Graduate Diploma in Applied Science (SC71)

Year offered: 2010
Admissions: Yes
CRICOS code: 020314E
Course duration (full-time): 2 semesters (1 year)
Course duration (part-time): 4 semesters (2 years)
Domestic fees (indicative): 2010: CSP $2,320 (indicative) per semester
International Fees (indicative): 2010: $11,250 (indicative) per semester
Domestic Entry: February and July
International Entry: February
Total credit points: 96
Standard credit points per full-time semester: 48
Standard credit points per part-time semester: 24
Course coordinator: Associate Professor Terry Walsh
Discipline coordinator: Dr Geoffrey Will (Chemistry Major); Dr Mark O'Brien (Life Science Major); Dr Troy Farrell (Mathematics Major); Associate Professor Tony Clarke (Natural Resource Sciences Major); Dr Andrew Fielding (Physics Major)
Campus: Gardens Point

Entry requirements
Applicants must possess a bachelor degree in applied science or equivalent qualification, or other evidence of qualifications that satisfy the Faculty Academic Board that the applicant possesses the capacity to pursue the course of study.

Overview
This course offers students a one-year postgraduate qualification by coursework, or coursework and a minor research project. The course will particularly suit if students are employed in the industry and wish to undertake postgraduate study to upgrade their professional qualification in one of the science disciplines.

Course Design
This coursework program allows students to complete a minor project in some disciplines. The assessed coursework may include advanced lecture courses, seminars, reading courses or independent study designed to focus on information retrieval skills. Coursework units are chosen from those in the Master of Applied Science course, and may contain units from other postgraduate courses, the Bachelor of Applied Science (Honours) program or advanced undergraduate programs.

Candidates of the Graduate Diploma in Applied Science undertake a program of coursework, or coursework and a minor research project, as approved by the Academic Board on the advice of the Head of School.

Students must complete a total of 96 credit points which may consist of between 60 and 96 credit points of coursework, and up to 36 credit points as a minor research project.

Coursework units will be selected from the specific units available within the Master of Applied Science (SC80) course and may contain units selected from other postgraduate courses or advanced undergraduate courses where the background of the student requires this.

Further Information
For further information about this course, please contact:

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Course structure - Chemistry Strand
PCN701 Topics in Advanced Chemistry 1
PCN705-1 Research Methodology
PCN705-2 Research Methodology
PCN710 Chemical Instrumentation
PCN720 Chemometrics
PCN730 Advanced Physical Methods in Chemistry
PCN740 Laboratory Techniques for Preparative Chemistry
PCN801 Topics in Advanced Chemistry 2

UNIT SYNOPSES

LSN011 RESEARCH SEMINARS IN LIFE SCIENCE 1
This unit includes a formal seminar to include an oral presentation (25 minutes) and question period (5-10 minutes). The presentation provides a comprehensive and informative critique of a specific topic and outlines the planned research program, where applicable. Prescriptive guidelines and submission deadlines must be followed in this regard. The chosen topic will be in an area selected by the student in consultation with their supervisor(s) and the postgraduate coursework coordinator. This unit complements LSN013 Readings in Life Science 3.
Credit points: 12 Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

LSN013 READINGS IN LIFE SCIENCE 3
This unit includes a comprehensive and critical review of the background and current literature directly related to a potential research topic. The review should identify major and minor deficiencies in the research literature and identify possible directions for future research. The review should be between 5,000 - 10,000 words and at least one draft should be presented to the supervisor prior to final submission.
Corequisites: LSN023 Credit points: 24 Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

LSN023 RESEARCH SEMINARS IN LIFE SCIENCE 3
This unit includes a formal seminar to include an oral presentation (45-50minutes) and question period (5-10minutes) presenting a critical and in-depth analysis of the results of the postgraduate research program as well as possible future research directions in the area. Prescriptive guidelines and submission deadlines must be followed in this regard.
Credit points: 12 Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

NRN100 READINGS IN NATURAL RESOURCE SCIENCES 1
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.  

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

### NRN101 READINGS IN NATURAL RESOURCE SCIENCES 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.  

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

### NRN104 ADVANCED TOPICS IN NATURAL RESOURCE SCIENCES 1

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.  

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

### NRN105 ADVANCED TOPICS IN NATURAL RESOURCE SCIENCES 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.  

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

### PCN701 TOPICS IN ADVANCED CHEMISTRY 1

This unit includes a series of lectures and/or a reading program and/or selected laboratory exercises designed to provide the student with the appropriate theoretical and practical background, at an advanced level, necessary for the completion of a research project.  

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

### PCN705 RESEARCH METHODOLOGY

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.)  

**Credit points:** 6  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

### PCN707 CHEMICAL INSTRUMENTATION

This unit presents chemical instrumentation and electronics required for advanced level operation of scientific instrumentation.  

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

### PCN710 ADVANCED TOPICS IN PHYSICS 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.  

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

### PCN715 ADVANCED TOPICS IN PHYSICS 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

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understanding of the physical principles involved.

Credit points: 12    Campus: Gardens Point    Teaching period: 2010 SEM-1 and 2010 SEM-2

PCN720 CHEMOMETRICS
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.

Credit points: 12    Campus: Gardens Point    Teaching period: 2010 SEM-1

PCN730 ADVANCED PHYSICAL METHODS IN CHEMISTRY
This unit includes the theoretical and practical principles of selected physical methods in chemistry.

Credit points: 12    Campus: Gardens Point    Teaching period: 2010 SEM-1 and 2010 SEM-2

PCN740 LABORATORY TECHNIQUES FOR PREPARATIVE CHEMISTRY
This unit includes the experimental techniques for the preparation and isolation of pure substances.

Credit points: 12    Campus: Gardens Point    Teaching period: 2010 SEM-1 and 2010 SEM-2

PCN801 TOPICS IN ADVANCED CHEMISTRY 2
This unit includes a series of lectures and/or a reading program and/or selected laboratory exercises designed to provide the student with the appropriate theoretical and practical background, at an advanced level, necessary for the completion of a research program.

Credit points: 12    Campus: Gardens Point    Teaching period: 2010 SEM-1 and 2010 SEM-2