

SCHOOL
OF
MATHEMATICS
AND PHYSICS

Handbook 2009

COURSEWORK



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

www.smp.uq.edu.au



IMPORTANT DATES FOR 2009

First Semester

Orientation	Monday 23 February - Friday 27 February
Classes	Monday 2 March - Thursday 9 April
Mid-semester break	Monday 13 April - Saturday 18 April
Classes	Monday 20 April – Saturday 6 June
Revision period	Monday 8 June - Friday 12 June
Examination period	Saturday 13 June - Saturday 27 June
Semester ends	Saturday 27 June

Second Semester

Orientation	Monday 20 July - Friday 24 July
Classes	Monday 27 July - Saturday 26 September
Examination period	Saturday 7 November - Sat 21 November
Revision period	Monday 2 November - Friday 6 November
Classes	Monday 5 October - Saturday 31 October
Mid-semester break	Mon 28 September – Sat 3 October
Semester ends	Saturday 21 November

Summer Semester

Classes	Mon 30 November - Sat 13 February 2010
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Public Holidays

New Year's Day	Thursday 1 January
Australia Day	Monday 26 January
Good Friday	Friday 10 April
Easter Monday	Monday 13 April
Anzac Day	Saturday 25 April
Labour Day	Monday 4 May
Queen's Birthday	Monday 8 June
Exhibition Day	Wednesday 12 August
Christmas Day	Friday 25 December
Boxing Day	Saturday 26 December

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The School of Mathematics and Physics

The School of Mathematics and Physics, which comprises the Disciplines of **Mathematics (including Statistics)** and **Physics** was established in 2009 after a restructure of the Faculty of Science.

The School of Mathematics and Physics employs approximately 44 full-time academic staff at lecturer level or above and approximately 50 research staff that are supported by 15 administrative and technical staff.

The School offers postgraduate coursework degrees in the fields of mathematics, statistics, financial mathematics, and physics. Our Head of School, Professor Halina Rubinsztein-Dunlop is a strong supporter of these programs, and the school is actively seeking to expand postgraduate enrolments.

Coursework Programs

There are four postgraduate coursework programs offered in our School:

- *Graduate Certificate in Science* (GCSc) (8 units of study). 1 semester of full time coursework study (or the equivalent part time)
- *Graduate Diploma in Science* (GDipSc) (16 units of study). 2 semesters of full time coursework study (or the equivalent part time). This is an extra semester after the GCSc.
- *Master of Science* (MSc) (16 units of study). 2 semesters of full time study (or the equivalent part time) for qualified students (i.e., with advanced undergraduate level studies in the field and/or a four year undergraduate degree). This comprises 8 units of course work and 8 units of project work*.
- *Master of Science* (MSc) (24 units of study). 3 semesters of full time study (or the equivalent part time). This combines the 16 units of coursework required for the GDipSc, together with 8 units of project work*.

** The MSc project work involves independent investigation of a **topic** of particular interest to the student under the supervision of a member of the academic staff within the school. It will involve reading and understanding the latest research literature. Depending on the topic, it could involve experiments, computer implementation, comparison and extensions of known techniques, or original theoretical work.*

If you obtain an MSc with sufficiently good grades and wish to undertake research, you are eligible to go on to do either an MPhil or PhD degree. The school has particularly strong research groups and welcomes applicants for research degrees.

The postgraduate coursework coordinators will help students plan their program to suit their background and interests. Detailed online information on the program, fields of study, requirements and rules may be obtained from:

- GCSc: www.uq.edu.au/study/program.html?acad_prog=5138
- GDipSc: www.uq.edu.au/study/program.html?acad_prog=5240
- MSc (24 unit): www.uq.edu.au/study/program.html?acad_prog=5244
- MSc (16 unit): www.uq.edu.au/study/program.html?acad_prog=5389

The full list of courses available is given at: www.uq.edu.au/study/program_list.html?action=view_all&acad_prog=5244&year=2009

Postgraduate Coordinators

The Mathematics discipline within the School, manages postgraduate coursework students in the fields of Mathematics, Statistics and Financial Mathematics. The postgraduate coursework coordinator is:

Dr Graeme Chandler
Room 67-450
Priestley Building
Phone: 3365 3254
Fax: 3365 1477
Email: gac@maths.uq.edu.au
Web: www.maths.uq.edu.au/~gac

The Physics discipline within the School, manages postgraduate coursework students in the field of Physics. The postgraduate coursework coordinator is:

Dr Matthew Davis
Room 6-403
Physics Building
Phone: 3346 9824
Fax: 3365 1242
Email: mdavis@physics.uq.edu.au

The administrative officer for postgraduate coursework students in the School of Mathematics and Physics is:

Allison Golding
Student Administration
Room 6-202, Physics Annexe (will be moving to the Priestley Building #67 in March/April 2009)
Phone: 3365 2673
Email: a.golding@uq.edu.au

Once enrolled, students should make enquiries with the secretarial/administrative staff, located within the disciplines of Mathematics (Kathy Lyons on Level 6, Priestley Building) or Physics (Jennifer Robinson on Level 3, Physics Annexe), with regard to key deposits for rooms, setting up computer accounts, photocopying, and printing facilities, etc.

Information about Postgraduate Coursework Programs

A MSc involves advanced courses focused on the latest research topics in the discipline and project work that involves reading and understanding the research literature.

The MSc gives a qualification comparable to an Australian honours degree. However, the postgraduate coursework degrees are more flexible and also allow students to build up their background in undergraduate topics. For this reason, postgraduate coursework degrees often appeal to people who want to change direction after their first undergraduate degree. For example:

- engineering graduates who have done only first and second year mathematics and/or physics courses as part of an engineering degree and who would like to do more advanced study in these areas, such as courses on differential equations, mathematical modelling, quantum mechanics or computational science.
- engineering graduates who have studied some mathematics or physics, but are interested in pursuing postgraduate research in one of these areas.
- commerce or economics graduates who have some business statistics or econometrics courses and who would like to take more advanced courses in statistics, stochastic processes, and financial mathematics.
- biology graduates who would like to build a better background by taking advanced courses in bioinformatics and biostatistics.
- future teachers who would like to take more mathematics or physics courses so they can become mathematics or physics teachers through the GDipEd.

Some example course plans are outlined below.

A student with a background in commerce or economics could undertake a MSc in Financial Mathematics.

<i>Semester 1</i>	<i>Semester 2</i>
Financial Mathematics	
MATH7701 Background in Mathematics (Special Topics)	MATH7049 Computation in Financial Mathematics
STAT7701 Background in Statistics (Special Topics)	STAT7304 Probability Models & Stochastic Processes
MATH7039 Financial Mathematics	MATH7232 Operations Research & Numerical Optimisation Financial Mathematics
FINM7401 Finance	MATH7021 Project
MATH7021 Financial Mathematics Project	
MATH7232 Operations Research & Numerical Optimisation	
MATH7091 Financial Calculus	

A student with a background in biology who wishes to do advanced courses in Bioinformatics could undertake a MSc in Mathematics .

<i>Semester 1</i>	<i>Semester 2</i>
Mathematics	
MATH7701 Background in Mathematics (Special Topics)	BIOL3014 Advanced Bioinformatics
STAT7701 Background in Statistics (Special Topics)	STAT7304 Probability Models & Stochastic Processes
MATH7210 Introduction to Computational Biology	MATH7232 Operations Research & Numerical Optimisation
BIOL3004 Genomics & Bioinformatics	MATH7011 Project in Mathematics
MATH7011 Project in Mathematics	
MATH7232 Operations Research & Numerical Optimisation	
STAT7301 Mathematical Statistics	

A student with some background in physics who wishes to continue to higher level studies could undertake a MSc in Physics.

<i>Semester 1</i>	<i>Semester 2</i>
Physics	
PHYS7042 Quantum Physics	PHYS7033 Condensed Matter Physics
PHYS7021 Statistical Mechanics	PHYS7072 Techniques of Experimental Physics and Data Analysis
PHYS7051 Electromagnetic Theory	PHYS7073 Computational Physics
PHYS7800 Advanced Experimental Physics	PHYS7710 Project
PHYS7250 Advanced Electromagnetic Theory	
PHYS7240 Advanced Quantum Physics	
PHYS7720 Research Project	

MSc or Honours?

In Australia, students interested in postgraduate research degrees (MPhil or PhD) usually take an undergraduate degree followed by an honours year, for example BSc and then BSc(Hons). Students with a good background in their field at an advanced undergraduate level who are thinking of proceeding to a research degree in Australia should consider enrolling in the BSc Honours program. The honours year is comparable to the last two semesters of an MSc program. It may also be possible to transfer to an honours degree after completing the requirements for a GcSc. A disadvantage of an honours degree is that this may not be familiar to overseas employers.

Please discuss this question with the Postgraduate Coursework Coordinator.

Fees and Costs

Fees and costs for domestic postgraduate coursework students

All domestic postgraduate coursework students must pay tuition fees. Online information may be found at this weblink <http://www.uq.edu.au/study/index.html?page=45490>

Fees and costs for international postgraduate coursework students

Information on fees and costs may be found online at www.uq.edu.au/study/index.html?page=1119&pid=947

FEE-HELP (Higher Education Loans Program)

FEE-HELP enables eligible students to obtain a Federal Government loan to pay all or part of their tuition fees. Over their lifetime students may borrow through FEE-HELP an amount up to the FEE-HELP limit to pay their tuition fees. The FEE-HELP limit is indexed each year and is \$104,142 for Medicine, Dentistry and Veterinary Science, and \$83,313 for all other programs in 2009. Under FEE-HELP, the Federal Government pays the loan amount directly to the University. Recipients then repay the loan through the taxation system once income reaches the minimum threshold for compulsory repayment. A loan fee of 20% applies for undergraduate full fee FEE-HELP students.

FEE-HELP is for tuition fees only. It does not cover any administrative or general service charges.

What happens to my FEE-HELP debt?

FEE-HELP debts are added to any existing HECS or HECS-HELP debts to form a single HELP debt. You only begin repaying your loan when your repayment income reaches the threshold amount. This is indexed annually and is \$41,595 for the 2008/09 financial year.

Domestic students in fee-paying places who are Australian citizens or holders of a permanent **humanitarian** visa are eligible for FEE-HELP. Domestic students who are New Zealand citizens or holders of a permanent **non-humanitarian** visa are **not** eligible for FEE-HELP. For more information visit www.uq.edu.au/myadvisor/fee-help

Scholarships

There are a limited number of scholarships available to domestic coursework students and online information is available on the following website: www.uq.edu.au/study/scholarships/index.html?page=58281&pid=58135

Scholarships available for international coursework students may be found online at: www.uq.edu.au/study/scholarships/index.html?page=58378&pid=58373

Tutoring in the School

The School of Mathematics and Physics teaches large first and second year courses in mathematics, statistics and physics. Tutorials and/or practicals are an important part of each of these courses and are conducted by casual part-time tutors who are advanced undergraduate or postgraduate students.

Successful postgraduate coursework students will be strong applicants for some of these jobs. Many students are able to supplement their incomes by being employed as part time casual tutors. For detailed online information on tutoring at UQ, please go to this website www.uq.edu.au/tutors/.

International students are not automatically given the right to work when they are issued with a student visa. For further information, please visit the Department of Immigration and Citizenship website www.immi.gov.au/

Applications for tutoring positions with our School must be made each semester via the web. Full details can be found on our School website at: www.smp.uq.edu.au/student/tutoring.html. Applications must be made by the deadline, which are usually a few weeks before the start of each semester.

Maths Student Society (MSS)

The Mathematics Students' Society aims to foster a sense of community within the discipline of Mathematics. Its members are drawn from all levels within the discipline: undergraduate, postgraduate and staff. Students are urged to join this Society and become fully involved in its activities. It is an excellent way to meet other students. Information on the MSS can be found at www.maths.uq.edu.au/mss.

The First Few Days

When students are officially enrolled they are able to get a student card and a UQ student email account.

- The student card enables you to borrow books at all University libraries.
- The student email account (eg s4000000@student.uq.edu.au) will be used for all official email from the University. **It is important to make sure it is working and to check for new mail every few days.**

Students should arrange to meet their Postgraduate Coursework Coordinator during the first few days on campus (email to arrange an appointment). In addition to answering any questions, this meeting will design your overall program and decide on the courses you will take in your first semester.

Before enrolling in your courses each semester, you should discuss your plans with the Discipline Postgraduate Coursework Coordinator. A few days later you will receive an email from the School Student Administration Office stating that your course selection has been officially approved. Then you should enrol in your courses via mySI-net. Enrolment in postgraduate level courses is not possible without prior approval. (Confusingly, SI-net will allow postgraduate students to enrol in undergraduate courses. However you are asked not to do this as it requires faculty approval through the postgraduate coordinator. Unless approval has been given, these enrolments will be detected and cancelled at a later stage.)

When you begin work on your MSc project, you will receive from the discipline secretary in mathematics or physics:

- a photocopy allocation of 1000 copies, usable on the photocopier located within your discipline.
- 24-hour computer, photocopying and printing access.
- a computer account on your discipline's computer network (if appropriate).
- a desk in a shared office (if space permits). You will be requested to pay a \$50.00 refundable deposit for the office key.

Your Program

Planning your Program

People taking postgraduate coursework degrees have many different backgrounds. Most students will need to study some undergraduate topics before taking the more advanced courses. Therefore you must discuss your study plans with your Postgraduate Coordinator, as they are required to approve every course you plan to study, before you attempt to enrol.

Designing your program

Students should be familiar with the rules governing their degree. In particular, the courses that can or must be taken are listed precisely at the following web link: www.uq.edu.au/study/program_list.html?action=view_all&acad_prog=5244&year=2009

The requirements are:

- Graduate Certificate in Science (GCSc). 8 units of courses.
- Graduate Diploma in Science (GDipSc). 16 units of courses.
- Master of Science (MSc) (#16 program). 8 units courses and an 8 units of project work.
- Master of Science (MSc) (#24 program). 16 units of courses and 8 units of project work.

On average, 8 units is the normal load for a full time student for one semester. Each course, apart from the project, is worth 2 units.

Depending on their background, students in the field of *Financial Mathematics* will have to include some compulsory courses in their program. Currently the compulsory courses are:

FINM7401	Finance
MATH7039	Financial Mathematics
MATH7049	Computation in Financial Mathematics
MATH7091	Financial Calculus
STAT7304	Probability Models & Stochastic Processes I

Please ask the Mathematics Postgraduate Coursework Coordinator about this, particularly if you are a #16 unit MSc student.

Choosing your research project

The project is an opportunity to work on a topic of particular interest to the student. Usually students ask members of staff working in relevant areas for suggestions and choose the most interesting topic that is offered. The project will involve reading and understanding papers from the recent research literature. Depending on the topic it could also involve extending recent results, applying these ideas to new problems or data, computer implementation and comparison of results, or giving a coherent exposition of results scattered amongst many papers.

Assessment

The assessment for postgraduate courses and projects is outlined in the course profiles. Make sure you read these at the start of semester so that you are aware of what assessment is due and when, particularly with regard to research projects.

It is good idea to be familiar with the rules for supplementary and special examinations.

- A *special examination* may be awarded if you miss an exam due to illness, difficult personal circumstances, or sporting commitments at a state, national or international level.
- A *supplementary examination* may be awarded only once for the first grade of 3, or if you fail a course in which a pass would have allowed you to graduate.

You must apply for specials or supplementaries promptly, usually within 7 days of the exam period for special exams or the release of results for supplementary exams. The full rules may be found on myAdvisor at www.uq.edu.au/myadvisor/examinations.

Students in Maths, Financial Maths or Statistics

Projects

The project can be started in either semester, but MSc students need to be enrolled in the project for **two semesters**. In summary the requirements for the project are:

- A one or two page project proposal outlining the topic and some of the key references. This is due the second week of the first semester of enrolment.
- A progress report giving a literature review, a rough timetable for the project's completion, and a draft outline of the eventual thesis (eg chapter titles). This is due at the beginning of the second semester of enrolment.
- A 20-minute seminar on the project. This will be scheduled in the second semester of enrolment.
- The project report or thesis, due in the exam period of the second semester of enrolment.
- A brief oral defence of the thesis held at the end of the examination period of the second semester.

Full details of the project requirements are included in the project profiles, which are available on the web.

For MSc students in Mathematics

MATH7010 and MATH7011 Project or Thesis 8#

Enrol over two semesters: MATH7010 (Sem 1) MATH7011 (Sem 2)

For MSc students in Financial Mathematics

MATH7020 and MATH7021 Project or Thesis 8#

Enrol over two semesters: MATH7020 (Sem 1) MATH7021 (sem 2)

For MSc students in Statistics

MATH7010 and MATH7011 Project and Thesis 8#

Enrol over two semesters: MATH7010 (Sem 1) MATH011 (Sem 2)

Examples of Recent Projects

Some recent MSc projects have been:

- Dale Holborow, The Effectiveness of Structural Bond Pricing Models with Maximum Likelihood Estimation of Asset Dynamics Parameters. (2008)
- Jason Koo, Modelling Electricity Spot Prices and Futures Contracts. (2008)
- Kyle Buchanan, A Comparison of Pricing Models for Synthetic Collateralised Debt Obligations. (2007)
- Galina Prosselkova, Micro Array Data Analysis (2007)
- Yassin Abdullah H, De Rahm cohomology and the Hodge Theorem (2007)
- John Foundas, FX Dynamics, Jumps, Stochastic Volatility and Option Pricing with the AUD/USD, (2006)
- Jingru Dai, Cluster Analysis in Crop Models (2005)
- Alanna Wood, A review of Commodity Derivative Pricing (2008)

Seminars

Mathematics host a number of seminars throughout the year. These include seminars by distinguished visitors, members of our own staff and mathematics students. In particular Honours and Masters students give seminars towards the end of their project; and these are interesting and rewarding. It is a good idea to attend as many of these seminars as possible; at the very least, those near your own area of interest.

You should receive seminar notices on your University student email account.

Special Topics Courses in Mathematics and Statistics

The postgraduate programs give students from a diverse range of backgrounds access to the most recent advances in mathematics and statistics. In the beginning many students, particularly those from engineering, biology, economics or finance, will need to catch up with some of the basic mathematics or statistics commonly taught in the early years of undergraduate courses. Students may achieve this by enrolling in a Masters level special topics course, attending the appropriate undergraduate lectures and doing the undergraduate assessment.

Such arrangements need special approval, so discuss this with the postgraduate coursework coordinator in the first instance.

MATH7701 Special Topics I.	STAT7701 Special Topics I
MATH7702 Special Topics II.	STAT7702 Special Topics II
MATH7703 Special Topics III.	STAT7703 Special Topics III
MATH7704 Special Topics IV	

Advanced Postgraduate Courses

The postgraduate courses in Mathematics are taken by students studying for honours degrees, for example BSc (Hons)) and for Postgraduate Coursework degrees (GCSc, GDipSc, MSc). For administrative reasons the courses have different course codes for honours and postgraduate coursework students: Level 4 for honours and level 7 for postgraduate coursework (eg MATH4401 and MATH7401). As the number of honours students is usually larger, most courses have information available under the honours code. For example the course home page on the web would be found under MATH4401 rather than MATH7401.

The postgraduate courses currently available are listed below (together with the corresponding honours code). In this table (E) or (O) denotes a course given every second year in even or odd years respectively. An entry such as MATH7401 (4401) means that postgraduate course work students enroll in the code MATH7401, while postgraduate honours students enroll in MATH4401

<i>Semester 1</i>	<i>Semester 2</i>
Pure Mathematics (Analysis)	
MATH7401 (4401) Advanced Analysis (O)	MATH7404 (4404) Functional Analysis (O)
MATH7403 (4403) Partial Differential Equations (O)	MATH7405 (4405) Measure Theory (E)
MATH7402 (4402) Ordinary Differential Equations (E)	MATH7406 (4406) Control Theory (E)
Pure Mathematics (Algebra & Discrete Mathematics)	
MATH7333 (3303) Algebra & Number Theory	MATH7331 (3301) Graph Theory & Geometry (O)
MATH7302 (4302) Combinatorial Designs (O)	MATH7301 (4301) Advanced Algebra (O)
MATH7303 (4303) Advanced Combinatorics (E)	MATH7304 (4304) Number Theory (E)

<i>Semester 1</i>	<i>Semester 2</i>
Applied Mathematics	
MATH7134 (3104) Biomathematics	MATH7133 (3103) Algebraic Methods in Math Phys (O)
	MATH7105 (4105) General Relativity (E)
	MATH7104 (4104) Hamiltonian Dynamics & Chaos (O)
	MATH7106 (4106) Advanced Methods & Models I (E)
	MATH7107 (4107) Advanced Methods & Models II (O)
Applied Mathematics	
MATH7134 (3104) Biomathematics	MATH7133 (3103) Algebraic Methods in Math Phys (O)
	MATH7105 (4105) General Relativity (E)
	MATH7104 (4104) Hamiltonian Dynamics & Chaos (O)
	MATH7106 (4106) Advanced Methods & Models I (E)

<i>Semester 1</i>	<i>Semester 2</i>
Financial Mathematics	
MATH7039 (3090) Financial Mathematics	MATH7090 (4090) Computation in Financial Mathematics
MATH7091 (4091) Financial Calculus	
Computational Science & Visualisation	
MATH7210 (2210) Introduction to Computational Biology	MATH7205 (4205) Advances in Scientific Visualization (E)
MATH7206 (4206) Computational Biol & Bioinformatics (E)	MATH7201 (4201) Applications of Scientific Comp. (O)
MATH7232 (3202) Operations Research & Mathematical Planning	
Statistics	
STAT7301 (3001) Mathematical Statistics	STAT7303 (3003) Experimental Design
STAT7302 (3002) Applied Statistics	STAT7304 (3004) Stochastic Processes & Models
STAT7502 (4401) Advanced Statistics I (E)	STAT7504 (4003) Advanced Probability & Stochastics I (E)
STAT7503 (4402) Advanced Statistics II (O)	STAT7505 (4004) Advanced Probability & Stochastics II (O)

Further statistics courses are offered by the Biostatistics Consortium of Australia (www.bca.edu.au). These are taught externally by a number of Universities around Australia, some through the School of Population Health at the Herston Campus of the University of Queensland. However, because of Government regulations, international students studying in Australia are allowed to take only one external course per semester.

The 2-unit course, MATH7001 Special Project, may be taken in either semester as part of any of the above fields.

Advanced Undergraduate Courses

With Postgraduate Coordinator and Head of School approval, students may take a limited number of advanced undergraduate courses in a postgraduate degree (usually up to 2 courses). Some of the courses currently available include:

Semester 1	Semester 2
Pure Mathematics (Analysis)	
MATH3401 Complex Analysis	MATH3403 Partial Differential Equations
MATH3402 Functional Analysis	MATH3404 Optimization Theory
Pure Mathematics (Algebra & Discrete Mathematics)	
MATH3302 Coding & Cryptography	MATH3306 Set Theory and Logic (E)
Applied Mathematics	
MATH3101 Bifurcation & Chaos	MATH3102 Methods & Models of Applied Mathematics
Computational Mathematics and Bioinformatics	
MATH3201 Scientific computing: Advanced techniques and applications	BIOL3014 Advanced Bioinformatics
	MATH3203 Visualization & Modelling

Students in Physics

Research projects

Research projects in postgraduate coursework Physics are carried out in courses of 2, 4 or 6 units that can extend over one or two semesters.

Seminars

A number of seminars are held within Physics each week, and in many weeks there is a Physics Colloquium at 4pm Friday. You will be notified of these via your university student email account, as well as notices posted in the Physics Annexe and Parnell Building.

Courses

The majority of postgraduate courses are either advanced undergraduate or honours level physics courses, but for administrative reasons you will be enrolled in a course code beginning with a 7, rather than the corresponding undergraduate or honours course that will begin with a 3, 4, or 6. However, you will attend lectures and laboratories with all the other students.

There are some special topics course codes which allow some flexibility in making up lower level undergraduate courses. If you feel that you need to do this you should discuss the matter with the Postgraduate Coursework Coordinator.

Summary of courses offered

Semester 1	Semester 2
Third level courses every year	
PHYS7042 Quantum Physics	PHYS7080 Astrophysics
PHYS7051 Electromagnetic Theory III	PHYS7073 Computational Physics
PHYS7021 Statistical Mechanics	
Fourth level courses	
Even years (third/fourth level)	
PHYS7241 Advanced Quantum Theory	PHYS7270 Advanced Computational Physics
PHYS7250 Advanced Electromagnetic Theory	MATH7105 General Relativity
	PHYS7090 Quantum Optics & Stochastic Processes
	PHYS7060 Laser Physics
Odd years (third/fourth level)	
	MATH7133 Algebraic Methods of Mathematical Physics
	MATH7144 Advanced Hamiltonian Dynamics & Chaos
	PHYS7033 Condensed Matter Physics: Electronic properties of crystals
	PHYS7072 Techniques of Experimental Physics & Data Analysis

Experimental/research	
PHYS7800 Advanced Experimental Physics	PHYS7801 Advanced Experimental Physics
PHYS7712 Project (2 units)	PHYS7712 Project (2 units)
PHYS7722 Research Project (4 units)	PHYS7722 Research Project (4 units)
PHYS7730 Advanced Research Project (6 units, 2 semesters)	PHYS7731 Advanced Research Project (6 units, 2 semesters)
Other possibilities (approval required)	
MATH3101 Bifurcation and Chaos	PHYS3170 Intermediate Biophysics
	MATH3102 Methods & Models of Applied Mathematics

Other Important Information

Occupational Health and Safety

Students are required to observe the University's Occupational Health and Safety Policy. Students are responsible for adopting study and work practices in a safe manner and which does not impact adversely on the environment. Students should check with their advisors of special safety issues that may apply to their work. Students should familiarise themselves with relevant procedures to minimise the risk of injury. All injuries must be reported to your advisor. The School's Workplace Health and Safety Officer is Mr Chris Shannon ext 53272 Room 6-202 (School Office).

University Health Service

The Health Service (www.uq.edu.au/healthservice/index.html), situated on the Ground Level of the Gordon Greenwood Building is available to current students and staff of The University of Queensland, and to families of international students. Families of staff and of local students need to find their own GP in their local area.

Accidents on Campus

In the event of an injury or accident on campus, once the person is removed from danger (if safe to do so), phone Security on 53333 immediately. UQ Security are equipped with emergency equipment and will make an assessment of the situation on arrival. The patient may then be taken either to the University Health Service for treatment, or in case of particularly serious injury, to hospital. The phone number of the Health Service is 56210. You may phone this number for immediate advice over the phone in the case of emergency.

If you sustain an injury while participating in a class, in particular while tutoring, you should inform the lecturer in charge immediately and attend the University Health Service for treatment. A Workplace Accident, Injury and Incident Report should be completed. This form is available from the School Finance Office.

Employees injured at work also need to complete a Compensation Claim Form for Workers and Employers, which should be forwarded to the Salaries Section. Both these forms are available from the School Finance Office.

Loss and Theft

Unfortunately, theft does occur occasionally from University premises. In the event of loss or theft, the full circumstances should be reported to your Discipline Secretary as soon as possible. The University and the School attempt to provide security for property but cannot accept responsibility for any losses. *Please take responsibility for ensuring that your valuables are secure.*

Smoking

Smoking is forbidden in all University buildings, including lifts and fire escapes.

Fire

All staff and students should familiarise themselves with escape routes and locations of fire-fighting appliances. In the event of fire you must obey the instructions of staff or other authorised office of the University. A list of fire wardens will be visible in your building. Please familiarise yourself with these.

First Aid

A first aid kit is located in the School office and within each Discipline. For any first aid enquiries, please refer to the First Aid Officers within each Discipline:

- Mathematics - Dr Joseph Grotowski Ext 53260 Room 67-346
- Physics – Ms Susan Grantham Ext 53418 Room 6-326

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