

2010 THE UNIVERSITY OF ADELAIDE

POSTGRADUATE  
COURSEWORK PROGRAMS



THE UNIVERSITY  
OF ADELAIDE  
AUSTRALIA

# ENGINEERING, COMPUTER & MATHEMATICAL SCIENCES

Including programs in Innovation and Entrepreneurship, Commercialisation and Project Management



# ENGINEERING, COMPUTER &

**Web:** [www.adelaide.edu.au/programs](http://www.adelaide.edu.au/programs) **Phone:** (08) 8303 4148 **Fax:** (08) 8303 6492 **Email:** [ecms\\_office@adelaide.edu.au](mailto:ecms_office@adelaide.edu.au)

The University of Adelaide offers a range of postgraduate coursework programs for professionals wishing to gain an increased depth of understanding within the fields of engineering, computer science and mathematical science. Other engineering and technology-related programs focus on the development of specialist knowledge in project management, entrepreneurship and commercialisation. Students may choose programs at graduate certificate, graduate diploma, masters or advanced masters degree levels.

## COMPUTER SCIENCE

Computer Science provides an understanding of how software and hardware can be combined to overcome a remarkable range of challenges. The highly qualified and experienced staff in the School of Computer Science teach at all levels and supervise a large number of Master and PhD students. Key players from various IT companies participate in teaching and inform the content of our courses. Extensive computer facilities, as well as learning and consulting centres are available for students. Many of the School's former higher degree students now hold prestigious positions in the academic, commercial and government sectors. Computer Science is particularly proud to host students from all over the world, lending a rich cultural mix to the School. More information about the School can be found at [www.cs.adelaide.edu.au](http://www.cs.adelaide.edu.au)

## COMPUTER SCIENCE

**SATAC Code:** Masters: 3CM039

Graduate Diploma: 3GD021

Graduate Certificate: 3GC017

**Program Level:** Masters/Graduate Diploma/  
Graduate Certificate

**Duration:** Masters: 2 years

Graduate Diploma: 1 year

Graduate Certificate: 0.5 year

**Campus:** North Terrace **Intake:** February and July

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** CSP\*

**School:** Computer Science

### **Prerequisites/Entry Criteria:**

**Masters:** one of Grad Dip Comp Sc, B E (Comp Sys), B E (Soft Eng), B E (Tele), Bachelor degree with major in Computer Science, or equivalent

**Graduate Diploma/Graduate Certificate:**  
Bachelor degree

**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.

Graduates can seek employment within the information technology industry, including careers in scientific, entertainment, networking, software

engineering and defence sectors, or proceed to a PhD program.

The Graduate Diploma and Graduate Certificate in Computer Science are designed for students with little experience in Computer Science and provide a fundamental understanding of how software and hardware can be combined to overcome a range of complex challenges.

**Program Structure:** The Graduate Certificate is a 12-unit program.

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 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.

Masters students are required to undertake an individual research project and write a report on their research. The research project, normally completed over two consecutive semesters, will be 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.

Students without a practical knowledge of JAVA programming and a basic knowledge of computer organisation will be required to undertake a bridging course.

Intending students should consult the Faculty office early in the year in which they plan to study to check when particular courses will be available.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/computer](http://www.adelaide.edu.au/programfinder/pgcw/computer)

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

**Professional Accreditation:** Accredited at the Professional level by the Australian Computer Society.

**Likely Careers:** Opportunities for graduates of this program can be found in academia, commercial and government sectors.

Graduates may seek employment within the software development industry, including careers in scientific, entertainment, networking, software engineering and defence industries.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

\* For information on Commonwealth Supported Places (CSP) fees, see [www.adelaide.edu.au/programs/](http://www.adelaide.edu.au/programs/)

# MATHEMATICAL SCIENCES

## COMPUTING AND INNOVATION

**SATAC Code:** 3CM111

**Program Level:** Masters only

**Duration:** 2 years

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal, full-time/part-time/online

**Indicative Annual Full-time Fee:** CSP\*

**School:** Computer Science

**Prerequisites/Entry Criteria:** Bachelor degree

**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.

Although designed primarily as a conversion program, students with existing qualifications 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 courses requirement (i.e. the bridging program) varied to accommodate their existing knowledge.

**Program Structure:** The Masters is a 48-unit program. Students 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.

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.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/computer](http://www.adelaide.edu.au/programfinder/pgcw/computer)

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

**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 [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

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## SOFTWARE ENGINEERING

**SATAC Code:** 3CM099

**Program Level:** Masters only

**Duration:** 2 years

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** \$16500 per annum

**School:** Computer Science

**Prerequisites/Entry Criteria:** One of Grad Dip Comp Sc, B E (Comp Sys), B E (Soft Eng), B E (Tele), Bachelor degree with major 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 are well placed to secure rewarding technical careers within the software engineering industry. Graduates may also proceed to a PhD program.

**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.

Students without a practical knowledge of JAVA programming and a basic knowledge of computer organisation will be required to undertake a bridging course.

Students may convert to a Master of Software Engineering from a Master of Computing 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.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/computer](http://www.adelaide.edu.au/programfinder/pgcw/computer)

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

**Likely Careers:** Advanced technical careers in the information technology industry including the financial, business, scientific, entertainment, networking and defence sectors. Students with good results, interested in pursuing further research through a PhD are required to speak to the Masters Coordinator for advice on project choice.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

## ENGINEERING

Engineering comprises the Schools of Chemical Engineering, Civil, Environmental and Mining Engineering, Electrical and Electronic Engineering, Mechanical Engineering and the Australian School of Petroleum. In addition, the School of Mathematical Sciences and the School of Computer Science contribute to academic programs offered by Engineering.

Engineering staff have strong links with industry and a significant number of academic staff are world leaders in their disciplines. They conduct research and provide consulting expertise to domestic industry and government bodies as well as overseas institutions. Engineering at the University of Adelaide has an excellent reputation for innovative research across a wide range of fields.

Examples include the design of the fuel burner system of the torch and cauldron for the Sydney Olympics in conjunction with industry partners and developing a hybrid electric vehicle that uses energy from both solar cells and batteries. Involvement in research and consulting brings authority to the postgraduate teaching programs and links with industry and business have been influential in their development. All Schools have access to state-of-the-art software for design and analysis purposes and the computing and laboratory facilities are first-class. More information can be found at [www.ecms.adelaide.edu.au](http://www.ecms.adelaide.edu.au)

### ENGINEERING

#### SATAC Code: Master of Engineering:

Aerospace .....	3CM065
Chemical .....	3CM058
Civil & Environmental .....	3CM059
Civil & Structural .....	3CM060
Electrical & Electronic .....	3CM061
Engineering Mathematics .....	3CM062#
Mechanical .....	3CM063
Mechatronics .....	3CM064

**Program Level:** Masters only

**Specialisations:** Aerospace, Chemical, Civil & Environmental, Civil & Structural, Electrical & Electronic, Engineering Mathematics#, Mechanical, Mechatronic

**Duration:** 1 year

**Campus:** North Terrace

**Intake:** February and July

**Mode of study:** Internal, full-time/part-time

**Indicative Full-time Fee:** CSP\*

**School:** Depends on specialisation chosen

**Prerequisites/Entry Criteria:** B E (Honours) or equivalent in a related discipline

**Program Overview:** This program offers candidates the chance to specialise in cutting-edge technologies aligned to their career pathways. It is suitable for engineering graduates with Honours who wish to pursue further studies, as well as engineers with relevant work experience. Successful candidates may articulate to the Master of Engineering (Advanced).

**Program Structure:** This 24-unit program includes 9 units of core courses comprising statistics, system modelling, and management and is designed to provide generic skills applicable across all fields of engineering. The remaining 15 units are discipline specific courses providing additional technical material at a level beyond that

of a first engineering degree. Intending students should contact the Faculty office early in the year in which they plan to study to check when particular courses or projects will be available.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Likely Careers:** Technical engineering fields in chosen specialisation.

**Assessment:** Course and project work.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

\* For information on Commonwealth Supported Places (CSP) fees, see [www.adelaide.edu.au/programs/](http://www.adelaide.edu.au/programs/)

# Engineering Mathematics is under review and may not be offered in 2010. Check with Faculty for availability.



## ENGINEERING (ADVANCED)

### SATAC Code: Master of Engineering (Advanced):

Aerospace.....	3CM057
Chemical Engineering - Energy & Combustion.....	3CM047
Chem. Eng. - Environment and Sustainability.....	3CM048
Chemical Engineering - Food & Bio Processing.....	3CM049
Civil & Environmental.....	3CM050
Civil & Structural.....	3CM051
Electrical.....	3CM052
Mechanical.....	3CM053
Mechatronics.....	3CM054
Sensor Systems Signal Processing.....	3CM055
Telecommunications.....	3CM056

**Program Level:** Masters Advanced only

**Specialisations:** Aerospace; Chemical - Energy & Combustion, Environmental & Sustainability, Food & BioProcessing; Civil & Environmental; Civil & Structural; Electrical; Mechanical, Mechatronic, Sensor Systems & Signal Processing; Telecommunications

**Duration:** 2 years

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** CSP\*

**School:** Depends on specialisation chosen

**Prerequisites/Entry Criteria:** B E (Honours) or equivalent in a related discipline

**Program Overview:** Well suited to graduates wanting more than the one year masters engineering program, this program gives the option of studying technical courses at an advanced level and the opportunity to engage in a research project.

**Program Structure:** A 48-unit program. Students will complete the requirements for the Masters of

Engineering, with additional study comprising 12 units of more advanced technical coursework.

A project to the value of 12 units introduces candidates to research. Intending students should consult the program coordinator early in the year in which they plan to study to check when particular courses or projects will be available.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Assessment:** Course and project work.

**Likely Careers:** Technical engineering fields in chosen specialisation.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

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## GEOSTATISTICS

**SATAC Code:** 3CM066

**Program Level:** Masters only

**Duration:** 1.5 years

**Campus:** North Terrace

**Intake:** February

**Mode of study:** Full-time/part-time, delivered in intensive blocks

**Indicative Full-time Fee:** CSP\*

**School:** Civil, Environmental & Mining Engineering

**Prerequisites/Entry Criteria:** Honours degree in discipline related to proposed field of study, or equivalent.

**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.

**Program Structure:** This is a 36-unit program comprising 24 units of core coursework and 12 units of project work. 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. The project and dissertation is undertaken in one of the following specialisations: Mineral Resource Evaluation, Hydrocarbon Resources and Reservoir Modelling, Environmental Engineering and Ground-water Modelling or Geotechnical Engineering.

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. Study mode can be traditional or short-course mode.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Assessment:** Coursework assignments and formal written exams, project and dissertation.

**Likely Careers:** Analyst and management positions in the mining, petroleum and environmental industries.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

\* For information on Commonwealth Supported Places (CSP) fees, see [www.adelaide.edu.au/programs/](http://www.adelaide.edu.au/programs/)

## MARINE ENGINEERING

**Program Level:** Masters/Graduate Diploma/Graduate Certificate

**Specialisations:** Hull, Electrical, Mechanical, Signature, or Systems streams

**Duration:** Masters: 1.5 years

**Graduate Diploma:** 1 year

**Graduate Certificate:** 0.5 year

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** CSP\*

**School:** Mechanical Engineering

**Prerequisites/Entry Criteria:**

**Masters:** Relevant 4 year degree with Honours, relevant 4 year degree plus 2 years professional work experience or Graduate Diploma in Marine Engineering

**Graduate Diploma:** Relevant 4 year degree plus 1 year professional work experience or Grad Cert Marine Engineering

**Graduate Certificate:** Relevant 3 year degree plus 2 years 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.

**Program Structure:** 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.

The Graduate Certificate is a 12-unit program with students undertaking 9 units of core courses and one course selected from a specialisation stream.

The Graduate Diploma is a 24-unit program including 9 units of core courses and electives chosen from the specialised streams.

The Masters program is a 36-unit program. Students will complete 9 units of core courses, with the remainder chosen from the specialised elective streams including

Hull, Electrical, Mechanical, Signature and Systems. 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.

Intending students should consult the program coordinator prior to commencement to check whether particular courses or projects will be available. Not all courses are available in semester 2 so the program must be undertaken part-time for mid-year entry candidates.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Assessment:** Coursework, project work and exams.

**Likely Careers:** Advanced technical and management roles in the field of marine engineering.

**Applications:** Applications via Faculty

\* For information on Commonwealth Supported Places (CSP) fees, see [www.adelaide.edu.au/programs/](http://www.adelaide.edu.au/programs/)

## PETROLEUM BUSINESS MANAGEMENT

**SATAC Code:** 3CM080

**Program Level:** Masters only

**Duration:** 1 year

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** \$26500 per annum

**School:** Australian School of Petroleum

**Prerequisites/Entry Criteria:** Honours degree or equivalent in a relevant discipline; Faculty may accept suitable professional work experience in lieu; resumé.

**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 be either 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 as it may not be optimal due to sequence in which individual courses are taught. This is particularly true for candidates who do not come with a good understanding (either by prior degree or experience) of the main elements of hydrocarbon exploration and production business.

As this program may be revised it is recommended that candidates contact the School for details before applying.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Assessment:** Coursework, exams, 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 [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

## PETROLEUM ENGINEERING

**SATAC Code:** 3CM081

**Program Level:** Masters only

**Duration:** 1 year

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** \$26500 per annum

**School:** Australian School of Petroleum

**Prerequisites/Entry Criteria:** Bachelor of Engineering with Honours or equivalent

**Program Overview:** A 'conversion' degree aimed at individuals having a non-Petroleum (e.g. Chemical or Mechanical engineering) 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 1 year upstream petroleum industry experience may also be eligible for, and benefit from, this program.

While the petroleum industry is much focussed 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 those involving comprehensive case histories.

This program is designed to fill the above gaps by providing an integrated and focussed learning environment for technical professionals so that they can obtain 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 16 units must be taken from the list of core courses. The remaining 8 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.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Assessment:** Coursework, exams, research project

**Likely Careers:** Enables graduates to move into highly specialised technical fields in petroleum and related industries.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

## PETROLEUM GEOLOGY AND GEOPHYSICS

**SATAC Code:** 3GC037

**Program Level:** Graduate Certificate

**Duration:** 0.5 years **Campus:** North Terrace

**Intake:** February

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** \$27500 per annum

**School:** Australian School of Petroleum

**Prerequisites/Entry Criteria:** Degree or equivalent in a relevant discipline.

**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:** The Graduate Certificate requires 12 units of coursework (6 units of core courses). Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Likely Careers:** Graduates of these programs will have career opportunities as geoscientists in the international petroleum industry.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

## SCIENCE (PETROLEUM GEOSCIENCE)

**SATAC Code:** 3CM094

**Program Level:** Masters only

**Duration:** 1 year

**Campus:** North Terrace

**Intake:** February

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** \$26500 per annum

**School:** Australian School of Petroleum

**Prerequisites/Entry Criteria:** Honours degree or equiv. in a relevant discipline or degree in an approved

field of study 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.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Likely Careers:** Graduates of these programs will have career opportunities as geoscientists in the international petroleum industry.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

## WATER RESOURCES MANAGEMENT

**Program Level:** Masters/Graduate Diploma/  
Graduate Certificate

**Duration:** Masters: 1.5 yrs  
Graduate Diploma: 1 yr  
Graduate Certificate: 0.5 yr

**Campus:** North Terrace and other partner institutions

**Intake:** February and July

**Mode of Study:** Internal, full/part time

**Indicative Full-time Fee:** \$19000 per annum

**School:** Civil, Environmental & Mining Engineering

**Prerequisites/Entry Criteria:** Masters and Graduate Diploma: 4 year degree in a discipline related to the proposed field of study or 3 year degree plus relevant professional work experience deemed appropriate by the Program Director.

Graduate Certificate: 3 year degree in a discipline related to the proposed field of study or 3 year degree plus relevant professional work experience

deemed appropriate by the Program Director.

**Note:** 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.

**Program Structure:** The Masters is a 36-unit program comprising of 12 units of core courses, 24 units of electives. The 24-unit Graduate Diploma includes 12 units of core courses and 12 units of electives. The Graduate Certificate is a 12-unit program of which students must complete 6 units of core courses and 6 units of electives.

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. Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/eng/](http://www.adelaide.edu.au/programfinder/pgcw/eng/)

**Assessment:** Coursework, project work, exams.

**Likely Careers:** Advanced technical and management roles in the many industries that interrelate with water resources management.

**Applications:** Applications via Faculty



## MATHEMATICAL SCIENCES

Staff in the School of Mathematical Sciences facilitate teaching and research in the disciplines of mathematics and statistics and are Australian leaders in postgraduate research training in these areas. The School is highly respected internationally as a centre for research in bioinformatics, differential and finite geometry, fluid dynamics, mathematical modelling, medical statistics, selected areas of telecommunications and areas of formal modelling and verification. Many other areas of the mathematical sciences are actively researched within the School and the exceptional quality of the staff has been recognised by awards and medals from the Australian Academy of Science and the Australian Mathematical Society. Research groups in the School are supported by a variety of sources including external competitive grants from major funding bodies and commercial and industrial consultancies. Facilities of special note affiliated with the School include the: Fluid Mechanics Group; Institute for Geometry and its Applications; TRC Mathematical Modelling. More information about the School can be found at [www.maths.adelaide.edu.au](http://www.maths.adelaide.edu.au)

### MATHEMATICAL SCIENCES

**Please note:** The Graduate Diploma in Mathematical Sciences is currently under review.

**SATAC Code:** Masters: 3CM074  
Graduate Diploma: 3GD026

**Program Level:** Masters/Graduate Diploma

**Duration:** Masters: 1 year  
Graduate Diploma: 1 year

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal, full/part time

**Indicative Full-time Fee:** CSP\*

**School:** Mathematical Sciences

**Prerequisites/Entry Criteria:**

**Masters:** Bachelor of Mathematical & Computer Science or Bachelor of Science in Mathematical Physics or Bachelor of Engineering at Honours level or equivalent;

**Graduate Diploma:** degree of the University

or equivalent or Faculty approval; university Level II Mathematics.

**Program Overview:** The Masters program allows candidates to expand their mathematical background and communication skills in a variety of mathematical disciplines, at a postgraduate level. As a part of the program candidates must also present a seminar on their research.

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 degree to the candidate's interests.

**Program Structure:** The Graduate Diploma is a 24-unit program with 18 units selected from Applied Mathematics, Pure Mathematics and/or Statistics plus a project option. 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.

Candidates undertaking the Masters program must complete a research project, which is worth

one quarter (6 units) of their program in addition to their coursework (18 units). As a part of the program candidates must also present a seminar on their research.

**Assessment:** Coursework, research project, seminar (Masters)

**Likely Careers:** Graduates have the flexibility and portability to work across a wide variety of industries in highly analytical and consulting positions. Mathematicians also make great managers and CEOs due to their excellent problem solving skills.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/maths/](http://www.adelaide.edu.au/programfinder/pgcw/maths/)

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

\* For information on Commonwealth Supported Places (CSP) fees, see [www.adelaide.edu.au/programs/](http://www.adelaide.edu.au/programs/)

### MATHEMATICAL SCIENCES (SIGNAL & INFORMATION PROCESSING)

**Please note:** These programs are under review and may not be available from 2010.

**SATAC Code:** Masters: 3CM075  
Graduate Certificate: 3GC028

**Program Level:** Masters/Graduate Certificate

**Duration:** Masters: 1.5 years  
Graduate Certificate: 0.5 year

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal, full/part time

**Indicative Full-time Fee:** CSP\*

**School:** Mathematical Sciences

**Prerequisites/Entry Criteria:** Bachelor of Science (Honours) in Maths or Physics or Bachelor of Engineering (Electrical & Electronic) (Honours) or equivalent.

**Program Overview:** These programs are designed to give students important skills in key areas of signal processing such as mobile communications,

signal analysis, multisensor data fusion, linear systems, adaptive signal processing and image analysis.

Both programs focus on telecommunications and signal processing, are very challenging and assume a strong background in maths and/or engineering and/or physical sciences.

Some courses such as Detection, Estimation and Classification, and Signal Synthesis and Analysis are highly mathematical in theory, whereas courses such as Satellite Communications and Mobile Communications have a more practical emphasis. Courses such as Adaptive Signal Processing and Beamforming and Array Processing have a strong engineering emphasis.

**Program Structure:** The Masters program is comprised of 36 units including 6 units of project work (up to 12 additional units of enabling courses may be required depending on the exact nature of the applicant's qualifications—this may extend study by one semester).

Students with recognised Honours in maths, physics or electronic engineering are eligible for up

to 12 units credit towards this program. Graduate Certificate students are required to complete 12 units of coursework.

Components of these programs are available online.

**Assessment:** Course and project work.

**Likely Careers:** Graduates will have enhanced employment prospects as research scientists and/or engineers in defence, telecommunications, medical image analysis and computer systems industries. Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/maths/](http://www.adelaide.edu.au/programfinder/pgcw/maths/)

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au) Application closing dates vary; please refer to the SATAC website for details.

\* For information on Commonwealth Supported Places (CSP) fees, see [www.adelaide.edu.au/programs/](http://www.adelaide.edu.au/programs/)

**Director:** Professor Noel Lindsay **Academic Coordinators:** Commercialisation: Antonio Dottore; Entrepreneurship: Dr Allan O'Connor;

**Project Management and Industry Programs:** Professor Vernon Ireland; **PhD:** Dr Andrew Finegan; **Undergraduate:** Gary Hancock

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The mission of the Entrepreneurship, Commercialisation and Innovation Centre (ECIC) is to fuel innovation capability in individuals and organisations through its entrepreneurship, commercialisation, and project management research, education, and community engagement activities. Its educational programs are suited to recent graduates and experienced professionals from all discipline backgrounds.

Key features of ECIC programs include:

- flexible study options, online, external, short courses
- a global learning environment
- access to a high-calibre learning environment with professionals in the field and strong links with business and industry
- hands-on experience in new venture creation and development for students who want to develop their business opportunities in the ECIC's ThInc Lab Business Incubator

## Scholarships

ECIC offers a number of scholarship packages for students through a series of business and industry programs.

### Graduate Entrepreneurial Program

[www.ecic.adelaide.edu.au/gep/](http://www.ecic.adelaide.edu.au/gep/)

The program provides successful applicants with a broad range of support and training in a business incubator environment.

### Business Initiatives Graduates (BIG)

*(up to six places)*

Graduates with an innovative idea for a business venture enrol in an ECIC Entrepreneurship or Science and Technology Commercialisation grad-

uate certificate program and receive a package of support valued at up to \$10,000 tax free. Applications for the BIG programs close in September each year.

### Graduate Business Support Scheme (GBSS)

*(up to two part-time places per annum)*

For University of Adelaide PhD or Masters candidates currently engaged in the final stages of candidature with an idea for a business venture arising from their research. Applicants must have the full support of their academic supervisors. Support package valued at up to \$5000 tax free. Applications for the GBSS program are accepted throughout the year. For detailed information: [www.ecic.adelaide.edu.au/gep/](http://www.ecic.adelaide.edu.au/gep/) or contact Megan Llewellyn: (08) 8303 4159.

### Graduate Industry Linked Entrepreneurial Scheme (GILES)

GILES is a program whereby a graduate is placed with a company or organisation, under a collaborative agreement, to carry out a project, over a 12-month period, whilst continuing to study for an acceptable Masters degree. During the project term the graduate spends approximately 80 percent of their time working on the project and 20 percent attending studies. An industry and academic supervisor is appointed to support each project.

Benefits to participating students include:

- payment of a full 12-month university tax-free scholarship
- \$9000 contribution by the sponsoring organisation towards the Masters degree fees
- development of a link with an organisation that may lead to full-time employment
- enhancement of skills through the undertaking of relevant work like project.

For further information contact Tania Johnson, Enterprise Education Programs on (08) 8303 4468.

### Commercialisation Training Scheme (CTS)

*(up to four places per annum, mid year)*

Available to full-time higher degree by research students from the University of Adelaide who are currently enrolled in a higher degree by research and have completed the Core Component of the Structured Program (CCSP).

Applicants must be domestic students, as defined in the Higher Education Sector Act, and have at least 12 months of research candidature tenure remaining. Applicants must not have previously completed any commercialisation training equivalent to the course offering. Applicants must complete the Graduate Certificate within 24 months of commencement and within six months of completion of research candidature (whichever is sooner).

The scholarship includes tuition fees up to the value of \$8500 for four courses in the Graduate Certificate in Science and Technology Commercialisation course (this will cover the entire cost of the program), plus scholarship payments to the student of \$12,000 in total. This will be paid in instalments of \$3000 on completion of each course within the program.

CTS Scholarship application forms are available from the Adelaide Graduate Centre website at [www.adelaide.edu.au/graduatecentre/](http://www.adelaide.edu.au/graduatecentre/)

A separate application for the Graduate Certificate in Science and Technology Commercialisation must be made via SATAC's GradStart website—see program for details.

Applicants must be accepted into the program in order to be eligible for the scholarship.



## INNOVATION & ENTREPRENEURSHIP

### SATAC Code:

Masters Applied (Advanced): 3CM104  
 Masters Applied: 3CM103  
 Graduate Diploma: 3GD019  
 Graduate Certificate: 3GC048

**Program Level:** Masters Applied (Advanced)/Masters Applied/Graduate Diploma/Graduate Certificate

### Duration:

Masters Applied (Advanced): 2 years  
 Masters Applied: 1.5 years  
 Graduate Diploma: 1 year  
 Graduate Certificate: 0.5 year

**Campus:** North Tce and selected courses in Sydney

**Intake:** February and July

**Mode of Study:** Internal and external, delivered in intensive sessions, full-time/part-time

**Indicative Full-time Fee:** \$19000 per annum

### Prerequisites/Entry Criteria:

Masters and Graduate Diploma: Bachelor degree or equivalent plus five years approved professional work experience  
 Graduate Certificate: Bachelor degree or equivalent

**Program Overview:** Programs in innovation and entrepreneurship are designed to provide students with the necessary skills, knowledge and, to some extent, experience to confidently engage in innovation and entrepreneurship in either leadership or support roles.

It is expected that prospective students who wish to undertake this course will have good oral presentation skills, an ability to confidently contribute to class discussion and be able to articulate and develop a line of argument.

Programs include a mix of knowledge intensive and experiential courses delivered in a blended learning mode generally comprising two plus two-day intensive sessions with an intervening period of personal study facilitated by online support materials.

**Program Structure:** The 48-unit Master of Applied (Advanced) program consists of 39 units of coursework of which 24 units are core courses and at least 15 units are electives, plus a project course. The 36 unit Master of Applied program consists 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 including 18 units of core courses and 6 units of electives.

The Graduate Certificate is a 12-unit program including 6 units of core and 6 units of elective courses. 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.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/innovate/](http://www.adelaide.edu.au/programfinder/pgcw/innovate/)

**Assessment:** Standard coursework, project work and assignments.

**Likely Careers:** Innovative or entrepreneurial positions in a wide range of leadership or support roles.

Graduates may be interested in starting up their own businesses, working as early-stage business advisors or financiers, working in regional development or government policy, or managing new ventures within large organisations.

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au)

Application closing dates vary; please refer to the SATAC website for details.

## PROJECT MANAGEMENT

### SATAC Code:

Master of Applied Project Management (Advanced):  
 Climate Change.....3CM110  
 Defence.....3CM106  
 Mining.....3CM108

Master of Applied Project Management:

Climate Change.....3CM109  
 Defence.....3CM105  
 Mining.....3CM107

Master of Project Management.....3CM014

Graduate Certificate in Project Management.....3GC041

**Program Level:** Masters Applied (Advanced)/Masters Applied/Masters/Graduate Certificate

**Specialisation:** Climate Change, Defence, Mining—for Master of Applied (Advanced) and Master of Applied only.

**Duration:** Masters Applied (Advanced): 2 years  
 Masters Applied: 1.5 years  
 Masters: 1 year  
 Graduate Certificate: 0.5 year

**Campus:** North Terrace Adelaide and Australian Technology Park Sydney

**Intake:** February and July

**Mode of Study:** Internal/external, delivered in intensive sessions

**Indicative Full-time Fee:** \$19000 per annum

**Prerequisites/Entry Criteria:** Masters (all): 4 year degree, or 3 year degree plus 3 years professional

work experience

Graduate Certificate: Bachelor degree

**Program Overview:** Studies in project management focus on achieving goals and its graduates are sought after by employers.

The programs include a strong focus on processes and tools required to achieve outcomes and industry-specific case studies, class discussions and assignments based on real projects, including the participant's own workplace projects.

Project management programs guide you through the leading-edge project management concepts, with a strong emphasis on holistic and systems-based project management methods, combined with the practical application of concepts, techniques and tools. There is flexibility to select options from the entrepreneurship and commercialisation.

ECIC is a Registered Education Provider for PMI.

**Program Structure:** Courses are delivered in intensive sessions.

The Master of Applied Project Management (Advanced) is a 48-unit program, the Master of Applied Project Management a 36 unit program, the Master of Project Management is a 24 unit program, and the Graduate Certificate is a 12 unit program.

The Master of Applied (Advanced) and Master of Applied include 18 units of core courses (15 units for Mining) common with the Master of Project Management, 6 units of electives, plus 12 units of

specialised plan in Defence and Management of Climate Change, or 15 units in Mining.

The Master of Applied Project Management (Advanced) also includes a 12-unit project. The Master involves 18 units of core courses and 6 units of electives.

The Graduate Certificate comprises 9 units of core courses and 3 units of electives.

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, project work and assignments.

**Likely Careers:** These programs provide the knowledge for graduates to develop their own companies based on their background and interests, enabling graduates to move from technical fields into management positions. Many careers in project management exist in areas such as IT, defence, mining, manufacturing and construction. Further careers are available in defence, management of climate change and mining. Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/projmgmt/](http://www.adelaide.edu.au/programfinder/pgcw/projmgmt/)

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au)

Application closing dates vary; please refer to the SATAC website for details.

## SCIENCE AND TECHNOLOGY COMMERCIALISATION

**SATAC Code:**

Masters (Advanced): 3CM113

Masters: 3CM096

Graduate Diploma: 3GD051

Graduate Certificate: 3GC044

**Program Level:** Masters (Advanced)/Masters/  
Graduate Diploma/Graduate Certificate

**Duration:** Masters (Advanced): 2 years

Masters: 1.5 years

Graduate Diploma: 1 year

Graduate Certificate: 0.5 year

**Campus:** North Terrace

**Intake:** February and July

**Mode of Study:** Internal and external,  
full- or part-time

**Indicative Full-time Fee:** \$19000 per annum

**Prerequisites/Entry Criteria:**

**Masters and Graduate Diploma:** Bachelor degree or equivalent plus at least five years approved professional work experience

**Graduate Certificate:** Bachelor degree or equivalent

**Program Overview:** The ability to commercialise new technology rapidly is essential for competitive

advantage in dynamically changing public and private sector environments. ECIC's suite of Science and Technology Commercialisation programs are designed for working professionals 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. Ideal participants in Science and Technology Commercialisation programs have an interest in bringing new technology and science to the market faster and better, whether for profit or for public good. They come from all disciplines, industry and functional backgrounds, and generate vibrant debate as they share, create and disseminate knowledge through the programs.

Students will gain the knowledge and innovation skills to cope with the formidable economic, social, financial, and political changes associated with creating value from knowledge in an age of global information and digital knowledge.

The focus is on the rapid transfer of research, knowledge, and technology from the laboratory to the market.

**Program Structure:** The Masters 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 24 units of coursework of which 18 units are core courses plus a 12-unit project. The 24-unit Graduate Diploma includes 18 units of core courses, and the 12-unit Graduate Certificate 9 units of core courses.

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.

**Assessments:** Standard coursework, project work and assignments.

**Likely Careers:** This program provides the knowledge for graduates to develop their own companies based on their background in science and technology. Enables graduates to move from technical fields into management positions. Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/commercial/](http://www.adelaide.edu.au/programfinder/pgcw/commercial/)

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au)

Application closing dates vary; please refer to the SATAC website for details.

## SOCIAL ENTREPRENEURSHIP AND INNOVATION

**SATAC Code:** 3GC045

**Program Level:** Graduate Certificate

**Duration:** 0.5 years

**Campus:** North Terrace and Thebarton

**Intake:** February and July

**Mode of Study:** Internal, full-time/part-time

**Indicative Full-time Fee:** \$9500

**Prerequisites/Entry Criteria:** Bachelor degree or equivalent

**Likely Careers:** Graduates can start up their own social ventures, providing high level advice and expertise to government and/or non-government organisations (NGOs), as employees or advisors.

**Assessment:** Standard coursework, project work and assignments.

**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.

**Program Structure:** A 12-unit program, students must complete two core courses, and two elective courses taken from Graduate Certificates in Innovation and Entrepreneurship, Project Management, and Science and Technology.

Study plans can be viewed online at [www.adelaide.edu.au/programfinder/pgcw/innovate/](http://www.adelaide.edu.au/programfinder/pgcw/innovate/)

**Applications:** Apply online via SATAC's GradStart website [www.satac.edu.au](http://www.satac.edu.au)

Application closing dates vary; please refer to the SATAC website for details.

**Disclaimer:** With an aim to 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 certificates/diplomas/degrees and the courses available can be found at the following website: [www.adelaide.edu.au/programs](http://www.adelaide.edu.au/programs)

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