Future domestic students

Master of Applied Science (Research)

Year	2015
QUT code	SC80
Duration	2 years full time 4 years part time
Total credit points	144
Start months	
Domestic fee (indicative)	Research Training Scheme funded. Tuition fees may apply for exceeding maximum time - 2015: $12,900 per Study Period (full-time)
Course contact	sef.research@qut.edu.au 3138 4783
Campus	Gardens Point

This PDF contains information about the course structure. For more information about the course see the course information PDF

Course structure

This degree consists of coursework, which can be up to one-third of the course, and research, which must be at least two-thirds of the course. The assessed coursework may be in the form of advanced lectures, seminars, reading courses or independent study designed to focus on information retrieval skills. The research component is a program of supervised research and investigation at a level of scientific competence significantly higher than that expected from an undergraduate degree and, typically, a masters thesis does not need to be as substantial as a Doctor of Philosophy thesis.

Students undertake a program of research and investigation on a topic approved by the Academic Board. All projects should be sponsored either by outside agencies such as industry, government authorities, or professional organisations, or by the university itself.

Getting started

Choose a topic

Step 1: Identify your discipline:

- Biogeoscience
- Cell and molecular biosciences
- Chemistry
- Information systems
- Computer science
- Mathematical sciences
- Physics

Step 2: Choose a theme from:

- Food
- Energy
- Health
- Environment
- Security
- Information

Step 3: Contact the Science and Engineering Faculty's research degree coordinator.

QUT researchers are available to discuss your topic with you to ensure it has the right scope and scale for your preferred research degree. There are also opportunities for you to align your interests with QUT's major ongoing research programs. Explore research topics

Find a supervisor

Connecting with a supervisor for your project is of vital importance. Finding a supervisor

Structures

- Course structure - Chemistry
- Course structure - Biogeosciences
- Course structure - Cell & Molecular Science, Medical Sciences and Pharmacy
- Course structure - Mathematics
- Course structure - Medical Radiation Sciences
- Course structure - Physics
- Research Work

Course structure - Chemistry

Code	Title
Course Notes	
PCN701	Topics in Advanced Chemistry 1
PCN705-1	Research Methodology
PCN705-2	Research Methodology
Select one of the following Elective Units:	
PCN710	Chemical Instrumentation
PCN720	Chemometrics
PCN730	Advanced Physical Methods in Chemistry
PCN740	Laboratory Techniques for Preparative Chemistry
PCN801	Topics in Advanced Chemistry 2

Course structure - Biogeosciences

Code	Title
Course Notes	

Master of Applied Science (Research)

Code	Title
Essential units:	
NRN100	Readings in Natural Resource Sciences 1
NRN102	Confirmation of Candidature Seminar
NRN103	Final Seminar
Select up to one of the following units if required:	
NRN101	Readings in Natural Resource Sciences 2
NRN104	Advanced Topics in Natural Resource Sciences 1
NRN105	Advanced Topics in Natural Resource Sciences 2

Course structure - Cell & Molecular Science, Medical Sciences and Pharmacy

Code	Title
Course Notes	
LSN011	Research Seminars in Life Science 1
LSN013	Readings in Life Science 3
LSN023	Research Seminars in Life Science 3

Course structure - Mathematics

Code	Title
Course Notes	
Selections from other School programs, such as MA75 Graduate Diploma in Mathematical Science and MA85 Master of Mathematical Science, to a maximum of 60 credit points	

Course structure - Medical Radiation Sciences

Code	Title
Course Notes	
PCN718	Advanced Topics in Medical Radiation Sciences 1
PCN719	Advanced Topics in Medical Radiation Sciences 2
and alternative unit(s) approved by the Medical Radiaiton Sciences coordinator	

Course structure - Physics

Code	Title
Course Notes	
PCN715	Advanced Topics in Physics 1
PCN716	Advanced Topics in Physics 2
and/or alternative unit(s) approved by the Physics coordinator	

Research Work

Code	Title
Course Notes	
The Research Work component of the degree must constitute at least 96 credit points. The units below have been devised to represent the EFTSU (Effective Full-time Student Unit) and attendance type of graduate research students.	
At the end of each semester a grade of T - Assessment Continues will be awarded in any IFNXXX units provided satisfactory progress is being maintained. A final grade (S - Satisfactory or U - Unsatisfactory) will be awarded once the thesis has been examined according to the degree rules.	
Disciplines	
1.	Mathematical Sciences
2.	Chemical Sciences
IFT611	Thesis
IFT612	Thesis
3.	Earth Sciences
IFT613	Thesis
4.	Biological Sciences, Agriculture, Horticulture & Viticulture, Forestry Studies, Fisheries Studies, Environmental Studies, Other Agriculture, Environmental & Related Studies
IFT614	Thesis
5.	Physics & Astronomy, Other Natural & Physical Sciences
IFT615	Thesis
6.	Computer Science
IFT621	Thesis
7.	Information Systems & Other Information Technology
IFT622	Thesis
8.	Electrical & Electronic Engineering
IFT635	Thesis
9.	Environmental Engineering, Biomedical Engineering
IFT637	Thesis
10.	Medical Studies, Pharmacy, Dentistry
IFT661	Thesis
11.	Political Science & Policy Studies; Human Welfare Studies & Services; Behavioural Science; Librarianship, Information Management & Curatorial Studies; Language & Literature; Philosophy & Religious Studies; Sport & Recreation; Other Society & Culture
IFT696	Thesis

Unit Synopses

IFT611 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT612 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT613 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT614 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT615 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT621 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT622 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT635 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT637 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT661 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

IFT696 Thesis

Credit Points	0
Availabilities	**Gardens Point** - R1, R2 **Kelvin Grove** - R1, R2

View unit details online | View unit timetable

LSN011 Research Seminars in Life Science 1

Co-requisites	LSN013
Credit Points	12
Availabilities	**Gardens Point** - SEM-1

Your transition from undergraduate scholar to reliable and productive researcher requires an ability to present research findings and their critical analysis in an oral form. Oral presentation is a significant skill in academic, industrial and clinical research settings. The primary aim of this unit is to help you communicate your research ideas and outcomes effectively and articulately.
View unit details online | View unit timetable

LSN013 Readings in Life Science 3

Co-requisites	LSN011
Credit Points	24
Availabilities	**Gardens Point** - SEM-1

Scientific investigations by an individual or a group of individuals from Australian Institutions require in-depth knowledge of the field of research. Literature reviews are undertaken by all researchers prior to commencing, (and throughout), their research projects. This unit will provide postgraduate students with the skills and strategies required for writing a critical literature review that may potentially be submitted for publication in the relevant Journals in the field. The aim of this unit is to provide you with the strategies required for writing a substantial critical literature review.
View unit details online | View unit timetable

LSN023 Research Seminars in Life Science 3

Pre-requisites	LSN011 and LSN013
Credit Points	12
Availabilities	**Gardens Point** - SEM-1

Your transition from undergraduate scholar to reliable and productive researcher requires an ability to present research findings and their critical analysis in an oral form. Oral presentation is a significant skill in academic, industrial and clinical research settings. The primary aim of this unit is to help you communicate your research ideas and outcomes effectively and articulately.
View unit details online | View unit timetable

NRN100 Readings in Natural Resource Sciences 1

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2 **External** - SEM-1, SEM-2

This unit includes a review of literature in an area of direct relevance to the research project. The review should be designed in conjunction with the supervisor and demonstrate a broad appreciation of the literature, a critical appraisal of research to date, and the relevance of the research project within the framework of current understanding. Reviews should normally be approximately 5000 words.
View unit details online | View unit timetable

NRN101 Readings in Natural Resource Sciences 2

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2

This is a companion unit to NRN100 that allows students to (a) prepare a review of a second area relevant to the research project or (b) consider a wider subject area in greater depth. If option (b) is chosen, a single review can qualify as total assessment for both NRN100 and NRN101. In this case, the review should be approximately 10,000 words and be a critical analysis of a substantial research area.
View unit details online | View unit timetable

NRN102 Confirmation of Candidature Seminar

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2 **External** - SEM-1, SEM-2

This unit includes a public seminar plus an extensive discussion period designed to provide positive feedback from staff and students on the proposed research project. The presentation should be designed in conjunction with the supervisor and include background to the project area, specific objectives of the proposed project, methodology to be followed and possible

outcomes. The seminar should normally be presented after the project outline has been developed and before any significant amount of research has been undertaken.
View unit details online | View unit timetable

NRN103 Final Seminar

Pre-requisites	NRN102
Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2 **External** - SEM-1, SEM-2

This unit includes a public seminar plus an extensive discussion period designed to provide positive feedback from staff and students on the progress of the research project. The presentation should be designed in conjunction with the supervisor and include project objectives, progress to date, preliminary data and problems for discussion. The seminar should normally be presented within 12 months (full-time) or 24 months (part-time) of commencement of the postgraduate program.
View unit details online | View unit timetable

NRN104 Advanced Topics in Natural Resource Sciences 1

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2

Students develop an advanced understanding of a topic in the natural resource sciences that is highly relevant to the general area of their proposed research project. The structure and content is variable and can be tailored to the specific requirement of each project and the background of the student. A formal outline of the unit including objectives, content and assessment relevant to the individual course of study will be developed by the supervisor and approved by the Head of School. Content may include active participation in tutorials, workshops, laboratory/field techniques and components of advanced level undergraduate units. If components of advanced level undergraduate units are included, they should not exceed 70% of the total assessment.
View unit details online | View unit timetable

NRN105 Advanced Topics in Natural Resource Sciences 2

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2

Material presented in this unit must be distinct from that covered in NRN104. Students develop an advanced understanding of a topic in the natural resource sciences relevant to the area of their proposed research project. A formal outline of the unit outlining objectives, content and assessment relevant to the individual course of study will be developed by the supervisor and approved by the Head of School. Content may include active participation in tutorials, workshops and laboratory/field techniques and components of advanced level undergraduate units. If components of advanced level undergraduate units are included, they should not exceed 70% of the total assessment.
View unit details online | View unit timetable

PCN701 Topics in Advanced Chemistry 1

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2

The complexity of the chemical systems studied in a research program and the sophistication of the instrumentation used demand that deeper theoretical understanding than that acquired in an undergraduate program. The aims of this unit are to teach and extend knowledge and comprehension of Advanced Chemical Techniques and assess application of knowledge; and to provide the candidate with the appropriate theoretical and practical background, at an advanced level, necessary for the completion of a research program.
View unit details online | View unit timetable

PCN705 Research Methodology

Credit Points	6
Availabilities	**Gardens Point** - SEM-1, SEM-2

This unit is a guided program of literature surveys to provide the background information for the research project. This unit enables students to develop verbal and oral communication skills required for the successful conduct of a chemical research project. During the course students will be required to attend and participate in seminars. Students must present two seminars on their own research. (12 credit points achieved at completion of PCN705-1 and PCN705-2.)
View unit details online | View unit timetable

PCN705 Research Methodology

Credit Points	6
Availabilities	**Gardens Point** - SEM-1, SEM-2

This unit includes a guided program of literature surveys to provide the background information for the research project. This unit enables students to develop verbal and oral communication skills required for the successful conduct of a chemical research project. During the course students will be required to attend and participate in seminars. Students must present two seminars on their own research. (12 credit points achieved at completion of PCN705-1 and PCN705-2.)
View unit details online | View unit timetable

PCN710 Chemical Instrumentation

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2

For those projects in which instrumental design forms a major part of the research activity a knowledge of the mode of operation of existing chemical instrumentation provides an important basis for further progress. Students will undertake study in chemical instrumentatoin via both practical and theoretical means.
View unit details online | View unit timetable

PCN715 Advanced Topics in Physics 1

Credit Points	12
Availabilities	**Gardens Point** - SEM-1

This unit provides a focused theoretical foundation for each students research program or other advanced topics in physics and develops a high level of theoretical understanding of the physical principles involved.
View unit details online | View unit timetable

PCN716 Advanced Topics in Physics 2

Credit Points	12
Availabilities	**Gardens Point** - SEM-2

This unit provides a focused theoretical foundation for each students research program or other advanced topics in physics and develops a high level of theoretical understanding of the physical principles involved.
View unit details online | View unit timetable

PCN718 Advanced Topics in Medical Radiation Sciences 1

This unit provides a focused deeper understanding of the individual student's research program through study of an advanced topic(s) in the field of medical radiation technology.
View unit details online | View unit timetable

PCN719 Advanced Topics in Medical Radiation Sciences 2

This unit provides a focused deeper understanding of the individual student's research program through study of an advanced topic(s) in the field of medical radiation technology.
View unit details online | View unit timetable

PCN720 Chemometrics

Credit Points	12
Availabilities	**Gardens Point** - SEM-1

This unit includes the following: the concepts of chemical data acquisition and interpretation; computational methods and existing software packages for statistical analysis in chemistry; statistical methods in quality and process control; sampling procedures; multivariate analysis and optimisation techniques.
View unit details online | View unit timetable

PCN730 Advanced Physical Methods in Chemistry

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2

Research projects in chemistry are frequently dependent on instrumental and physical procedures both for monitoring preparative procedures and for studying fundamental chemical phenomena. The aim of this unit is to prepare students to undertake practical work in instrumental and physical procedures.
View unit details online | View unit timetable

PCN740 Laboratory Techniques for Preparative Chemistry

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2

Before an advanced practical project, particularly one involving organic synthesis, is undertaken it is necessary to develop specialised laboratory skills in preparative chemistry so that the candidate can have the confidence to handle and purify the small quantities of often precious material which he will encounter during the project. The aim of work in this unit is to cultivate and deepen understanding of systems and processes related to organic synthesis, to develop and enhance laboratory skills and techniques related to handling and purifying precious materials. Development of these skillsets is designed to lead to competence in designing and undertaking advanced practical work.
View unit details online | View unit timetable

PCN801 Topics in Advanced Chemistry 2

Credit Points	12
Availabilities	**Gardens Point** - SEM-1, SEM-2

The complexity of the chemical systems studied in a research program and the sophistication of the instrumentation used demand that deeper theoretical understanding than that acquired in an undergraduate program. The aims of this unit are to extend and deepen the theoretical and practical background required for undertaking a research program and to provide the candidate with the appropriate theoretical and practical background, at an advanced level, necessary for the completion of a research program.
View unit details online | View unit timetable