GATHER KNOWLEDGE IN UNKNOWN TIMES.

- Start your studies online
- Connect with passionate experts
- Diverse study options for more career opportunities
- #1 in Queensland for graduate employability*

*QS Graduate Employability Rankings
Engineering Science

MASTER OF ENGINEERING SCIENCE

Program duration
1 year full-time (2 semesters)
1.5 years full-time (3 semesters)

MASTER OF ENGINEERING SCIENCE (MANAGEMENT)

Program duration
2 years full-time (4 semesters)

GRADUATE CERTIFICATE IN ENGINEERING SCIENCE

Program duration
0.5 years full-time (1 semester)

Location
St Lucia

Study mode
Internal, External

Intake
Semester 1 or 2

Entry requirements
Degree equivalent to an Australian bachelor degree in Engineering (in the relevant field of study for which they wish to enrol) with a GPA of at least 4.5 on a 7 point scale.

Interested in strengthening your capacity to design, develop, and implement complex systems and engineering projects?

The Master of Engineering Science offers flexibility across a range of engineering disciplines, so you can develop your technical expertise in areas specific to your career aspirations.

Because the Master of Engineering Science has such a large number of courses to choose from, you can tailor your studies to suit your interests, your industry, or your career goals.

Students will develop professional engineering skills and technical expertise in their discipline through advanced and master’s level courses. You will also undertake a supervised research project where you will systematically plan and manage all aspects of a project, and clearly explain your findings and what they contribute to your field.

This will expertly prepare you with the skills required to solve complex engineering challenges in a changing world.

“\textit{If you like to embrace challenge, become a professional with overall development in leadership, communication, planning, technical expertise, increasing your research capabilities and employability skills then UQ is the perfect place to study.}”

SUSHIL ESWARA SUBRAMANIAN
Graduate, Master of Engineering Science
What you can study

Master of Engineering Science - Fields of Study

Bioengineering

Solve bio-related challenges facing our society by producing chemical building blocks, therapeutical drugs (biopharmaceuticals), tissue engineered organs, new medical imaging technology and diagnostic devices.

Example courses
- Advanced Medical Device Engineering
- Metabolic Engineering
- Biomaterials: Materials in Medicine
- Cell and Tissue Engineering

Electrical Engineering**

The Master of Engineering Science (Electrical Engineering) degree will develop students with technical and research skills, a global perspective on professional engineering practice and the competence to identify and apply current practice to solve real-world engineering problems.

Example courses
- Embedded Systems Design and Interfacing
- Electrical Energy Conversion and Utilisation
- Operating Systems Architecture
- Computer Networks

Mechanical Engineering

The Mechanical Engineering field of study is one of the broadest areas of engineering, covering dynamics and control, thermodynamics and fluid mechanics, structures and solid mechanics and design and manufacture.

Example courses
- Professional Engineering and the Business Environment: Global Practice
- Engineering Innovation and Leadership
- Management Communication
- Engineering Project

Fire Safety Engineering*

The most progressive fire safety engineering program in Australia coupling fire safety engineering fundamentals with applied research. This program is for practitioners from a wide range of backgrounds including engineering, architecture and science.

Example courses
- Introduction to Fire Safety Engineering
- Fire Engineering Design: Solutions for Implicit Safety
- Fire Dynamics
- Fire Engineering Design: Explicit Quantification of Safety

Chemical Engineering

The Chemical Engineering field of study is designed to advance chemical engineers towards more senior, leadership roles to tackle the complex, interdisciplinary challenges associated with the design and optimisation of industrial scale processing of raw materials into commercial products.

Example courses
- Integrated Safety Design and Management
- Advanced Process and System Modelling
- Whole of Process Optimisation and Control
- Sustainable Bioresource Engineering

Civil Engineering

The Civil Engineering field of study provides options for in-depth study in the broad engineering fields of structural, water and environmental, geotechnical and transportation engineering.

Example courses
- Urban Hydrology
- Design of Composite Structures
- Pollution Control in Cities
- Strategic Transport Modelling

Materials and Manufacturing Engineering

The Materials and Manufacturing Engineering field of study combines professional engineering and leadership courses with advanced technical courses in composites, materials, manufacturing and mechanics.

Example courses
- Professional Engineering and the Business Environment: Global Practice
- Engineering Innovation and Leadership
- Management Communication
- Engineering Project

Software Engineering**

The Software Engineering field of study provides a comprehensive and in-depth knowledge in software systems and applications. You will use the principles of computer design, engineering, management, psychology and sociology in small or large multinational companies.

Example courses
- Operating Systems Architecture
- Algorithms and Data Structures
- Artificial Intelligence
- Information Security

Urban Water Engineering

This field of study provides engineers with the integrated knowledge and skills required to grasp the whole urban water cycle and the linkages between its different aspects.

Example courses
- Integrated Urban Water Management
- Drinking Water Supply: Source, Treatment and Distribution
- Sewer Networks - Design, Operation and Maintenance
- Wastewater Modelling and Control

Materials and Manufacturing

* Only available in the 1.5 year Masters
** Available in both 1 and 1.5 year Masters
We are educating highly skilled change agents to deal with the complex trilemma of energy affordability, reliability and environmental sustainability.

UQ's innovative suite of postgraduate programs in sustainable energy aims to equip the next generation of energy leaders, managers and decision makers with the skills and knowledge to address the challenges at the nexus of energy, climate change and sustainability.

As one of the few programs in the world to offer you a cross-disciplinary education with direct industry contact and practical experience, you will gain a deeper understanding and appreciation of energy systems, responsible business practice and contemporary energy challenges.

The program is aimed at early and mid-career industry professionals who want to update their knowledge. All courses are taught in five-day intensive blocks. Some courses also include online discussions and field trips.

Professional Projects

Most students choose to do the Professional Project course, which is one semester full-time. You apply what you have learned during the courses and focus on a real-world problem of your choice, possibly in connection with industry.

Recent Professional Projects have included:

- Lady Elliot Island Sustainable Energy System: Towards a 100% renewable energy generation
- Mapping Opportunities to Support Developing Countries' Energy Transition
- Stakeholder perceptions of an Arrow Energy community engagement activity – A case study of the Heart of Australia Program

“I have especially enjoyed the opportunities for collaboration with students from diverse backgrounds – both diversity of culture and professional experiences. The opportunity to experience energy infrastructure first-hand on field trips has been invaluable, along with the networking opportunities made possible through the industry dinners.”

LUCY BURKE
Current Student, MSE
What you will study

Master of Sustainable Energy / Master of Sustainable Energy (Management)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
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<td>Climate Science and Policy</td>
<td>Energy and Development</td>
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<td>Energy Investment and Finance</td>
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<td>Energy Strategy, Innovation, and Entrepreneurship</td>
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<td>Energy Efficiency and Transport</td>
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<td>Year 2</td>
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<tr>
<td>Semester 1</td>
<td>Professional Research Project OR Electives OR Mini-Thesis and Electives</td>
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<td>Semester 2</td>
<td>An extended 2-Year option with Business Management courses is also available.</td>
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Field Trips

Each semester kicks off with a field trip for new students.

You will experience different energy infrastructures in Queensland such as the NRG Gladstone coal power station and UQ’s research station on Heron Island run mainly on solar power.

These trips are also a great way for new on-campus students to get to know each other before their first week-intensive course.
Further Information

Australian student enquiries:
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T: +61 7 3365 4777

International student enquiries:
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+61 3 8676 7004
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