

Engineering, Computer and Mathematical Sciences

2012

POSTGRADUATE COURSEWORK PROGRAMS

“The Graduate Certificate was the perfect combination for my software engineering and management background. I learned how to plan for the commercialisation of new technologies and gain confidence needed to invest—both essential for the growth of a start-up technology business.

Michael Haddy
CEO, Innovation Science Pty Ltd
Graduate Certificate in Science and
Technology Commercialisation



Engineering, Computer and Mathematical Sciences

WELCOME FROM THE EXECUTIVE DEAN



A postgraduate qualification from the University of Adelaide is highly regarded and internationally recognised. Committed to innovation and discovery, the University has an enviable reputation for its teaching and research, and is a valued member of the Group of Eight (Go8), representing Australia's most research-intensive universities.

The Faculty of Engineering, Computer and Mathematical Sciences offers a range of postgraduate coursework programs that are informed by cutting edge research and underpinned by quality teaching.

Based on the University's North Terrace campus, students will have access to state-of-the-art facilities and learn from expert staff, who are leaders in their field. Professionals wishing to strengthen their knowledge in a specialised area will also benefit from our industry knowledge and links.

Study can be undertaken in a variety of disciplines including engineering, computer science and information technology, mathematical sciences, innovation and entrepreneurship, commercialisation and project management.

The Faculty also offers two unique conversion programs to diversify skills and broaden job prospects. The Master of Petroleum Engineering is designed to provide those with an undergraduate qualification in another engineering discipline with the skills required for employment in the petroleum industry. The Master of Computing and Innovation is open to graduates of any discipline wanting to develop new skills in information and communication technology, management and innovation.

In addition, the Faculty's Entrepreneurship, Commercialisation and Innovation Centre offers unique programs that provide practical tools and techniques in the areas of innovation and entrepreneurship, commercialisation and project management.

Program delivery varies from traditional semester blocks to intensive sessions and, in some cases, online provision. Many programs can be undertaken on a full or part-time basis to accommodate your needs.

The Faculty attracts students from all over the world and boasts a diverse and vibrant student culture. As a postgraduate student, you will learn in an environment that pursues excellence, provides access to unique support services and encourages creativity. This will ensure you succeed in your personal achievements and are prepared to make a positive impact on the community.

Professor Peter Dowd
Executive Dean, Faculty of Engineering, Computer and Mathematical Sciences

Online delivery

In response to the demand for high quality, flexible learning, the University of Adelaide is introducing an online option for a number of our programs. Online program delivery offers the same rigorous curriculum as our face-to-face study option while helping you to achieve the important balance between work, life and study. The following programs are currently available to study online:

- Master of Business
- Graduate Diploma in Business
- Graduate Certificate in Business
- Master of Applied Innovation and Entrepreneurship
- Graduate Diploma in Innovation and Entrepreneurship
- Graduate Certificate in Innovation and Entrepreneurship
- Master of Applied Project Management
- Graduate Diploma in Applied Project Management
- Graduate Certificate in Applied Project Management

In time, more postgraduate programs will be added to this list to ensure that no matter where you are located, you can study at the University of Adelaide.

Indicative full-time fee

Some postgraduate coursework programs require you to pay the full fee while others have CSP or Commonwealth Supported Places. If you apply to uni and are accepted into a Commonwealth Supported Place:

- the Commonwealth Government contributes to the cost of your courses
- you pay a Student Contribution towards the cost of your courses
- you may be eligible for HECS-HELP assistance to pay your student contribution.

To find out more about the cost of your degree, visit: www.adelaide.edu.au/student/finance/commonwealth

The Masters degree unlocked numerous potential pathways in my research and professional career. The knowledge I gained was quickly applied in industry, but was also a stepping stone to discover and explore research opportunities that I would not have had otherwise.

Stani Ovtcharova

Current PhD student in Computer Science
Master of Computer Science



COMPUTER SCIENCE, SOFTWARE ENGINEERING & INFORMATION TECHNOLOGY

Advanced technical studies in computing and information technology provide an understanding of how software and hardware can be combined to generate solutions for a range of business challenges. A postgraduate qualification will enhance your existing skills and help prepare you for leadership roles across this broad industry.

More information about programs offered by the School of Computer Science can be found at www.adelaide.edu.au/programfinder/pgcw/computer

COMPUTER SCIENCE

SATAC codes:

Masters: 3CM039
Grad Dip: 3GD021
Grad Cert: 3GC017

Duration (years full-time):

Masters: 2
Grad Dip: 1
Grad Cert: 0.5

Campuses: North Terrace; Ngee Ann-Adelaide Education Centre (Grad Dip/Cert only)

Intake: Feb and Jul

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$20,000

Prerequisites/entry criteria:

Masters: completed Bachelors degree in Computer Science or a completed Bachelor of Engineering (Computer Systems) or a completed Bachelor of Engineering (Software) or a completed Bachelor of Engineering (Telecommunications) or a completed Graduate Diploma in Computer Science or equivalent;

Grad Dip/Cert: completed Bachelors degree or equivalent in a field other than Computer Science

Program overview: Advanced technical studies in Computer Science provide an understanding of how software and hardware can be combined to overcome a range of complex challenges. While

the Graduate Certificate and Graduate Diploma are designed for students with little experience in Computer Science, the Masters program has a major research component and high-performing graduates may also proceed to a PhD program.

The research project is conducted under the supervision of academics from our research groups in fields including, computer vision, evolutionary computation, distributed systems, computer networks, high-performance computing, formal verification and systems modelling.

Graduates will gain a demonstrated ability to design and construct large software systems. JAVA is the primary programming language used in these programs. Students unfamiliar with JAVA programming and a basic knowledge of computer organisation are advised to undertake Computer Science Concepts in their first semester of study.

Program structure:

The 48-unit Masters program normally takes four semesters of full-time study, however, duration may be reduced in the case of candidates with high-level qualifications in computer science. Students will also be required to undertake a research project, deliver a public presentation and write a report on their research. The project is normally completed over two consecutive semesters.

The Graduate Diploma typically consists of 24-units of material selected from the Level II and Level III courses—or 12 units if the candidate has already completed the Graduate Certificate. The course Software Engineering and Project is compulsory for Graduate Diploma students.

The Graduate Certificate consists of 12-units of coursework.

Assessment: Research project (Masters only), written assignments, practical work and/or exams

Professional accreditation: The Master of Computer Science is accredited by the Australian Computer Society (ACS). It is designed to provide a professional qualification in computing and information technology. It also provides the necessary academic requirements for membership of the Institute of Electrical and Electronic Engineers (IEEE) and the American-based Association for Computing Machinery (ACM).

Likely careers: Graduates can seek employment within the software development industry, including careers in scientific, entertainment, networking, software engineering and defence sectors.

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

COMPUTING AND INNOVATION

SATAC code: 3CM111

Program level: Masters

Duration (years full-time): 2

Campus: North Terrace

Intake: Feb and Jul

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$20,000

Prerequisites/entry criteria: completed Bachelors degree or equivalent

Program overview: The Master of Computing and Innovation is a conversion program designed for students who wish to develop new skills in the areas of Information and Communication Technology (ICT) and management and innovation. Success as an ICT professional in today's diverse market requires not only technical computer science skills, but also expertise in innovation and project management.

As ICT professionals are employed more broadly throughout different industry and government sectors there is an increasing diversity in their roles, encompassing management of ICT contracts and projects, development of applications, identification and management of ICT solutions and the marketing and selling of ICT solutions. This diversity requires ICT professionals to exhibit a high degree of technical knowledge as well as good communications and project management skills. The Master of Computing and Innovation is designed to provide these skills.

Students with no prior experience in Computer Science undertake a specialised bridging program in their first semester, designed to address fundamental ICT requirements and familiarisation with assessment and the University of Adelaide environment. After completion of the bridging program, students will be skilled in programming in the JAVA language, and have knowledge of fundamental data structures and computer systems.

Although designed primarily as a conversion program, students with a major in Computer Science may also undertake the degree and build upon their skills in ICT and management and innovation. Such students will have the core course requirements varied to reflect their existing knowledge.

Graduates will gain a demonstrated ability to design and construct large software systems. Academic staff provide guidance and mentorship based on years of experience in ICT education and industry involvement. Award winning educators are combined with world research leaders in providing an exciting, innovative and comprehensive education environment.

Students commencing this program may, after the completion of the equivalent of a major in computer science convert to a Master of Computer Science or Master of Software Engineering program. In addition students unable to complete a Master of Computing Innovation program may be able to convert to a Graduate Diploma or Graduate Certificate program. It may also be possible to convert from a Master of Computer Science or

Master of Software Engineering program to a Master of Computing and Innovation.

Students who wish to proceed to a PhD program must convert to the Master of Computer Science or Master of Software Engineering and complete an individual year-long research project.

Program structure: A 48 unit program in which students undertake a variety of core and elective courses, designed to provide skills in ICT and management and innovation, as well as a significant project designed to combine skills developed across the program.

Assessment: Project work, written assignments, practical work and/or exams

Professional accreditation: The Master of Computing and Innovation is designed to provide a professional qualification in computing and information technology. It also provides the necessary academic requirements for membership of the Institute of Electrical and Electronic Engineers (IEEE) and the American-based Association for Computing Machinery (ACM).

Likely careers: Technical roles in industry, the public sector in the areas of information and communication technology, communications and project management

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

SOFTWARE ENGINEERING

SATAC code: 3CM099

Program level: Masters

Duration (years full-time): 2

Campus: North Terrace

Intake: Feb and Jul

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$20,000

Prerequisites/entry criteria: completed Bachelors degree in Computer Science or a completed Bachelor of Engineering (Computer Systems) or a completed Bachelor of Engineering (Software) or a completed Bachelor of Engineering (Telecommunications) or a completed Graduate Diploma in Computer Science or equivalent

Program overview: The Master of Software Engineering degree aims to provide graduates with the knowledge, tools, and methods for defining software requirements, and performing software design, software construction, software testing, and software maintenance tasks. Graduates of the program gain a demonstrated ability to design and construct large software systems and are well placed to secure rewarding technical careers within

the software engineering industry.

JAVA is the primary programming language of this program. Students unfamiliar with JAVA programming and a basic knowledge of computer organisation are advised to undertake Computer Science Concepts in their first semester of study.

Students may convert to a Master of Software Engineering from a Master of Computing and Innovation after completing the equivalent of a major in computer science. Students may also convert to a Master of Software Engineering from a Master of Computer Science program. Students may convert from the Master of Software Engineering to a Master of Computer Science or a Master of Computing and Innovation program.

Students who wish to proceed to a PhD program must complete an individual year-long research project in an area of Software Engineering instead of the usual year-long group project.

Program structure: This 48-unit program is designed for graduates with a strong background in computer science, including courses such as Software Engineering and Project, and Operating Systems. It includes a year long project and

graduate courses in computer science, providing in-depth technical information to its graduates.

Assessment: Small research project, public seminar and report on research. May also include computing work, project work, practical work, fieldwork, case studies, readings and written and oral work.

Professional accreditation: The Master of Software Engineering is accredited by the Australian Computer Society (ACS). It is designed to provide a professional qualification in computing and information technology. It also provides the necessary academic requirements for membership of the Institute of Electrical and Electronic Engineers (IEEE) and the American-based Association for Computing Machinery (ACM).

Likely careers: Advanced technical careers in the information technology industry including the financial, business, scientific, entertainment, networking and defence sectors

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb



ENGINEERING

Students can undertake postgraduate study in a range of engineering disciplines. Our programs are designed to broaden knowledge in a specialised area, with the opportunity to study technical courses at an advanced level. In addition, programs draw on the expertise of the Schools of Mathematical Sciences

and Computer Science, with both making contributions to coursework. A postgraduate qualification will enable career advancement and leadership in related industries.

More information about programs offered by the schools of engineering can be found at www.adelaide.edu.au/programfinder/pgcw/eng

ENGINEERING

SATAC codes: various—refer to: www.adelaide.edu.au/programfinder/pgcw/eng

Program level: Masters

Specialisations: Aerospace, Chemical, Civil and Environmental, Civil and Structural, Electrical, Electronic, Mechanical, Mechatronic, Mining, and Signal and Information Processing Engineering

Duration (years full-time): 2

Campus: North Terrace

Intake: Feb and Jul

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$24,000

Prerequisites/entry criteria: completed four-year Bachelor of Engineering degree or equivalent in a related discipline

Program overview: The Master of Engineering is comprised of a foundation year and an advanced studies year. The foundation year consists of a set of courses designed to ensure that students acquire a level of expertise in the relevant specialisation. This program gives the opportunity to study technical courses at an advanced level and the opportunity to engage in a research project.

An exit pathway will be available for students completing only the foundation year, after they satisfy a set requirement within the relevant discipline. In this case a Graduate Diploma will be awarded.

Graduates of a Bachelor of Engineering from the University of Adelaide and other Go8 universities who have successfully completed the requirements of the foundation year as part of their undergraduate degree will be eligible to complete the Masters program in one year of study.

Program structure: This 48-unit program comprises 9 units of core courses, 12 units of foundation courses, 15 units of advanced technical coursework and a project to the value of 12 units, which introduces candidates to research. Normally students will complete the requirements for the Master of Engineering in two years full time study. International students from non-English speaking backgrounds will be required to take an English language communications course.

Assessment: Coursework and project work

Likely careers: Technical engineering fields in chosen specialisation

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

GEOSTATISTICS

SATAC code: 3CM066

Specialisations: Mineral Resource Evaluation; Hydrocarbon Resources & Reservoir Modelling; Environmental Engineering & Groundwater Modelling; Geotechnical Engineering

Program level: Masters

Duration (years full-time): 1.5

Campus: North Terrace

Intake: February

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): CSP

Prerequisites/entry criteria: completed Honours degree in a related field; applicants with a completed Bachelors degree in a related field may also be considered

Program overview: This program provides theoretical background and intensive practical training in Geostatistics with particular emphasis on its applications to mineral resource evaluation, geological modelling, geotechnical modelling, hydrocarbon reservoir characterisation and the modelling and prediction of environmental variables.

The program is based on practical applications and a major aim is to equip graduates with the techniques necessary for immediate application to problem solving in industry and applied science. Delivered through intensive courses, this program can be completed in a year and a half and is designed specifically for people in full time employment.

Core courses are the same for all students, with a focus suiting the individual's specialisation. Intending students should consult the program

coordinator early in the year in which they plan to study to check whether particular courses or projects will be available.

Program structure: This is a 36-unit program comprising 24 units of coursework and 12 units of project work. Study mode can be traditional or short-course mode.

Assessment: Coursework assignments, formal written exams and project dissertation

Likely careers: Analyst and management positions in the mining, petroleum and environmental industries

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

MARINE ENGINEERING

Duration (years full-time):

Masters: 1.5; Grad Dip: 1; Grad Cert: 0.5

Campus: North Terrace

Intake: February

Study mode: internal, full-/part-time

Mid-year entry applicants: not all courses are available in Semester 2 so study must be undertaken part-time.

Indicative full-time fee (p/a): CSP

Prerequisites/entry criteria:

Masters: Relevant Honours degree, plus two years of relevant work experience, or Graduate Diploma in Marine Engineering;

Grad Dip: Relevant Honours degree or Graduate Certificate in Marine Engineering, plus one year of relevant work experience;

Grad Cert: Bachelors degree plus two years of relevant work experience

Program overview: Programs in Marine Engineering offer students the opportunity to further develop and enhance their skills and expertise in this field. The variety of specialised coursework electives and study options enable students to meet their individual needs as well as meeting industry-defined objectives. Industry sponsored students can undertake work-based projects to enhance their practical experience.

The degree is conferred by the University of Adelaide, which delivers most of the courses. The remaining courses are mostly delivered by the University of South Australia. Courses from a number of other leading universities throughout Australia are also included. Students must, however, ensure that at least 21 units of study must be taken from courses taught by the University of Adelaide.

Marine Engineering programs are structured so that students can complete the degree in steps. This approach provides the opportunity to complete the Graduate Certificate, then Graduate Diploma

and finally the Masters Degree. The advantage of this approach is that it provides options for career-life balance.

Intending students should consult the program coordinator prior to commencement to check whether particular courses or projects will be available.

Program structure: The Masters program is a 36-unit program. Students will complete three core courses and 27 units of electives. The Graduate Diploma is a 24-unit program including three core courses and 15 units of electives. The Graduate Certificate is a 12-unit program with students undertaking three core courses and one elective course.

Assessment: Coursework, project work and exams

Likely careers: Advanced technical and management roles in the field of marine engineering

Applications: Contact the Faculty of Engineering, Computer and Mathematical Sciences Office for application procedure: ecms_pgcw@adelaide.edu.au

PETROLEUM BUSINESS MANAGEMENT

Note: This program may be revised so please contact the Australian School of Petroleum for details before applying: admin@asp.adelaide.edu.au

SATAC code: 3CM080

Program level: Masters

Duration (years full-time): 1

Campus: North Terrace

Intake: Feb

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$26,500

Prerequisites/entry criteria: completed Honours degree in a relevant discipline or equivalent

Program overview: This Masters program fills a clear gap in the educational and training needs of the upstream (exploration and production) petroleum industry. It is primarily aimed at petro-technical professionals (for example, geoscientists or engineers) who are currently working in, or who hope to work in, the upstream sector of the oil and gas industry (e.g. with operator companies,

service companies, national oil companies, etc). It is designed to equip people with the key skills and knowledge required for project and asset management positions. A second target group is people (either within exploration and production companies, or external to them) who desire to understand the tools and processes used to evaluate and manage hydrocarbon projects or assets.

This program is not an MBA for petroleum and is thus not designed to fully equip people for senior, general management positions in the industry—although it may be an excellent first step. It is not suitable for people who do not have a relevant upstream petro-technical education or experience.

Program structure: To qualify for the Master of Petroleum Business Management, students must satisfactorily complete 24 units over a one-year period full-time, or up to a maximum of five years part-time. A minimum of 10 units must be taken from the list of core courses. The remaining 14 units may either be core courses, electives or a mini research project. The specific list of courses to be undertaken by any student must be agreed by the Program

Coordinator at the time of enrolment and will depend on the student's prior experience and learning goals. Most courses are delivered as intensive short-courses, typically of 5-7 days duration.

Although a mid-year (Semester 2) start is offered, this is not recommended due to the sequence in which individual courses are taught. This particularly applies to candidates who do not already have a good understanding (either by prior degree or experience) of the main elements of the hydrocarbon exploration and production business.

Assessment: Coursework, exams and research project

Likely careers: Graduates of this program can seek employment on a global and national scale as managers and team leaders in the petroleum and other related industries.

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

PETROLEUM ENGINEERING

SATAC code: 3CM081

Program level: Masters

Duration (years full-time): 1

Campus: North Terrace

Intake: February

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$26,500

Prerequisites/entry criteria: completed Honours degree in Engineering or equivalent, other than in the discipline of Petroleum Engineering

Program overview: A 'conversion' degree aimed at individuals having a non-Petroleum (e.g. Chemical or Mechanical) Bachelor of Engineering (Honours), or equivalent, who wish to gain a Petroleum Engineering qualification to enhance their ability to gain entry to exploration and production (upstream) part of the petroleum industry. It is also aimed at petro-technical professionals already working in the upstream petroleum industry who wish to advance their technical careers in petroleum engineering.

Individuals who have a relevant science degree (such as Geology, Geophysics, Geosciences, Physics) and who have more than one year upstream petroleum industry experience may also be eligible for, and benefit from, this program.

While the petroleum industry is much focused on practical learning and multidisciplinary teamwork, many technical professionals do not have a chance to receive more formal training in these areas. Engineers are, therefore, not often exposed to alternative methods in a more integrated learning environment, and involving comprehensive case histories. This program is designed to fill the above gaps by providing an integrated and focused learning environment for technical professionals so that they can obtain the required foundation with the knowledge and skills necessary to work effectively in the exploration and production sector meeting required industry standards.

Program structure: To qualify for the Master of Petroleum Engineering, students must satisfactorily complete 24 units of which a minimum of 15 units

must be taken from the list of core courses. The remaining nine units may be either core courses or electives.

The specific list of courses to be undertaken by any student must be agreed by the Program Coordinator at the time of enrolment and will depend on the student's prior experience and learning goals. Intending students should consult the Program Coordinator early in the year in which they plan to study to check whether particular courses or projects will be available.

Assessment: Coursework, exams and research project

Likely careers: This program enables graduates to move into highly specialised technical fields in petroleum and related industries.

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

PETROLEUM GEOLOGY AND GEOPHYSICS

SATAC code: 3GC037

Program level: Graduate Certificate

Duration (years full-time): 0.5

Campus: North Terrace

Intake: February

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$26,500

Prerequisites/entry criteria: completed Bachelors degree in Geology or Geophysics or equivalent

Program overview: The Australian School of Petroleum is Australia's pre-eminent centre of excellence for petroleum geoscience and engineering research, education and training. It is one of only a handful of institutions worldwide offering high quality postgraduate education in the field of petroleum geoscience. The School and its staff have very strong links with industry. Senior industry personnel serve on its Board of Management and teach specialist units in the coursework program. The Graduate Certificate is a coursework option for graduates wishing to develop knowledge and skills for careers as geoscientists.

Program structure: This is a 12-unit program. The following courses will be completed:

- Petroleum Geology & Geophysics (B)
- Petroleum Geology & Geophysics (A)

Assessment: Coursework, fieldwork and exams

Likely careers: Graduates of this program will have career opportunities as geoscientists in the international petroleum industry.

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

SCIENCE (PETROLEUM GEOSCIENCE)

SATAC code: 3CM094

Program level: Masters

Duration (years full-time): 1

Campus: North Terrace

Intake: February

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$26,500

Prerequisites/entry criteria: Completed Honours degree in a related field at Level IIA or higher; or a completed Bachelors degree in a related field with at least a Credit average and relevant professional experience.

Program overview: The Australian School of Petroleum is Australia's pre-eminent centre of excellence for petroleum geoscience and engineering research, education and training.

The school has strong links with industry, and senior industry personnel teach specialist units in the coursework program.

The program increases student knowledge in the essential areas of Petroleum Geology and Geophysics and trains students to use industry-standard techniques and software.

Program structure: This is a 24-unit program, comprising of 12 units of coursework and 12 units of research. Every candidate for the degree shall

complete the compulsory courses Petroleum Geology and Geophysics (A), Petroleum Geology and Geophysics (B) and a thesis on an approved research project.

Assessment: Coursework, fieldwork, exams and thesis

Likely careers: Career opportunities as geoscientists in the international petroleum industry.

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

SCIENCES (DEFENCE)

SATAC codes:

Masters: 3CM159
Grad Dip: 3GD079
Grad Cert: 3GC061

Duration (years full-time):

Masters: 1.5
Grad Dip: 1
Grad Cert: 0.5

Campus: North Terrace

Intake: Feb and Jul

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$24,000

Prerequisites/entry criteria: Completed Bachelors degree or equivalent in a related discipline plus 18 months employment experience in a defence-related industry

Program overview: Sciences (Defence) programs are designed to serve the needs of professionals working in the defence industry, who wish to upgrade their qualifications by undertaking advanced studies in topics related to the defence industry. The Masters program includes a substantial research project.

Program structure:

The Masters is a 36-unit program comprising 6 units of prescribed core courses, 18 units of

elective courses, and a 12-unit research project, normally completed in the last semester of study. The **Graduate Diploma** is a 24-unit program comprising 6 units of prescribed core courses and 18 units of elective courses.

The **Graduate Certificate** is a 12-unit program comprising one 3 unit prescribed core courses and 9 units of elective courses.

Assessment: Coursework, research project

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

SCIENCES (DEFENCE SIGNAL AND INFORMATION PROCESSING)

SATAC codes:

Masters: 3CM158
Grad Dip: 3GD078
Grad Cert: 3GC060

Duration (years full-time):

Masters: 1.5
Grad Dip: 1
Grad Cert: 0.5

Campus: North Terrace

Intake: Feb and Jul

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$24,000

Prerequisites/entry criteria: Completed Honours degree or equivalent in Mathematics, Physics

or Electrical & Electronic Engineering; or, a completed Bachelors degree or equivalent majoring in Mathematics or Physics, plus 18 months employment experience in the defence industry

Program overview: Sciences (Defence Signal and Information Processing) programs are designed to serve the needs of professional engineers or scientists working in the defence industry, who wish to upgrade their qualifications by undertaking advanced studies in signal and information processing technologies related to the defence industry. The Masters program includes a substantial research project.

Program structure:

The Masters program is a 36-unit program comprising

6 units of prescribed core courses, 18 units of elective courses, and a 12-unit research project, normally completed in the last semester of study. The **Graduate Diploma** is a 24-unit program comprising 6 units of prescribed core courses and 18 units of elective courses.

The **Graduate Certificate** is a 12-unit program comprising one 3 unit of prescribed core course and 9 units of elective courses.

Assessment: Coursework, research project

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

WATER RESOURCES MANAGEMENT

Duration (years full-time):

Masters: 1.5
Grad Dip: 1
Grad Cert: 0.5

Campus: North Terrace

Intake: February

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$24,000

Prerequisites/entry criteria: Completed Honours degree or equivalent in a related discipline of Engineering or Science, or a completed Bachelors degree or equivalent plus an appropriate level of work experience as assessed by the Faculty.

Applicants with extensive, relevant industry experience may be eligible for admission at a level of study deemed appropriate by the Program Director.

Program overview: A unique blend of cross-institutional and cross-faculty study, providing students with access to a wide range of expertise, resources and state-of-the-art research facilities in the broad field of water resources management.

Programs in water resources management offer a selection of specialised coursework electives and study options enabling students to create a program of study that meets their individual needs.

Programs are designed to provide students with an opportunity to increase their breadth and depth of knowledge and application of skills in the area of water resources management.

The core courses in this program are delivered in conjunction with ICEWaRM, an Australian Government initiative.

Intending students should consult the program

coordinator early in the year in which they plan to study to check whether particular courses or projects will be available in that year and/or that semester.

Program structure:

The Masters is a 36-unit program comprising of 12 units of core courses and 24 units of electives.

The **Graduate Diploma** is a 24-unit program comprising of 12 units of core courses and 12 units of electives.

The **Graduate Certificate** is a 12 unit program comprising of six units of core courses and six units of electives.

Assessment: Coursework, project work, exams

Applications: Contact the Faculty of Engineering, Computer and Mathematical Sciences office for application procedure: ecms_pgcw@adelaide.edu.au



MATHEMATICAL SCIENCES

Postgraduate study in this discipline allows students to expand their mathematical background and application in the areas of applied mathematics, pure mathematics and statistics. You can specialise in one area or choose a broader selection of courses, customising the

program to your career requirements and interests. Further information about programs offered by the School of Mathematical Sciences can be found at: www.adelaide.edu.au/programfinder/2011/pgcw/math

MATHEMATICAL SCIENCE

SATAC code:

Masters: 3CM074
Grad Dip: 3GD026

Areas of specialisation: Applied Mathematics, Pure Mathematics, Statistics

Duration (years full-time): 1 (per degree)

Campus: North Terrace

Intake: Feb and Jul

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$20,000

Prerequisites/entry criteria:

Masters: Completed Honours degree of Bachelor of Mathematical and Computer Sciences or completed Honours degree of Bachelor of Engineering or completed Honours degree of Bachelor of Science in Mathematical Physics;
Grad Dip: completed Bachelors degree or equivalent and university Level 2 Mathematics

Program overview: Programs in Mathematical Sciences allow candidates to expand their mathematical background and communication

skills in a variety of mathematical disciplines, at a postgraduate level.

Mathematical sciences courses are in the areas of applied mathematics, pure mathematics or statistics. Applied mathematics courses cover topics that aim to achieve a balance between mathematical theories and practical applications of mathematics in the world around us. Pure mathematics courses are fundamental to applied mathematics, statistics, computer science, mathematical physics and many other areas of application and they also offer valuable training in rigour and logical thinking. Statistics courses provide the training to enable graduates to solve real-world problems by appropriately collecting, analysing and modelling data.

Candidates have the chance to specialise in one discipline, or choose a broader selection of courses, possibly including some from other institutions, thereby customising the program to the candidate's interests.

Intending students should consult the School of Mathematical Sciences early in the year in which

they plan to study to confirm if particular courses are available.

Program structure: The 24-unit Masters program includes a 9-unit research project and coursework to the value of 15 units. As a part of the Masters program candidates must also present a seminar on their research.

The **Graduate Diploma** is a 24-unit program with at least 12 units of courses selected from Applied Mathematics, Pure Mathematics and/or Statistics plus a project option.

Assessment: Coursework, research project and seminar (Masters)

Likely careers: Careers can be sought in areas such as Bioinformatics, Financial Systems, Computer Analysis, Statistics, Consultancy and Project Management.

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb



“The Masters degree complemented my background in medical science and opened up a new career direction. I use the practical skills I learned during my degree to commercialise new technologies and IP developed by researchers I previously worked with.

Bernadette Swart

IP and Commercialisation
Manager, SA Health
Master of Science and
Technology Commercialisation

ENTREPRENEURSHIP, COMMERCIALISATION & INNOVATION CENTRE

Taught by industry practitioners, these programs provide advanced practical tools and techniques applicable to industry. The centre aims to build on technical skills and experience, empowering individuals to exercise leadership in project management, innovation and entrepreneurship or science and technology commercialisation. A postgraduate qualification from the centre will help you identify immediate opportunities relevant to your role.

Further information about programs offered by the Centre can be found on the following websites.

www.adelaide.edu.au/programfinder/pgcw/innovate

www.adelaide.edu.au/programfinder/pgcw/commercial

www.adelaide.edu.au/programfinder/pgcw/projmgmt

APPLIED PROJECT MANAGEMENT

SATAC codes (internal studies only):

Masters: 3CM123; Grad Dip: 3GD075;

Grad Cert: 3GC059

Duration (years full-time):

Masters: 1.5; Grad Dip: 1; Grad Cert: 0.5

Campus: North Terrace; Ngee Ann-Adelaide Education Centre; or online

Intake:

Internal (on-campus): Feb and Jul

Online: Jan, Apr, Jul and Oct

Study mode: internal, full-/part-time or online

Indicative full-time fee (p/a):

Internal (on-campus): \$20,000

Online: \$27,000

Prerequisites/entry criteria:

Masters/Grad Dip: Completed Bachelors degree or equivalent

Grad Cert: Completed Bachelors degree or equivalent, or seven years work experience supported by a portfolio of evidence approved by the Faculty

Program overview: These programs are ideal for technology-based professionals such as engineers who have or want project management roles and responsibilities at best practice levels.

Many people today recognise their organisation's complex infrastructure and technology-based projects have social, environmental and economic impacts—they affect the triple bottom line. They also realise that they need the skills to manage multiple projects to achieve organisational goals; they need to understand the context of projects and follow a clear project model.

If you and your organisation have to achieve ambitious business objectives that require complex and technology-based initiatives, the ECIC Project Management suite of programs will help achieve them.

Program structure:

The Master of Applied Project Management is a 36-unit program comprising 24 units of core courses and 12 units of electives.

The Graduate Diploma in Applied Project Management is a 24-unit program comprising

21 units of core courses and 3 units of electives.

It is possible to articulate through all project management programs with full recognition.

The Graduate Certificate in Applied Project Management is a 12-unit program comprising 12 units of core courses. It is possible to articulate through all project management programs with full recognition.

Assessment: Coursework, project work and assignments

Likely careers: These programs provide the knowledge for graduates to develop their own companies based on their background in science and technology. Additionally, successful completion of the programs allows graduates to progress in their career and seek higher management positions.

Applications: If studying internally (i.e. on campus) apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb
To apply for the online program, please visit: mapm.adelaide.edu.au

INNOVATION AND ENTREPRENEURSHIP

SATAC codes (internal studies only): Master of Applied (Advanced): 3CM104; Master of Applied: 3CM103; Grad Dip: 3GD019; Grad Cert: 3GC048

Duration (years full-time): Master of Applied (Adv): 2; Master of Applied: 1.5; Grad Dip: 1; Grad Cert: 0.5

Campus: North Terrace; online

Intake: Internal (on-campus): Feb and Jul—Grad Cert students who apply for mid-year entry will need to complete the program over one year part-time; Online: Jan, Apr, Jul and Oct

Study mode: internal full-/part-time or online

Indicative full-time fee (p/a):

Internal: \$20,000; Online: \$27,000

Prerequisites/entry criteria: Masters Applied (Adv)/Masters Applied/Grad Dip: Completed Bachelors degree or equiv; Grad Cert: Completed Bachelors degree or equiv, or 7 years relevant work experience

Program overview: Programs in innovation and entrepreneurship are designed to develop and inspire creative individuals with an interest in starting or developing innovative ventures that have the potential to make significant impact on markets, economies and communities. Programs offer students the

knowledge and skills to assess and implement new ideas, create and manage ambitious new ventures, develop entrepreneurial management practices and create supportive environments that foster and enable innovation. Graduates are prepared for the challenges they face in positively influencing and altering the market dynamics of the world we live in. Coursework is delivered in intensive blocks with standard coursework, project work and assignment-based assessment that can be directly applied to workplace projects.

Program structure: The Master of Applied (Advanced) is a 48-unit program consisting of 39 units of coursework of which 24 units are core courses and at least 15 units are electives plus a project course. The Master of Applied is a 36-unit program consisting of 27 units of coursework of which 18 units are core courses, at least 9 units are electives and the remainder is a project course. The Graduate Diploma is a 24-unit program of which at least 18 units are core courses and plus electives to the value of 6 units. The Graduate Certificate is a 12-unit program including 6 units of core courses and 6 units of electives.

Likely careers: There are many success stories of entrepreneurial graduates that have been equipped with the tools to successfully start and bring to maturity

their own new ventures, while corporate innovators have grown new revenue streams for their employers. Others have progressed to work in the innovation and entrepreneurship service sector providing consultancy, advisory, financial or other support services to new and innovative small to medium enterprises. Graduates are often engaged in, or aspire to be engaged in:

- The start-up and growth of new ventures
- Corporate innovation and entrepreneurship
- Venture capital, banking or informal investment industries
- Government or other policy or regional development agencies or authorities
- Support services to new ventures and the Small to Medium Enterprise sector.

Applications: If studying internally (i.e. on campus) apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb. To apply for the online program, please visit: maie.adelaide.edu.au

Please note: The Master of Applied Innovation and Entrepreneurship (Advanced) may not be available, or may be replaced by an alternative program, in 2012. Contact Faculty for latest information on this program.

SCIENCE AND TECHNOLOGY COMMERCIALISATION

SATAC codes: Master of Applied (Advanced): 3CM113; Master of Applied: 3CM096; Grad Dip: 3GD051; Grad Cert: 3GC044

Duration (years full-time): Master of Applied (Adv): 2; Master of Applied: 1.5; Grad Dip: 1; Grad Cert: 0.5

Campus: North Terrace

Intake: Feb and Jul

Study mode: internal, full-/part-time

Indicative full-time fee (p/a): \$20,000

Prerequisites/entry criteria: Masters(Adv)/Masters/Grad Dip: Completed Bachelors degree or equiv. and at least five yrs approved professional work experience; Grad Cert: completed Bachelors degree or equiv.

Program overview: The ability to commercialise new technology rapidly is essential for competitive advantage in dynamically changing markets. The suite of Science and Technology Commercialisation

programs are designed for working professionals from any disciplinary background who want to become change catalysts for the improvement of commercialisation processes. Graduates are equipped to make informed technology management and planning decisions, whether starting or operating high-technology ventures or developing spin-off companies. Science and Technology Commercialisation programs are ideally suited to those interested in understanding the process of bringing new knowledge to fruition, in the marketplace, or through social avenues. All disciplines, all functional roles, all ages have been represented in these programs and contribute to vibrant discussion.

Program structure: The Master (Advanced) program consists of 36 units of coursework of which at least 18 units are core courses plus a 12-unit project. The Masters program consists of courses to the value of 36 units including 24 units of coursework

with at least 18 units of core courses plus a 12-unit project. The Graduate Diploma consists of courses to the value of 24 units including at least 18 units of core courses. The Graduate Certificate consists of courses to the value of 12 units including 9 units of core courses and 3 units of electives.

Likely careers: This program provides the knowledge for graduates to develop their own companies based on their background in science and technology and enables graduates to move from technical fields into management positions.

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

Please note: The Master of Science and Technology Commercialisation (Advanced) may not be available, or may be replaced by alternative program, in 2012. Contact Faculty for latest info on this program.

SOCIAL ENTREPRENEURSHIP AND INNOVATION

SATAC code: 3GC045

Program level: Graduate Certificate

Duration (years full-time): 0.5

Campus: North Terrace

Intake: Feb and Jul

Study mode: internal, part-time only

Indicative full-time fee (p/a): \$20,000

Prerequisites/entry criteria: Completed Bachelors degree or equivalent

Program overview: Today's market place for the social venture is overcrowded with competing causes and worthwhile social initiatives seeking sponsorship, grants and the community dollar. Funding good ideas in the social sector and admirable causes is becoming more and more difficult. Innovation and entrepreneurship is now emerging as an imperative for the social sector to

seek new ways of sustaining and growing dynamic social and not-for-profit enterprises that support and deliver positive social change to our communities. The Graduate Certificate in Social Entrepreneurship and Innovation is designed for those working in and starting new ventures in the community sectors. It is aimed at those who want to know more about how innovation and entrepreneurship can help the health, wealth and well-being of their not-for-profit organisations and communities. Key-decision makers who should consider this program include:

- budding social entrepreneurs who are actively planning to set up social enterprises
- those working in not-for-profit organisations who want to engage with innovation and entrepreneurship to achieve improved social outcomes
- those working in government or local authorities with the responsibility to enhance and support the social sector

- social workers, environmental activists, non-profit sector managers, regional economic development officers, arts administrators, indigenous administrators, philanthropists, and/or natural resource managers.

Coursework is delivered in intensive blocks and assignment-based assessment that can be directly applied to workplace projects.

Program structure: The Graduate Certificate is a 12-unit program including 6 units of core courses and 6 units of electives.

Likely careers: Graduates may be interested in starting up their own social ventures, providing high level advice and expertise to government and/or non-government organisations either as employees or advisors.

Applications: Apply online via SATAC's GradStart website from 8 August 2011; closing dates vary and are indicated on the SATAC website: www.satac.edu.au/uniweb

DISCLAIMER

With the aim of continual improvement, the University of Adelaide is committed to regular reviews of the courses and programs it offers to students. As a result of this, the specific courses available to students may vary from year to year. Updated information on the programs of study for specific awards and courses available can be found online at: www.adelaide.edu.au/programs

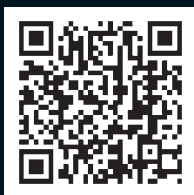
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www.adelaide.edu.au/programs/pgcw.html

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