Faculty of The Sciences

Postgraduate Courses 2006

Students enrolling should read this guide in conjunction with the All Faculties Enrolment Guide and Schedule of Units 2006, available at www.une.edu.au/studentcentre/schedules.htm

September 2005

Faculty of The Sciences

This guide has been designed to summarise the full range of Science courses offered by the Faculty of The Sciences, at UNE. If you are interested in any of these courses and would like further information, please contact the Student Centre. It is not a substitute for The University of New England *Handbook*. The UNE *Handbook* may be purchased from The United Campus Bookshops. Cost is approximately \$12.00 plus postage and handling fee.

The United Campus Bookshops can be contacted either by email armidale@ucb.net.au phone 6772 3468 or mail The Manager, United Campus Bookshops, The University of New England NSW 2351.

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The information contained in this Guide was correct at the time of printing. Details may be subject to change.

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Introduction

The University of New England

The University of New England (UNE) was first established in 1938 as part of The University of Sydney, becoming autonomous in 1954. Internationally recognised as one of the great teaching and research universities, UNE is characterised by a long tradition of academic excellence, a rich history and a setting of environmental beauty. The university city of Armidale is set in the magnificent high plateau country known as New England in northern New South Wales and is renowned as a centre for the arts and education.

With more than 75,000 graduates around the world, UNE is Australia's oldest regional university and most experienced distance education provider. Student to staff ratios at UNE are lower when compared to larger metropolitan universities and students benefit greatly from individual attention and smaller classes.

The University undertakes fundamental and applied research in many disciplines. Its scholars and scientists have established international reputations through their contributions in areas such as rural science, agricultural economics, geology, educational administration, linguistics and archaeology.

Collaborative research with other institutions, such as the CSIRO, has led to many important projects including participation in high profile Cooperative Research Centres. Through its research UNE is able to assist in the economic, social and cultural advancement of Australia and in the advanced training of undergraduate and postgraduate students.

UNE provides a superior study opportunity for students offering high teaching standards in a unique living and learning environment. A wide range of support services are available to students at UNE ensuring a fully-rounded educational and personal experience. Excellent academic support, careers and counselling support, extensive libraries, information technology support and facilities are all part of the educational benefits. The excellent sporting, recreational and oncampus university residential college facilities are among the finest in Australia.

Faculty of The Sciences

The Faculty of The Sciences is organised into four schools which cover an extraordinarily diverse range of disciplines. The Schools and associated disciplines are listed below. The Faculty engages in some of Australia's leading research that includes involvement in a number of centres which are located at UNE.

The Faculty is also involved in cooperative research ventures with organisations such as CSIRO, NSW Department of Primary Industries, the Queensland Department of Primary Industry and various industry bodies. It operates the National Marine Science Centre (located adjacent to the Solitary Islands Marine Park in Coffs Harbour) in conjunction with Southern Cross University. The Faculty is a core partner in a number of Cooperative Research Centres—cattle and beef quality, poultry, viticulture, weeds management, sheep industry, and cotton.

In keeping with its traditional strengths in agriculturally-based courses, the University maintains four rural properties which provide opportunities for agricultural and environmental sciences teaching and research activities of the Faculty of The Sciences. The University is ideally situated for field work which forms an integral part of many courses, both undergraduate and postgraduate, offered by the Faculty. In addition to the local rural environment, the University is within a day's drive of a range of ages and types of geological formations and vegetation types, including rainforests, acid wetlands, coastal heath and a variety of other pastoral and agricultural systems.

Schools within the Faculty of The Sciences:

The School of Rural Science and Agriculture provides excellent facilities for teaching and research, with the staff involved in many initiatives, including the introduction of the fodder crop triticale, the development of a tissue culture program, investigations of the causes of footrot in sheep, and the role of inhibin on ovulation in sheep, and may other areas. Students benefit from the world class facilities and staff brought together in the CRCs and other research centres listed below associated with the Faculty, as well as other Schools within the Faculty.

The School of Biological, Biomedical and Molecular Sciences teachers and conducts research covering many of the more fundamental sciences, incorporates the disciplines of Chemistry, Human Biology (including Physiology), Molecular and Cellular Biology, Physics (including Electronics), and Zoology.

The School of Environmental Sciences and Natural Resources Management teaches and conducts research covering the spectrum from the enabling sciences through to managing our natural resources, such as water, soils, plants and animals. We work in both natural and highly modified environments, from the ocean and forests through to rural landscapes. Though much of the teaching and research involves tackling environmental problems, they are underpinned with science.

The School of Mathematics, Statistics and Computer Science. Mathematics, Statistics and Computer Science are core disciplines at the heart of all modern science, economics and technology.

The School offers a wide range of undergraduate and postgraduate courses in its discipline areas, taught in both on-campus and off-campus modes. This teaching is supported by excellent computing facilities. The School hosts an extensive network of Linux servers and workstations, PC and Apple workstations, together with several student computer laboratories and a beowulf class supercomputer.

Active research across the three disciplines is supported by internal and external funding, including Australian Research Council grants.

Research Centres associated or within the Faculty of The Sciences

Agricultural Business Institute (ABRI); Animal Genetics and Breeding Unit (AGBU); Australian Centre for Agriculture and Law; Cotton Catchment Communities Cooperative Research Centre; Australian Poultry CRC; Australian Sheep Industry CRC; Centre for Animal Health and Welfare; Centre for Behavioural and Physiological Ecology (BPERC); Centre for Bioactive Discovery in Health and Ageing; Centre for Ecological Economics & Water Policy Research; Centre for Ecology, Evolution and Systematics; Centre for Environmental Dispute Resolution; Centre for Molecular Microbiology; Centre for Neuroscience and Animal Behaviour; Centre for North Coast Aquatic Linkages (NCAL); Centre for Sustainable Farming Systems; CRC for Australian Weeds Management; CRC for Beef Genetic Technologies; CRC for Viticulture; CSIRO Livestock Industries; International Livestock Resource and Information Centre (ILRIC); National Marine Science Centre; and NSW DPI (Armidale Beef Industry Centre).

Admission and Enrolment

Former **UNE** *Students* apply direct to UNE. Applications for admission for the beginning of year intake must be received at the University by **the due date as indicated on the Application for Admission form** and **31 May**, if there is a mid-year intake in 2006. An application kit is available on request from the Student Centre.

Graduate Certificate/Graduate Diploma and the following Master Coursework Students (Agriculture, Computer Studies, Environmental Management, Geographic Information Science, Information Systems, Information Technology, Marine Science and Management, Natural Resources, Science in Agriculture and Scientific Studies). Students new to UNE need to apply through the Universities Admissions Centre (UAC).

Address: UAC, Locked Bag 112, SILVERWATER NSW 2128 Website: www.uac.edu.au/postgraduate.html Phone: 02 9752 0200

Master Coursework Students applying to enrol in Master of Information Systems with Honours, Master of Information Technology with Honours and Professional Doctorate in Science apply direct to Student Centre at UNE.

Non-Award Students apply direct to UNE. Students who wish only to enrol in specific units may be permitted to enrol as non-award students. These students are required to pay a non-award fee and General Service Fees, but they do not incur a Student Contribution charge.

Master of Engineering Science, Master of Resource Science, Master of Rural Science, Master of Science and PhD applicants contact:

Research Services Telephone: 02 6773 5227 Fax: 02 6773 3543 Web: www.une.edu.au/research-services/index.html

Address for Correspondence:

Student Centre The University of New England NSW 2351 Website: www.une.edu.au/studentcentre Email: studentcentre@une.edu.au Phone: 02 6773 4444 Fax: 02 6773 4400

Unit outlines can be viewed on the Student Centre website.

Courses available in 2006

Graduate Certificate in Computer Science

The Graduate Certificate is the first award level of a fully articulated program in Computer Science which gives qualified applicants the opportunity for study at three progressive levels.

For admission to the Graduate Certificate an applicant must hold a Bachelor degree. Applicants who have other qualifications and/or experience deemed to be relevant preparation for candidature will also be considered.

A further requirement is assumed knowledge in COMP 131 and 132 or its equivalent together with AMTH 140 is required for admission to the Graduate Certificate. COMP 131 and 132 provide the foundation for Computer Science at UNE. Emphasis is placed upon the structured design of algorithms for computer-based implementations of real-life tasks. The expression of algorithms in a programming language C++ and the interactive execution, analysis and use of programs are also discussed. Practical elements of basic hardware components are introduced.

Also studied are: advanced algorithmic designs and programming techniques; informal notions of program specification and verification; a high-level description of the abstract architecture of the von Neumann machine; numerical and nonnumerical applications; and social issues.

If an applicant admitted to the Graduate Certificate in Computer Science does not have the background knowledge required, the Course Coordinator may prescribe one or more units, which will be additional to the 24 credit points (cp) required for the Certificate.

Candidates determine their own program of study in consultation with members of the academic staff. The various course work programs are divided into basic units, advanced units and reading units. Units are available in such areas as data structure, operating systems, compilers, databases, management information systems and expert systems.

Course Requirements

Candidates must complete units to the value of at least 24 cp chosen from:

COMP 503, 504, 507, 508, 509, 511, 513, 515, 516, 517, 518, 519, 520, 570, 580, 582, 583, 584, 585, 586, 587, 589, 590, 591,592, 593, 594.

Advanced Standing

Advanced standing may be granted under the following conditions:

- all units completed in the University where the units are approved for the program of study
- up to two units (12 cp) on the basis of units completed at another university or institution provided they have a reasonable degree of correspondence to units offered by the Faculty.

Period of Candidature

Full-time study: maximum of one semester Part-time study: maximum of four semesters

Graduate Certificate in Geographic Information Science

The Graduate Certificate in Geographic Information Science is designed to provide further academic and professional training in the use and application of Geographic Information Systems (GIS) and remote sensing for those students who wish to increase their knowledge and application of this area. Graduates of the Graduate Certificate will be well qualified for professional positions dealing with GIS and remote sensing.

The requirement for admission to candidature is a three-year Bachelor degree in a relevant area.

Course Requirements

To satisfy requirements candidates must complete units to the value of at least 24 cp including EM 234 and NR 331. Units may be chosen from 300 and 400 level units offered by the Faculty and approved by the Course Coordinator.

Advanced Standing

Candidates may be granted advanced standing under the following conditions:

- a maximum of 12 cp on the basis of units completed at the University prior to admission to candidature provided that those units have not been counted towards another qualification;
- a maximum of 12 cp on the basis of units completed at another university or other institution provided that the units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty;
- a maximum of six cp on the basis of considerable professional experience in a relevant field of interest.

Award of Certificate

A successful candidate shall be awarded the Certificate at one of four levels - Pass, Pass with Credit, Pass with Distinction or Pass with High Distinction.

Period of Candidature

Full-time study: maximum of one semester Part-time study: maximum of four semesters

Graduate Certificate in Information Technology

The Graduate Certificate is the first award level of a fully articulated program in Information Technology which gives qualified applicants the opportunity for study at three progressive levels.

For admission to the Graduate Certificate an applicant must hold a Bachelor degree. Applicants who have other qualifications and/or experience deemed to be relevant preparation for candidature will also be considered. There is no assumed knowledge for the Graduate Certificate in Information Technology other than the necessity to satisfy the admission requirements.

Units are available in such areas as computer science, business and information technology, internet publishing, databases, artificial intelligence and multimedia studies.

Course Requirements

Candidates must complete units to the value of at least 24 cp chosen from:

AMTH 540; COMP 500, 503, 504, 507, 508, 509, 511, 513, 515, 516, 517, 518, 519, 520, 530, 531, 532, 535, 560, 570, 580, 582, 583, 584, 585, 586, 587, 589, 590, 591, 592, 593. 594.

Advanced Standing

Advanced standing may be granted under the following conditions:

- all units completed in the University where the units are approved for the program of study.
- up to two units (12 cp) on the basis of units completed at another university or institution provided they have a reasonable degree of correspondence to units offered by the Faculty.

Period of Candidature

Full-time study: maximum of one semester Part-time study: maximum of four semesters

Graduate Certificate in Marine Science and Management

This course provides academic and professional training in some of the key topics in marine science and management. This includes updating the knowledge and skills of candidates who have previous training in this field. This qualification will be recognised in the market place as appropriate for managers dealing with marine and estuarine ecosystems. It also allows articulation to the higher awards of the Graduate Diploma in Marine Science and Management and the Masters of Marine Science and Management. All units are taught at the National Marine Science Centre in Coffs Harbour.

The requirement for admission to candidature is: to have fulfilled all the requirements for admission to a degree, or an equivalent qualification, or relevant experience acceptable to the Faculty as sufficient qualification for admission to candidature.

Course Requirements

To satisfy requirements for the Graduate Certificate in Marine Science and Management candidates must complete units to the value of at least 24 cp including MSM 301/501 and MSM 302/502 and units counting 12 cp to be chosen from: MSM 303/503, 304/504, 305/505, 306/506, 307/507, 308/508 and approved by the postgraduate Course Coordinator for Science.

Advanced Standing

Candidates may be granted advanced standing under the following conditions:

- a maximum of 12 cp on the basis of units completed at the University prior to admission to candidature provided that those units have not been counted towards another qualification;
- a maximum of 12 cp on the basis of units completed at another university or other institution provided that the units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty;
- a maximum of six cp on the basis of considerable professional experience in a relevant field of interest.

Award of Certificate

A successful candidate shall be awarded the Certificate at one of four levels - Pass, Pass with Credit, Pass with Distinction or Pass with High Distinction.

Period of Candidature

Full-time study: maximum of one semester Part-time study: maximum of four semesters

Graduate Certificate in Natural Resources

This course is designed as a professional development course in areas relevant to natural resources and environmental management. The flexibility of the program gives candidates the opportunity to broaden or develop their professional knowledge and management skills in a chosen area of study. The program is well suited to practising resource managers wishing to become involved in short-term retraining or staff development programs.

For admission to the Graduate Certificate an applicant must hold a Bachelor degree in a relevant area. Applicants who have other qualifications and/or experience deemed to be adequate preparation for candidature will also be considered.

Study topics are available in the areas of park management, wildlife management, land use planning and management, soil and water conservation engineering, forest ecology and management, and resources management in developing countries.

Units may be chosen from 300 and 400 level units offered by the Faculty and approved by the postgraduate Course Coordinator for Natural Resources.

Course Requirements

To satisfy requirements candidates must complete units to the value of at least 24 cp related to a specific subject area.

Advanced Standing

Candidates may be granted advanced standing under the following conditions:

- a maximum of 12 cp on the basis of units completed at the University prior to admission to candidature provided that those units have not been counted towards another qualification;
- a maximum of 12 cp on the basis of units completed at another university or other institution provided that the units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty;
- a maximum of six cp on the basis of considerable professional experience in a relevant field of interest.

Award of Certificate

A successful candidate shall be awarded the Certificate at one of four levels, Pass, Pass with Credit, Pass with Distinction or Pass with High Distinction.

Period of Candidature

Full-time study: maximum of one semester Part-time study: maximum of four semesters

Graduate Certificate in Rural Science

The Graduate Certificate in Rural Science is an intensive course offered in Animal Breeding and Genetics, Cotton Production, Sustainable Grains Production and Change Management in Agriculture. The Genetics program is designed

to provide extension officers and consultants to the animal breeding industries with sufficient technical skills in quantitative genetics to assume a position of authority when giving animal breeding advice and the ability to design relevant breeding programs without extensive support from research specialists. The Cotton Production program may be used as refresher training and for accreditation of field consultants new to the cotton industry.

The program involves the completion of units to the value of 24 cp. Applicants must hold a Bachelor degree, preferably in an agricultural or science-related area

Course Requirements

To satisfy requirements for the Certificate, candidates must complete units to the value of 24 cp of which at least 18 cp must be at 500-level. Units can be chosen from 300, 400 and 500 level units offered by the Faculty and approved by the postgraduate Course Coordinator for Rural Science and Agriculture. Alternatively, candidates may complete one of the Coursework Programs listed below:

Course Work Programs

Animal Genetics and Breeding

Four units (three at 500 level) to be chosen from: GENE 351, 500, 522, 540; BINF 550

Cotton Production

COTT 500, 501, 502, 503

Sustainable Grains Production

GRNS 500, 501, 502, 503

Change Management in Agriculture

Four units (three at 500 level) to be chosen from: AGEX 510; AQUA 300; AGRO 501; HORT 420, 510; ENVE 521;

Advanced Standing

A candidate may be granted advanced standing for a maximum of one unit (six cp) under one of the following conditions:

- on the basis of units completed at the University provided that those units have not been counted towards another qualification; or on the basis of units completed at another university or other institution provided that those units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty; or
- on the basis of considerable professional experience in a relevant field of interest.

Award of Certificate

A successful candidate shall be awarded the certificate at one of three levels - Pass, Pass with Credit, Pass with Distinction or Pass with High Distinction.

Period of Candidature

Full-time study: maximum of one semester Part-time study: maximum of four semesters

Graduate Diploma in Computer Science

The Graduate Diploma is the second award level of a fully articulated program in Computer Science which gives qualified applicants the opportunity for study at three progressive levels. Candidates for this diploma may complete a research project (COMP 595) with the approval of the Course Coordinator.

For admission to the Graduate Diploma an applicant must hold a Bachelor degree. Applicants who have other qualifications and/or experience deemed to be relevant preparation for candidature will also be considered.

A further requirement is assumed knowledge in COMP 131 and 132 plus AMTH 140. See details under Graduate Certificate in Computer Science.

Candidates determine their own program of study in consultation with members of the academic staff. The various course work programs are divided into basic units, advanced units, reading units and the Graduate Diploma in Computer Science project (COMP 595, 12 cp). Units are available in such areas as data structure, operating systems, compilers, databases, management information systems and expert systems.

Course Requirements

A candidate must complete units to the value of 48 cp chosen from: COMP 503, 504, 507, 508, 509, 511, 513, 515, 516, 517, 518, 519, 520, 580, 582, 583, 584, 585, 586, 587, 589, 590, 591, 592, 593, 594.

With the approval of the postgraduate Course Coordinator of Computer Science, the prescribed course of study may include the unit COMP 595. COMP 595 involves a project and project report. The project topic must be approved in advance by the Course Coordinator. The project may take the form of a design, management plan, literature review, or a field or laboratory investigation.

Advanced Standing

- all units completed in the University where the units are approved for the program of study and provided the units count to only one course;
- up to 12 cp on the basis of considerable professional experience in particular fields of rural science, computer science, natural resources management or science as relevant to the study program. Advanced standing will not be granted for units counts towards another qualification.

Award of the Graduate Diploma

A candidate who has successfully completed the unit COMP 595 within his/her study program will be awarded the Graduate Diploma at the level of Pass or Pass with Credit or Pass with Distinction or Pass with High Distinction.

A candidate who does not complete COMP 595 within the study program will be awarded the Graduate Diploma at the level of Pass.

Period of Candidature

Full-time study: maximum of two semesters Part-time study: maximum of eight semesters

Graduate Diploma in Geographic Information Science

The Graduate Diploma in Geographic Information Science is designed to provide further academic and professional training in the use and application of Geographic Information Systems (GIS) and remote sensing.

The requirement for admission to candidature is a three-year Bachelor degree in a relevant area. Relevant areas include Science, Natural Resources, Computer Science or Rural Science.

Course Requirements

Candidate must complete units to the value of 48 cp including:

- 1. EM 234/534, 432/532, 433/533; NR 331/531.
- 2. Units to the value of 24 cp, including, with the approval of the postgraduate Course Coordinator, NR 595 or 596. The unit NR 595 involves a project and project report. The project topic must be approved by the Course Coordinator for Natural Resources. The project may take the form of a design, management plan, literature review, or a field or laboratory investigation.

The unit NR 596 involves a shorter project and report with approval on the same terms as NR 595.

Advanced Standing

- All units completed in the University where the units are approved for the program of study and provided the units count to only one course;
- Up to 12 cp on the basis of considerable professional experience in particular fields of rural science, computer science, natural resources management or science as relevant to the study program.
- Up to 24 cp on the basis of units completed at another University or institution provided that those units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty.

Advanced standing will not be granted for units counts towards another qualification.

Award of the Graduate Diploma

A candidate who has successfully completed the unit NR 595 within his/her study program will be awarded the Graduate Diploma at the level of Pass or Pass with Credit or Pass with Distinction or Pass with High Distinction.

A candidate who has successfully completed NR 596 shall be awarded the Graduate Diploma at the level of Pass or Pass with Credit.

A candidate who does not complete NR 595 or NR 596 within the study program will be awarded the Graduate Diploma at the level of Pass.

Period of Candidature

Full-time study: maximum of two semesters Part-time study: maximum of eight semesters

Graduate Diploma in Information Technology

The Graduate Diploma is the second award level of a fully articulated program in Information Technology which gives qualified applicants the opportunity for study at three progressive levels.

Units are available in areas such as: data structure; operating systems, compilers; databases; management information systems and expert systems.

For admission to the Graduate Diploma an applicant must hold a Bachelor degree. Applicants who have other qualifications and/or experience deemed to be relevant preparation for candidature will also be considered.

There is no assumed knowledge for the Graduate Diploma in Information Technology other than the necessity to satisfy the admission requirements.

Course Requirements

Candidates must complete a study program comprising units to the value of 48 cp chosen from: AMTH 540; COMP 500, 503, 504, 507, 508, 509, 511, 513, 515, 516, 517, 518, 519, 520, 530, 531, 532, 535, 560, 570, 580, 582, 583, 584, 585, 586, 587, 589, 590, 591, 592, 593, 594.

With the approval of the postgraduate Course Coordinator of Computer Science, the prescribed course of study may include the unit COMP 595. COMP 595 involves a project and project report. The project topic must be approved in advance by the Course Coordinator.

The project may take the form of a design, management plan, literature review, or a field or laboratory investigation.

Advanced Standing

- All units completed in the University where the units are approved for the program of study and provided the units count to only one course;
- Up to 12 cp on the basis of considerable professional experience in particular fields of rural science, computer science, natural resources management or science as relevant to the study program.

Advanced standing will not be granted for units counts towards another qualification.

• Up to 24 cp on the basis of units completed at another University or institution provided that those units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty.

Award of the Graduate Diploma

A candidate who has successfully completed the unit COMP 595, within his/her study program will be awarded the Graduate Diploma at the level of Pass or Pass with Credit or Pass with Distinction or Pass with High Distinction.

A candidate who does not complete COMP 595 within the study program will be awarded the Graduate Diploma at the level of Pass.

Period of Candidature

Full-time study: maximum of two semesters Part-time study: maximum of eight semesters

Graduate Diploma in Natural Resources

This course is designed primarily for graduates who have majored in other disciplines and wish to gain experience in the practical and theoretical application of resource management. It is also suitable for resource and environmental science majors who wish to specialise in a chosen field.

The requirement for admission to candidature is a three-year Bachelor degree in a relevant area. Relevant areas include Science, Natural Resources, Computer Science or Rural Science.

Course Requirements

A candidate must complete a study program comprising 48 cp as follows:

- 1. At least 12 cp from ECON 326 or 329; EM 311/511, 312/512; EM 421/521 or RSNR 421/521; ENVE 421/521 and NR 411/511; and
- Up to 36 cp approved by the postgraduate Course Coordinator for Natural Resources including, with the approval of the Course Coordinator, NR 595 or 596.
 NR 595 involves a project and a project report. The project topic must be approved by the postgraduate Course Coordinator for Natural Resources. The project may take the form of a design, management plan, literature review, or a field or laboratory investigation.
 NR 596 involves a shorter project and report with approval on the same terms as NR 595.

Advanced Standing

- All units completed in the University where the units are approved for the program of study and provided the units count to only one course;
- Up to 12 cp on the basis of considerable professional experience in particular fields of rural science, computer science, natural resources management or science as relevant to the study program. Advanced standing will not be granted for units counts towards another gualification.
- Up to 24 cp on the basis of units completed at another University or institution provided that those units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty.

Award of the Graduate Diploma

A candidate who has successfully completed the unit NR 595 within his/her study program will be awarded the Graduate Diploma at the level of Pass or Pass with Credit or Pass with Distinction or Pass with High Distinction.

A candidate who has successfully completed NR 596 shall be awarded the Graduate Diploma at the level of Pass or Pass with Credit.

A candidate who does not complete NR 595 or NR 596 within the study program will be awarded the Graduate Diploma at the level of Pass.

Period of Candidature

Full-time study: maximum of two semesters

Part-time study: maximum of eight semesters

Graduate Diploma in Marine Science and Management

This course provides professional training in some of the key topics in marine science and management. The normal requirement for admission to candidature is a relevant Bachelor degree.

All MSM units will be taught at the National Marine Science Centre, Coffs Harbour.

Course Requirements

A candidate must complete a study program comprising 48 cp chosen from: AQUA 200/300; ECOL 210/510, 202/502; ZOOL 210 with at least 30 cp from MSM 301/501, 302/502, 303/503, 304/504, 305/505, 306/506, 307/507, 308/508. approved by the postgraduate Course Coordinator for Science, including, with the approval of the Course Coordinator, SCI 595.

SCI 595 involves a project and a project report. The project topic must be approved by the postgraduate Course Coordinator for Science. The project may take the form of a design, management plan, literature review, or a field or laboratory investigation.

Advanced Standing

units offered by the Faculty.

- All units completed in the University where the units are approved for the program of study and provided the units count to only one course;
- Up to 12 cp on the basis of considerable professional experience in particular fields of rural science, computer science, natural resources management or science as relevant to the study program. Advanced standing will not be granted for units counts towards another gualification.
- Up to 24 cp on the basis of units completed at another University or institution provided that those units have not been counted towards another qualification and that they have a reasonable degree of correspondence to

Award of the Graduate Diploma

A candidate who has successfully completed the unit SCI 595 within his/her study program will be awarded the Graduate Diploma at the level of Pass or Pass with Credit or Pass with Distinction or Pass with High Distinction.

A candidate who does not complete SCI 595 within the study program will be awarded the Graduate Diploma at the level of Pass.

Period of Candidature

Full-time study: maximum of two semesters Part-time study: maximum of eight semesters

Graduate Diploma in Rural Science

The Graduate Diploma in Rural Science is designed to give graduates an opportunity to undertake specialised study in an area of agriculture, or for those holding a three-year degree, to upgrade their qualifications. Each candidate is required to complete a course of study prescribed by the Faculty, the content of the course being determined by the candidate's interests and academic background. Candidates may include a thesis reporting the results of an individual research project.

Areas of specialisation are: animal production/animal products; animal genetics; horticultural science; mammalian physiology; agronomy and soil science.

The normal requirement for admission to candidature is a relevant Bachelor degree.

Course Requirements

A candidate must complete a study program comprising units with a total value of 48 cp of which not more than 18 cp shall be for units below the level of third year.

With the approval of the postgraduate Course Coordinator for Rural Science and Agriculture, the prescribed course of study may include the unit RUSC 595 or HORT 595. RUSC 595 and HORT 595 involve a project and project report. The project topic must be approved in advance by the Course Coordinator. The project may take the form of a design, management plan, literature review, or a field or laboratory investigation.

Advanced Standing

- All units completed in the University where the units are approved for the program of study and provided the units count to only one course.
- Up to 12 cp on the basis of considerable professional experience in particular fields of rural science, computer science, natural resources management or science as relevant to the study program.
- Up to 24 cp on the basis of units completed at another University or institution provided that those units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty.

Advanced standing will not be granted for units counts towards another qualification.

Award of the Graduate Diploma

A candidate who has successfully completed the unit RUSC 595 or HORT 595 within his/her study program will be awarded the Graduate Diploma at the level of Pass or Pass with Credit or Pass with Distinction or Pass with High Distinction. A candidate who does not complete RUSC 595 or HORT 595 within the study program will be awarded the Graduate Diploma at the level of Pass.

Period of Candidature

Full-time study: maximum of two semesters Part-time study: maximum of eight semesters

Graduate Diploma in Science

The Graduate Diploma in Science provides an opportunity for graduates to upgrade or extend their qualifications in a field of study not covered in depth in their undergraduate studies. Study programs are designed to meet the candidate's interests and academic background and involve course work selected from a chosen field of study. Students have the option of undertaking a small research project leading to the submission of a thesis.

Areas of specialisation are biochemistry; microbiology; nutrition; botany; chemistry; ecology; electronics; earth sciences; genetics and animal breeding; mathematics; physiclogy; statistics and zoology.

Applicants must have a degree or equivalent qualification from a recognised university or tertiary institution and have completed the equivalent of first-year units in the intended area of specialisation.

Course Requirements

A candidate must complete a study program comprising 48 cp, approved by the postgraduate Course Coordinator for Science or complete one of the prescribed coursework programs listed below. Not more than 24 cp can be completed for units at 200 level. If SCI 595 is included in the program of study, not more than 18 cp can be completed for units below 200 level.

Coursework Programs

Biomedical Science

BCHM 210, 220, 320/520, 330/530; GENE 210, 340/540, 500; HUMN 340; MICR 220; 350; PHAR 222; PSIO 210, 220, 321/521, 322/522, 324/ 524, 325/525, 410/510; PSYC 363, 366; STAT 200

Botany

BOTY 211/411, 241/341, 355/555, 260/360, 270/370; ECOL 202/502, 210/510, 220, 302, 307; EVOL 211/311; BIOL 301/501, 302/502

Chemistry

CHEM 201, 202, 203, 204, 302, 303, 305, 306, 307; PHYS 301

Ecology

BOTY 211/411, 241/341, 260/360, 270/370; ECOL 202, 210, 220, 302, 307; EM 331/531, 423/523, 453/553, 545/545; ZOOL 210, 220, 230, 321, 326, 327, 328/528

Genetics

BCHM 210, 330/530; GENE 210, 322, 335, 340/540, 351, 500, 422/522; STAT 200, 300

Molecular Genetics and Biotechnology

BCHM 210, 220, 310/510, 320/520, 330/530; CHEM 204; GENE 210, 322, 335, 340/540; MICR 220, 360/560

Physics

PHYS 204, 211, 212, 311, and at least 12 cp chosen from AMTH 246, 247, 348; ASTY 221; COMP 282/582, 389/589, 395; PHYS 301; STAT 200, 300

Zoology

ECOL 210/510, 220; EVOL 211/311; GENE 322; ZOOL 210, 220, 230, 321, 326, 327, 328/528

With the approval of the postgraduate Course Coordinator, the study program may include the unit SCI 595. The unit can count for at least one quarter and up to one half of the assessment for the award of the Graduate Diploma.

SCI 595 involves a project and project report. The project topic must be approved by the postgraduate Course Coordinator for Science. The project may take the form of a design, management plan, literature review, or a field or laboratory investigation.

Advanced Standing

Advanced standing may be granted under the following conditions:

- All units completed in the University where the units are approved for the program of study and provided the units count to only one course.
- Up to 12 cp on the basis of considerable professional experience in particular fields of rural science, computer science, natural resources management or science as relevant to the study program.
- Up to 24 cp on the basis of units completed at another University or institution provided that those units have not been counted towards another qualification and that they have a reasonable degree of correspondence to units offered by the Faculty.

Advanced standing will not be granted for units counts towards another qualification.

Award of the Graduate Diploma

A candidate who has successfully completed the unit SCI 595 within his/her study program will be awarded the Graduate Diploma at the level of Pass or Pass with Credit or Pass with Distinction or Pass with High Distinction.

A candidate who does not complete SCI 595 within the study program will be awarded the Graduate Diploma at the level of Pass.

Period of Candidature

Full-time study: Maximum of two semesters Part-time study: Maximum of eight semesters

Master of Agriculture

The Master of Agriculture is a course work only program designed for students who wish to broaden their knowledge in an area of agriculture and who do not wish to complete a research project. The program consists of units to the value of 48 cp in an area of interest to the student, and each student can design a program to suit his or her academic background and career aims. Programs are available in animal production, animal physiology, animal nutrition, agronomy and soil science.

The minimum requirement for admission to candidature is a three-year degree in a field related to agriculture. It is possible to transfer to Master of Agriculture candidature on completion of units to the value of 12 cp towards the Graduate Diploma in Rural Science. Advanced standing will be granted for these units.

Course Requirements

Candidates shall complete a course work program comprising units with a total value of 48 cp of which at least 36 cp must be at graduate level and relating to a specific area of study.

Units may be chosen from the 300-, 400-, 500- and 600-level units offered by the Faculty. Permission may be granted to include units offered by other faculties of the University.

Advanced Standing

Advanced standing may be granted on the basis of the following conditions:

- Up to 12 cp on the basis of units completed at another institution prior to admission to candidature provided that those units have a reasonable degree of correspondence in terms of size, standard and content to units offered by the Faculty.
- Up to six cp on the basis of considerable professional experience in a relevant field of interest.
- Up to 24 cp on the basis of units completed at UNE.

Period of Candidature

Full-time study: maximum of two semesters

Part-time study: maximum of eight semesters

Master of Computer Studies

The Master of Computer Studies is the third award level of the fully articulated program which provides qualified applicants with the opportunity or graduate study at three progressive levels.

The Master of Computer Studies requires the completion of units to the value of 72 cp. A research thesis (COMP 695 counting 24 cp), which is only available to internal students, may be completed with Faculty approval. Areas of study are information systems; artificial intelligence and parallel and distributed computing.

For admission to candidature for the degree of Master Computer Studies, an applicant must hold a Bachelor degree and have a knowledge of Computer Science equivalent to at least the second year level of the UNE Bachelor of Computer Science Degree. Candidates who have other qualifications and/or experience deemed to be adequate preparation for candidature will also be considered.

Course Requirements

Candidates are required to complete a course of study which shall comprise units with a total value of 72 cp as follows:

- 1. not more than 36 cp from Group 1; or
- 2. not less than 36 cp from Group 2.

Units Offered

Group 1: COMP 280, 282, 283, 284, 285, 286, 287, 290, 292, 309,311, 315, 318, 319, 320, 389, 391, 393, 394

Group 2: COMP 503, 504, 507, 508, 509, 511, 513, 516, 517, 518, 519, 520, 580, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 695.

With the permission of the postgraduate Course Coordinator for Computer Science, one unit offered in the University may be substituted for one of the units listed in Groups 1 and 2.

Advanced Standing

Advanced standing may be granted under the following conditions:

- 1. all units completed at another institution which are deemed equivalent to units approved for the Master of Computer Studies (excluding COMP 695) and which have not been counted towards another qualification;
- 2. a maximum of 24 cp for units which have counted towards another qualification.

Requirements for COMP 695

To complete requirements for COMP 695 a candidate shall undertake a research project approved by the Faculty and shall present a thesis embodying the results of that project.

The thesis shall be written in concise English and, except with the special permission of the Faculty in exceptional circumstances, shall not exceed 20 000 words, exclusive of tables, plates, figures and appendices. A successful thesis shall show capacity on the part of the candidate for independence of thought and critical evaluation of the candidate's own and published work in his/ her field of study.

Period of Candidature

Full-time study: maximum of two years Part-time study: maximum of five years

Master of Environmental Management

The Master of Environmental Management is a course work only program designed for students who wish to broaden their knowledge in an area of environmental management and who do not wish to complete a research project.

The minimum requirement for admission to candidature is a three-year degree in a field related to natural resources and environmental management.

It is possible to transfer to candidature for the Master of Environmental Management on completion of units to the value of 12 cp towards the Graduate Diploma in Natural Resources. Advanced standing will be granted for these units.

Course Requirements

Candidates shall complete a course work program comprising units with a total value of 48 cp as follows:

- 1. at least 12 cp from NR 511; EM 511, 512; EM 521 or RSNR 521; ENVE 521; and
- 2. at least 36 cp of which 24 credit points must be at graduate level.

Units may chosen from the 300, 400, 500 and 600 level units offered by the Faculty. Permission may be granted to include units offered by other faculties of the University.

Advanced Standing

Advanced standing may be granted on the basis of the following conditions:

- Up to 12 cp on the basis of units completed at another University or other institution prior to admission to candidature provided that those units have a reasonable degree of correspondence in terms of size, standard and content to units offered by the Faculty, and have not been counted towards another qualification;
- Up to six cp on the basis of considerable professional experience in a relevant field of interest

Period of Candidature

Full-time study: maximum of two semesters Part-time study: maximum of eight semesters

Master of Geographic Information Science

The Master of Geographic Information Science is designed to provide academic and professional training in the use and application of geographic Information Systems (GIS) and remote sensing, principally to natural resources managers at advanced levels.

The minimum requirement for admission to candidature is a three-year degree in a field related to environmental management.

It is possible to transfer to Master of Geographic Information Science candidature on completion of units to the value of 12 cp towards the Graduate Diploma in Geographic Information Science. Advanced standing (credit) will be granted for these units.

Course Requirements

Candidates shall complete units with a total value of at least 48 cp including:

- 1. EM 532, 533, 534; NR 531; and
- 2. 24 cp of which 12 credit points must be at graduate level.

Units may chosen from the 300-, 400-, 500- and 600-level units offered by the Faculty. Permission may be granted to include units offered by other faculties of the University.

Advanced Standing

Advanced standing may be granted on the basis of the following conditions:

- Up to 12 cp on the basis of units completed at another University or other institution prior to admission to candidature provided that those units have a reasonable degree of correspondence in terms of size, standard and content to units offered by the Faculty and have not been counted towards another gualification.
- Up to six cp on the basis of considerable professional experience in a relevant field of interest.

Period of Candidature

Full-time study: maximum of two semesters Part-time study: maximum of eight semesters

Master of Information Systems

The Master of Information Systems is a course work only program suitable for graduates from areas such as business and commerce who do not want to pursue careers in software development.

Graduates of the degree will have the skills to analyse and satisfy the information needs of a range of organisations, both government and private. Study areas include business information technology, management information systems, internet publishing, databases and system analysis and design among others.

Alternatively, students who completed eight units whilst enrolled for the Master of Information Systems may exit the program by taking out the Graduate Diploma in Information Technology. Students who have completed four units whilst enrolled for the Master are able to exit the program by taking out the Graduate Certificate in Information Technology. An applicant must hold a Bachelor degree or have other qualifications and/or experience deemed to be adequate preparation for candidature.

Course Requirements

To satisfy requirements for the degree, candidates shall complete units comprising at least 72 cp including: COMP 500, 503, 504, 513, 531, 560, 586, 588, 589, 593 *plus two units from* AMTH 540; COMP 507, 508, 509, 511, 515, 518, 519, 520, 535, 570, 580, 582, 583, 587, 590, 591, 592, 594

Period of Candidature

Full-time study: maximum of two years Part-time study: maximum of five years

Master of Information Systems with Honours

The Master of Information Systems with Honours is a course work plus project program suitable for graduates from areas such as business and commerce who do not want to pursue careers in Software development.

Graduates of the degree will have the skills to analyse and satisfy the information needs of a range of organisations, both government and private. Students study areas such as business information technology, management information systems, internet publishing, databases and system analysis and design among others.

In addition to the course work prescribed for the program, students are required to complete a research project (counting 24 cp) in an area relevant to their program of study and to submit a report on the project.

Alternatively, students who complete 12 units (72 cp) whilst enrolled for the Master of Information Systems with Honours, may exit the program by taking out the Master of Information Systems. Students who complete eight units (48 cp) whilst enrolled for the Master may exit the program by taking out the Graduate Diploma in Information Technology and students who have completed four units (24 cp) are able to exit the program by taking out the Graduate Certificate in Information Technology.

An applicant must hold a Bachelor degree or have other qualifications and/or experience deemed to be adequate preparation for candidature.

Course Requirements

To satisfy requirements for the degree, candidates shall complete units comprising at least 96 cp including: COMP 500, 503, 504, 513, 531, 560, 586, 589, 593, 695

plus three units from

AMTH 540; COMP 507, 508, 509, 511, 515, 518, 519, 520, 535, 570, 580, 582, 583, 587, 590, 591, 592, 594; EBUS 521, 531.

Period of Candidature

Full-time study: maximum of two years Part-time study: maximum of five years

Master of Information Technology

The Master of Information Technology is a course work only degree designed for students who do not have a computing background and who are seeking to achieve qualifications in information technology. There are two prescribed course work programs available and candidates are required to complete one of these programs. The programs available are: Software Engineering and Internet and Web Technologies.

Graduates of the degree who complete the Software Engineering option will have skills in design and development of software systems by studying topics such as advanced programming, operating systems, software project management, data structures and algorithms and software engineering among others.

Those who complete the Internet and Web Technologies option will graduate with the technological skills necessary for employment in the internet and world wide web areas having studied topics such as programming in Java, internet and web security, operating systems, computer networks, advanced web technologies and internet publishing among others.

Alternatively, students who complete eight units (48 cp) whilst enrolled for the Master of Information Technology may exit the program by taking out the Graduate Diploma in Information Technology. Students who have completed four units (24 cp) whilst enrolled for the Master are able to exit the program by taking out the Graduate Certificate in Information Technology.

Course Requirements

Candidates are required to complete one of the prescribed course work programs comprising 72 cp as follows:

AMTH 540; COMP 500, 503, 504, 507, 508, 509, 511, 513, 515, 518, 519, 520, 530, 531, 532, 535, 560, 570, 580, 583, 583, 584, 585, 586, 588, 589, 590, 591, 592, 593, 594.

Course Work Programs

Software Engineering

AMTH 540; COMP 530, 560, 580, 582, 584, 586, 588, 593 plus three units to be chosen from units listed above and approved by the postgraduate Course Coordinator.

Internet and Web Technologies

AMTH 540; COMP 515, 530, 560, 580, 582, 585, 588, 590, 593 plus two units to be chosen from units listed above and approved by the postgraduate Course Coordinator.

Period of Candidature

Full-time study: maximum of two years Part-time study: maximum of five years

Master of Information Technology with Honours

The Master of Information Technology with Honours is a course work plus project program designed for students who do not have a computing background and who are seeking to achieve qualifications in information technology. Candidates have the option of completing one of two coursework programs in addition to a research project.

Graduates of the degree who complete the Software Engineering option will have skills in design and development of software systems by studying topics such as advanced programming, operating systems, data structures and algorithms and software engineering among others.

Those who complete the Internet and Web Technologies option to graduate with the technological skills necessary for employment in the internet and world wide web areas having studied topics such as programming in Java, internet and web security, operating systems, computer networks, advanced web technologies and internet publishing among others.

Students are also required to complete a research project (24 cp) in an area relevant to their program of study and to submit a report on the project.

Alternatively, students who complete 12 units (72 cp) whilst enrolled for the Master of Information Technology with Honours, may exit the program by taking out the Master of Information Technology. Students who complete eight units whilst enrolled for the Master may exit the program by taking out the Graduate Diploma in Information Technology and students who have completed four units (24 cp) are able to exit the program by taking out the Graduate Certificate in Information Technology.

An applicant must hold a Bachelor degree or have other qualifications and/or experience deemed to be adequate preparation for candidature.

Course Requirements

Candidates are required to complete one of the prescribed course work programs comprising 96 cp as follows:

Units Offered

AMTH 540; COMP 500, 503, 504, 507, 508, 509, 511, 515, 518, 519, 520, 530, 535, 560, 570, 580, 582, 583, 584, 585, 586, 587, 589, 591, 592, 593, 594, 695; EBUS 521, 531

Course Work Programs

Software Engineering

AMTH 540; COMP 530, 560, 580, 582, 584, 586, 593, 695 plus four units to be chosen from the units listed above and approved by the postgraduate Course Coordinator.

Internet and Web Technologies

AMTH 540; COMP 515, 530, 560, 580, 582, 585, 590, 593, 695 plus three units to be chosen from the units listed above and approved by the postgraduate Course Coordinator.

Period of Candidature

Full-time study: Maximum of two years Part-time study: Maximum of five years

Master of Marine Science and Management

This course provides academic and professional training in some of the key topics in marine science and management. This includes updating the knowledge and skills of candidates who have previous training in this field.

Although the primary geographical focus of the Marine Science and Management course is on Australia, the course also examines the management of marine resources worldwide. Marine management also involves collaboration with all stake holders. Consequently indigenous issues feature strongly in the establishment of marine protected areas and are prominent in some of the units. All MSM units are taught in block-mode at the National Marine Science Centre, Coffs Harbour. An applicant must hold a relevant Bachelor degree.

Course Requirements

Candidates shall complete units to the value of at least 48 cp including

- 1. MSM 501, 502, 504, 507, 508; and
- 2. 18 cp chosen from EM 432/532, 433/533, 534, 454/554; MSM 303/503, 305/505, 306/506

Advanced Standing

Advanced standing may be granted on the basis of the following conditions:

- Up to 12 cp on the basis of units completed at another University or other institution prior to admission to candidature provided that those units have a reasonable degree of correspondence in terms of size, standard and content to units offered by the Faculty;
- Up to six cp on the basis of considerable professional experience in a relevant field of interest.

Period of Candidature

Full-time study: maximum of two semesters Part-time study: maximum of eight semesters

Master of Natural Resources

The Master of Natural Resources is a course work and research degree. The program involves advanced postgraduate training for graduates who have an appropriate first degree for a career in the management of natural resources. The program is also particularly valuable for candidates who are currently employed as resources managers and wish to upgrade their qualifications for either professional or academic reasons.

The minimum requirement for admission to the Master of Natural Resources is a three-year degree from fields of study including agriculture, forestry, engineering, resource economics, surveying, science, earth sciences and planning. It is possible to transfer to candidature for the degree of Master of Natural Resources if units to the value of 24 cp have been completed towards the Graduate Diploma in Natural Resources at a satisfactory level. Advanced standing will be granted for these units.

It is a requirement that off -campus candidates must have access to appropriate research facilities and on-site supervision for completion of the Research Report component of the program.

Course Requirements

Candidates must complete a course of study which shall complete units comprising 72 cp, including graduate-level units comprising at least 24 cp, plus NR 691.

Units may be selected from 300-, 400-, 500- and 600-level units offered by the Faculty. Permission may be granted to include units offered by other faculties of the University.

Requirements for NR 691

The thesis submitted must embody the results of a research program. The thesis must be submitted within three semesters from the date of commencement of NR 691, should be written in concise English and should not exceed 20 000 words of text exclusive of appendices, references, tables and diagrams. A successful thesis will show capacity on the part of the candidate for independence of thought and critical evaluation of the candidate's own and published work in his/her field of study.

Supervisor's Reports

A candidate's supervisor must report to the UNE Student Centre, at least once, on the progress of the candidate towards completion of the thesis (NR 691). In the case of a report being submitted advising of unsatisfactory progress the candidate may be asked to show cause why his/her candidature should not be terminated.

Advanced Standing

Advanced standing may be granted under the following conditions:

- Up to 12 cp on the basis of units completed at another University or other institution provided that they have a reasonable degree of correspondence in terms of size, standard and content to units offered by the faculty;
- Up to six cp on the basis of considerable professional experience in a relevant field of interest.

Period of Candidature

Full-time study: maximum of two years Part-time study: maximum of five years

Master of Science in Agriculture

The Master of Science in Agriculture is a program of course work and research designed to provide advanced training to supplement a first degree and to provide an introduction to research. The program comprises course work representing 66% and a thesis which represents 33% of the final assessment. The course work component is designed to provide advanced knowledge, and to develop a range of skills, applicable to the candidate's background and area of interest.

Areas of specialisation are: animal science; meat science and technology; wool science; genetics and animal breeding; agricultural and resource economics; agronomy and soil science.

The requirement for admission to candidature is a three-year degree in an agricultural or related area. It is possible to transfer to candidature for the Master of Science in Agriculture on satisfactory completion of units to the value of 24 cp towards the Graduate Diploma in Rural Science. Advanced standing will be granted for these units.

It is also a requirement that off -campus candidates must have access to appropriate research facilities and on-site supervision for the completion of the thesis component.

Course Requirements

Candidates must complete a course of study comprising units with a total value of at least 72 cp, including graduate level units with a value of at least 48 cp, including RUSC 695 (Master of Science in Agriculture Thesis).

Units can be chosen from the 300-, 400-, 500- and 600 -level units offered by the Faculty. Permission may be granted to include units offered by other faculties of the University.

Requirements for RUSC 695

The thesis submitted must embody the results of a research program. The thesis must be submitted within three semesters from the date of commencement of RUSC 695, should be written in concise English and should not exceed 20 000 words of text exclusive of appendices, references, tables and diagrams. A successful thesis will show capacity on the part of the candidate for independence of thought and critical evaluation of the candidate's own and published work in his/her field of study.

Supervisor's Reports

A candidate's supervisor must report to the UNE Student Centre, at least once, on the progress of the candidate towards completion of the thesis (NR 691). In the case of a report being submitted advising of unsatisfactory progress the candidate may be asked to show cause why his/her candidature should not be terminated.

Period of Candidature

Full-time study: maximum of two years Part-time study: maximum of five years

Master of Scientific Studies

The Master of Scientific Studies is designed to provide specialised training in a specific field of study. It is essentially a terminating graduate course but at a higher level than a graduate diploma. The degree involves advanced level course work study in selected areas plus a thesis embodying the results of an approved research project.

Areas of specialisation are: mathematics; statistics; physiology; and genetics and animal breeding.

The normal requirement for admission to the Master of Scientific Studies is a three-year degree with a major sequence in the chosen field of study.

It is also a requirement that off-campus candidates must have access to appropriate research facilities and on-site supervision for completion of the thesis component.

Course Requirements

Candidates must complete a course of study, approved by the postgraduate Course Coordinator and comprising units with a total value of at least 72 cp, including graduate level units to the value of 48 cp, or candidates may complete on the of the approved course work programs listed below. Approval may be granted to include SCI 695 in the program of study.

Approved Course Work Programs

Biotechnology

Candidates complete a course of study approved by the postgraduate Course Coordinator for Science. comprising units chosen from: BCHM 210, 220, 310/510, 320/520, 330/530; CHEM 204, 303; GENE 210, 340/540, 500; HORT 420, 510; MICR 220, 350, 360/560; PHAR 222; and at the discretion of the postgraduate Course Coordinator for Science, SCI 695 may be included in the study program.

Biomedical Science

Candidates complete a course of study approved by the postgraduate Course Coordinator for Science comprising units chosen from: BCHM 210, 220, 310/510, 320/520, 330/530; BIOP 320; CHEM 204, 305; GENE 210, 340/540, 500; HUMN 340; MICR 220, 350, 360/560; PHAR 222; PSIO 210, 220, 321/521, 322/522, 323/523, 324/524, 325/525, 510; PSYC 200, 201, 204, 206, 302, 304, 313, 316, 321, 363, 366; STAT 200; and at the discretion of the Course Coordinator for Science, SCI 695 may be included in the study program.

Completion of SCI 695

The thesis submitted must embody the results of a research project approved by the Faculty. The thesis must be written in concise English and should not exceed 20 000 words, exclusive of tables, plates, figures and appendices. A successful thesis will show capacity on the part of the candidate for independence of thought and critical evaluation of the candidate's own and published work in his/her field of study.

Supervisor's Reports

A candidate's supervisor must report to the UNE Student Centre, at least once, on the progress of the candidate towards completion of SCI 695. In the case of a report being submitted advising of unsatisfactory progress the candidate may be asked to show cause why his/her candidature should not be terminated.

Period of Candidature

Full-time study: maximum of two years Part-time study: maximum of five years

Professional Doctorate in Science

The Professional Doctorate in Science is an appropriate choice for graduates with relevant experience in industry/research/ teaching and is designed to provide a breadth of knowledge to allow interpretation and application of research within a professional or industrial or commercial context. It will provide research experience with a professional and applied focus making a significant contribution to professional practice, and to a lesser extent, to an area of knowledge; to produce critical consumers of research with a good understanding of the research process, research policies and strategies, and a knowledge of the relationship between research and professional practice.

Applicants for admission to candidature to the Professional Doctorate must have at least five years of relevant professional experience and hold a Bachelor degree with First or Second Class Honours in an appropriate field or have completed at least one year full-time of a Master degree or equivalent.

Degree Requirements

Candidates must complete a course of study comprising units with a total value of at least 144 cp including

- (a) graduate level units to the value of 72 cp including SCI 700 (24 cp) and
- (b) dissertation SCI 795 (72 cp) which will embody the results of a research project completed in a professional area relevant to the field of study and approved by the Faculty.

Candidates are required to achieve an average grade of Credit in all components of SCI 700, which is normally completed during the first year of candidature. Candidates who do not achieve an overall grade of Credit in SCI 700 may be asked to show cause why he/she should remain in candidature.

The remaining 48 cp of coursework can be selected from among 500 and 600 level units offered within the University. Candidates are permitted to undertake up to the equivalent of 24 cp from another institution. This requires approval by the Faculty but it is believed that this will help broaden the knowledge base of candidates.

The dissertation (SCI 795) shall be written in concise English and should not exceed 30,000 words, exclusive of tables, plates, figures and appendices. A successful dissertation shall make a significant contribution to professional practice in a professional area of relevance to the field of study.

Full-time candidates will have a maximum of three consecutive semesters to complete the dissertation.

Part-time candidates have a maximum of six semesters.

Reports

At least once during the completion of SCI 795, and at any time that the supervisor or the Faculty considers expedient, the supervisor shall report to the UNE Student Centre on the candidate's progress.

Period of Candidature

Full-time study: maximum of three years Part-time study: maximum of six years Faculty of The Sciences