UNSW AUSTRALIA

Energy Systems
Postgraduate coursework programs

Never Stand Still | Engineering | Electrical Engineering and Telecommunications

YOUR FUTURE. YOUR CHOICE.

Energy systems engineering is currently undergoing a huge renaissance due to the introduction of smart grids (intelligent power supply systems), the growing need to interface renewable energy generation sources with the conventional electricity grid, and the increasing use of electric motors in everything from smartphones to hybrid cars to satellites.

So if you are passionate about the generation, transmission, distribution and use of electrical energy, then you should arm yourself with the skills and knowledge to make you a leader in this rapidly changing industry. Our Master of Engineering Science in Energy Systems is specifically designed with you in mind.

SCHOOL OF ELECTRICAL ENGINEERING AND TELECOMMUNICATIONS

With a 60 year track record, the School of Electrical Engineering and Telecommunications courses are renowned for being on the very cusp of research innovation and contemporary industry practice.

Our staff interests cover an extraordinary range of theoretical, practical and management areas. Active industry involvement, state-of-the-art facilities, cutting-edge research and an ongoing course review and enhancement program ensure that our courses are at the forefront of global education in electrical engineering and telecommunications.

We offer exceptional course flexibility that allows students to consolidate a specialisation from an undergraduate degree, take advantage of professional development or refresher courses, or accelerate towards research or R&D careers.

COURSEWORK PROGRAMS

- Master of Engineering Science (Energy Systems)
- Graduate Diploma of Engineering Science (Energy Systems).

MASTER OF ENGINEERING SCIENCE

THE DEGREE OF CHOICE FOR THE ENGINEERING PROFESSIONAL

The **Master of Engineering Science program** at UNSW Engineering is designed especially for graduate engineers seeking to develop or enhance their careers through cross-training, re-training and specialisation.

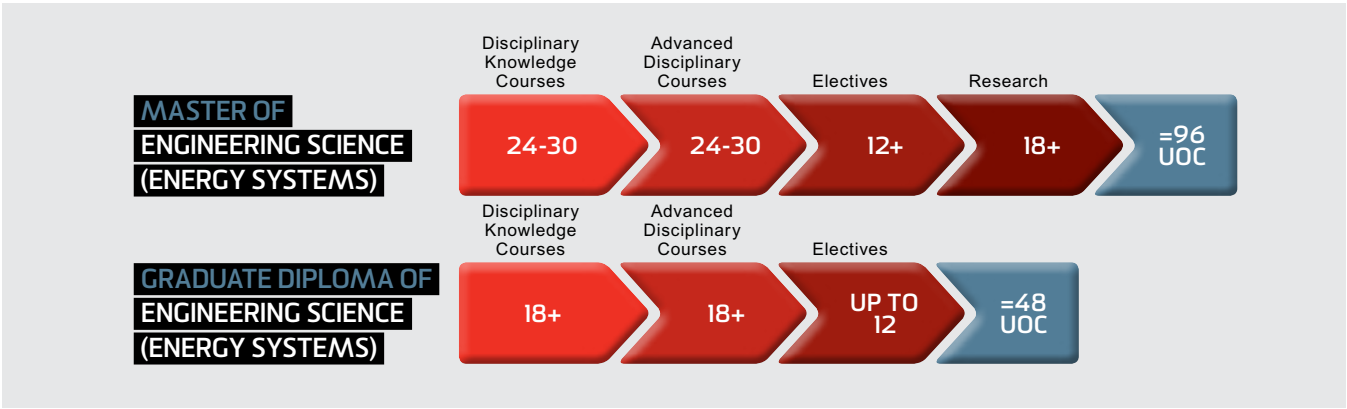
Our courses are packed with stimulating and comprehensive content that will inspire you to learn more and stay connected to your exciting engineering future. An extensive research component ensures every graduating student is armed with advanced practical and analytical skills.

PROGRAM OPTIONS	PROGRAM CODE	UNITS OF CREDIT	DURATION*	COMMENCE
Master of Engineering Science (Energy Systems)	ELECIS8338	96	2 years	Feb, Jul
Graduate Diploma of Engineering Science (Energy Systems)	ELECRS5341	48	1 years	Feb, Jul

* Eligible students may apply for credit for up to eight courses (48 UOC) of the Master of Engineering Science or four courses (24 UOC) of Graduate Diploma programs depending on previous study and professional experience. This can reduce the time taken by up to a year.

TYPICAL PROGRAM STRUCTURE

This program offers a broad range of theoretical and applications-based electives – including smart-grids, power electronics for renewable energy engineering, power system analysis and protection, high voltage engineering, power systems planning and economics, and electrical safety. Such a wide choice allows students to gain a deep, broad knowledge across several areas. It is a great avenue for electrical engineers wishing to upgrade their skills or further their knowledge. Qualified students can choose to enter at Masters level, but those who have less time (or who would like just a taste of postgraduate study) can begin with the Graduate Diploma.



DISCIPLINARY KNOWLEDGE

Students choose from:

- ELEC4602 Microelectronic Design and Technology
- ELEC4611 Power System Equipment
- ELEC4612 Power System Analysis
- ELEC4613 Electrical Drive Systems
- ELEC4614 Power Electronics
- ELEC4621 Advanced Digital Signal Processing
- ELEC4631 Continuous-Time Control Systems
- PHTN4661 Optical Circuits and Fibres
- TELE4652 Mobile and Satellite Communication Systems.

Graduate Diploma students have a slightly wider range to choose from, see the online handbook for more details.

ADVANCED DISCIPLINARY KNOWLEDGE COURSES

Students choose from:

- ELEC4617 Power System Protection
- ELEC9711 Power Electronics for Renewable and Distributed Generation
- ELEC9712 High Voltage Systems
- ELEC9713 Industrial and Commercial Power Systems
- ELEC9714 Electricity Industry Planning
- ELEC9715 Electricity Industry Operation
- ELEC9716 Electrical Safety
- GSOE9141 Smart Grids and Distribution Networks.

ELECTIVES

At least one elective (6 UOC) must be taken from the approved list of Engineering and Technical Management Courses. All other electives may also be taken from Disciplinary or Advanced Disciplinary Knowledge Courses from this specialisation or another specialisation within the Master of Engineering Science program as long as the student is eligible to enrol.

A full and current list of courses is available online in the UNSW Handbook.

RESEARCH

Masters students must complete a research component that gives them the opportunity to broaden their understanding of something that they are passionate about through practical application with the close support of a practicing engineering researcher.

- ELEC9771 Project Report A
- ELEC9772 Project Report B
- GSOE9010 Engineering Postgraduate Coursework Research Essentials.

ENTRY REQUIREMENTS

Masters: You need a recognised four year Bachelor degree in an appropriate area of engineering with at least Honours II/2 or equivalent or at least an average mark of 65% over the final two years. Relevant disciplines considered for entry include electrical engineering, as well as photovoltaic and renewable energy engineering where a sound foundation in electrical energy systems is provided.
Graduate Diploma: You need a three or four year degree in a relevant discipline of engineering or science plus relevant professional experience. The Graduate Diploma is a common pathway to the Masters.

EXEMPTIONS OR ADVANCED STANDING

Students may be granted credit for some courses. Those with a four year honours degree (for example in Electrical Engineering) can apply for credit for up to 48 UOC for the Masters (effectively reducing it to one year full time) or 24 UOC for the Graduate Diploma. Full details can be found on the program handbook page.

WHY UNSW ENGINEERING?

UNSW Engineering is the largest Engineering Faculty in Australia. We continue to foster and develop elite-level engineers across a broad range of disciplines exposing them to world-class innovation, cutting-edge research and dedicated teaching staff. As such, we are recognised as Australia's top Engineering university.*

WHY NOT JOIN US?

- **Cutting-edge programs** – be inspired by our research-led, industry-relevant curriculum.
- **Real-world focus** – continually updated programs ensure graduates are armed with the very latest knowledge and techniques to be able to stand at the top of their field.
- **Flexibility** – programs can be tailored to suit your interests, entry points twice a year, out-of-hours classes and distance learning options.

TAKING THE NEXT STEP

HOW TO APPLY

To gain entry to UNSW you'll need to successfully meet both the academic entry requirements and the English language requirements. For assistance with the application process, contact a UNSW official representative at ***international.unsw.edu.au/contact-us***

Apply online at *apply.unsw.edu.au*

The UNSW Apply Online service has quick links to key information for applicants, including the application tracking service which allows you to check the progress of your application.

Closing Dates

Semester One (February): Applications must be lodged by 30 November.
Semester Two (July): Applications must be lodged by 30 May.
Not all programs have a Semester Two start date.

Late applications

Late applications will be accepted after the closing dates subject to the availability of places. Please note that whilst UNSW endeavour to process applications as quickly as possible, due to time constraints it cannot be guaranteed that a late application will be processed in time for semester commencement.

International Students

Applications are made directly to UNSW Australia, via our Apply Online portal at ***apply.unsw.edu.au*** For more information on what you need and how to apply go to ***international.unsw.edu.au***

Most international students will require a student visa to study in Australia (application and processing of this visa may take some time). More information can be found at ***international.unsw.edu.au/living-sydney/visas/***

SCHOLARSHIPS

There are a number of scholarships available for eligible students. To find out more about available postgraduate scholarships, eligibility and application process go to ***scholarships.unsw.edu.au***

FEES

A postgraduate coursework fee calculator for both domestic and international students can be found at ***apply.unsw.edu.au***

ACCOMMODATION

UNSW offers a range of accommodation options, visit ***housing.unsw.edu.au*** for full details.

STUDENT LIFE

At UNSW there is an abundance of support available to students. To find out more about studying at UNSW, visit ***unsw.edu.au*** and search for Student Life.

* Shanghai Jiao Tong University's Academic Ranking of World Universities in Engineering/Technology and Computer Sciences 2014.

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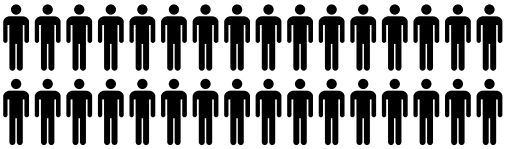
in Australia according to Shanghai Jiao Tong University's Academic Ranking of World Universities in Engineering/ Technology and Computer Sciences 2014.



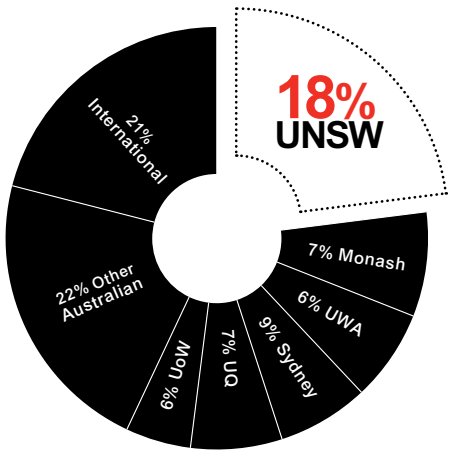
More technology entrepreneurs

than any other university in Australia.
(Crunchbase Report 2013)

QS World University Rankings

by Subjects 2014

18th in Civil, 29th in Computing, 33rd in Electrical, 37th in Mechanical and 46th in Chemical.



18% of the

top 100

most influential engineers in Australia are UNSW Graduates*

*Engineers Australia Top 100 list in 2014

CONTACT US

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