obtains the best performance in Stage 2 Chemistry subjects. The prize is valued at $100.

PRINCIPAL DATES FOR 1989

AUTUMN SEMESTER

February 3	Enrolment of new students
February 10	Re-enrolment of continuing students
February 13 (week 1)	Stage 2-6 classes commence
February 13	Orientation Day for new students
February 20	Stage 1 classes commence
March 10	Last day for addition of subjects to approved program
March 20	Tutorial Week commences
March 23	Last day to pay HECS tax
March 24-27	EASTER
March 30	Last day for withdrawal from subjects or course without penalty
April 25	ANZAC DAY
April 26	Physical Sciences Graduation and Prize Giving Ceremonies
May 1	Tutorial Week commences
June 12	QUEEN'S BIRTHDAY HOLIDAY
June 13	Formal Examinations commence
June 23	Formal Examinations end for Physical Sciences

SPRING SEMESTER

July 21	Re-enrolment of continuing students
July 24 (Week 1)	Classes commence
August 3	New students commence
August 11	Last day for addition of subjects to approved program
August 23	Last day to pay HECS tax
August 28	Tutorial Week commences
August 30	Last day for withdrawal from subjects without penalty.
October 2	EIGHT-HOUR DAY HOLIDAY
October 9	Tutorial Week commences
November 20	Formal examinations commence
December 1	Formal examinations end for Physical Sciences