WELCOME TO UQ!

A WORLD CLASS UNIVERSITY
RANKED IN THE WORLD TOP 50*

GROUP OF EIGHT

* Times Higher Education Supplement, 2009
Recording of this Presentation

Students, please be aware that this session is being recorded so it can be made available via the Faculty of EAIT orientation page. The reason we are recording the orientation presentation is to make it available for your future reference, and to support students who may not have been able to attend today’s session.

Suggested options for students not wishing to be recorded:

• Turn off video and mute audio
• Use a proxy name for Zoom (student attendance will still be on record with the Course Coordinator)

Please note that students are not permitted to record teaching without the explicit permission of the Course Co-ordinator. This includes recording classes using Zoom.

For further information:

• PPL 3.20.06 Recording of Teaching at UQ
Orientation

Master of Engineering (Electrical) &
Master of Engineering Science (Electrical) &
Master of Engineering Science (Management) (Electrical)

Program Advisor of ME & MEngSc & MEngSc (Man)Electrical

Dr Negareh Ghasemi

Semester 2, 2021

School of Information Technology and Electrical Engineering
The University of Queensland

Acknowledgement: Thanks Dr Mohamed Sharaf, Dr Richard Yan and Prof Firuz Zare for sharing their presentation.
Electrical Engineering Field of Study
Part of the Master of Engineering program

<table>
<thead>
<tr>
<th>Program code</th>
<th>5674</th>
</tr>
</thead>
</table>

Why study Electrical Engineering?
The Master of Engineering (Electrical Engineering) is designed to combine technical and research skills across biomedical imaging and instrumentation, power and energy systems, or photonics and microwave engineering with a global perspective on professional engineering practice. Students have flexibility to choose from a range of elective courses and will complete a two-semester research project or industry placement at companies like Allergen, Bayer or Cochlear as part of this program.

Courses and requirements
View the courses and requirements for courses that can be studied as part of the Electrical Engineering field of study.

What it costs
Please view the Master of Engineering for indicative fees.

How to apply
Please view the Master of Engineering for information on key dates and how to apply.

Enquiries
Australian/domestic students
Faculty of Engineering, Architecture and Information Technology
Email: enquiries@eait.uq.edu.au
Phone: 07 3365 4777

International students
International Student Advisor
Email: study@uq.edu.au
Phone: Outside Australia: + 61 3 8676 7004
Within Australia (Free Call): 1800 871 960
Electrical Engineering Field of Study
Part of the Master of Engineering Science program

Commencing semesters, 2021
Semester 1
Semester 2

Program level
Postgraduate Coursework

Program code
5528

Faculty
Engineering, Architecture & Information Technology

School
School of Information Tech & Elec Engineering

Location
St Lucia

Delivery mode
Internal

Why study Electrical Engineering?
Students in the Electrical Plan may choose to specialise in the field of Biomedical, Microwave Telecommunications or Power Systems or select courses across a broader spectrum (refer Program List). Biomedical Engineering focuses on the development of instrumentation used in medical diagnosis, imaging and treatment. Microwave telecommunications provides students with skills for the design and manufacture of RF/Microwave communications systems, including wireless and optical technologies. Power Systems focuses on power system stability and reliability, deregulation, condition monitoring, sustainability, renewable energy and future trends. Relevant prior study in the bachelor degree is required for entry to some specialisations. The program extends graduate career opportunities in the public and private sector, nationally and internationally, according to the speciality or courses studied.

Courses and requirements
View the courses and requirements for courses that can be studied as part of the Electrical Engineering field of study.

What it costs
Please view the Master of Engineering Science for indicative fees.

How to apply
Please view the Master of Engineering Science for information on key dates and how to apply.

Enquiries
Australian/domestic students
Faculty of Engineering, Architecture and Information Technology
Email: enquiries@ea.it.uq.edu.au
Phone: 07 3365 4777

International students
International Student Advisor
Email: study@uq.edu.au
Phone: Outside Australia: + 61 3 8676 7004
Within Australia (Free Call): 1800 671 960

Enquire online
Electrical Engineering Field of Study
Part of the Master of Engineering Science (Management) program

Why study Electrical Engineering?
The 21st century is an area of great global and local change which has created numerous opportunities for a new generation of engineers. This is the dawn of a new age where engineers must have electrical engineering skills and key business management skills in order to provide solutions to these changes. This program consists of an extensive menu of intermediate and advanced level courses which will prepare you for a dynamic engineering workforce. Job opportunities are widespread, as employers come to demand graduates with both engineering and business skills.

Courses and requirements
View the courses and requirements for courses that can be studied as part of the Electrical Engineering field of study.

Employment opportunities
Graduates find work in large multinational companies; state and federal government departments; and in many small, specialised and emerging companies.

What it costs
Please view the Master of Engineering Science (Management) for indicative fees.

How to apply
Please view the Master of Engineering Science (Management) for information on key dates and how to apply.

Professional memberships
Graduates may be eligible for membership with the following professional bodies:

- Australian Computer Society
Diversity in ME

- Biomedical Engineering
- Microwave and Telecommunication
- Power Electronics and Power Systems
- Control
ME, MEngSc and MEngSc (Man) Programs

  - Plan Code: ELECTX5674 - Four (4) semesters full time (#32)
  - Plan Code: ELECTX5709 - Six (6) semesters full time (#48)
  - 4 courses (#8 units) / semester (13 weeks + breaks and Exam)

  - Plan Code: ELECTX5528 - Two (2) semesters full time (#16)
  - Plan Code: ELECTX5529 - Three (3) semesters full time (#24)
  - 4 courses (#8 units) / semester (13 weeks + breaks and Exam)

  - Plan Code: ELECTX5530 - Four (4) semesters full time (#32)
  - 4 courses (#8 units) / semester (13 weeks + breaks and Exam)
ME Program (32 units)


Plan and course requirements

Information for students commencing

Complete 32 units comprising:

- 6 units for all ME (Electrical Engineering) Compulsory Courses, and
- 4 to 8 units from ME (Electrical Engineering) Research Project Courses, and
- 6 to 16 units from ME (Electrical Engineering) Advanced Undergraduate Elective Courses, and
- 6 to 16 units from ME (Electrical Engineering) Postgraduate Elective Courses, and
- 0 to 10 units from ME (Electrical Engineering) Breadth Elective Courses
ME Program (48 units)


Course list for the Electrical Engineering Field of Study
Information valid for students commencing 2021

Electrical Engineering - Field of Study

Students enrolled in the 48 unit ME(Electrical Engineering) (Plan Code: ELECTX5709), 48 units comprising:

i. 18 units from part A1 (48 unit program Compulsory); and
ii. 6 units from part A2 (program Compulsory); and
iii. 4 or 8 units from part A3 (Research Thesis); and
iv. 6 units from part B (Advanced BE (Hons) Electives); and
v. 6 units from part C (ME Electives); and
vi. the balance (4 to 8 units) from electives, being courses from part B, part C, part D or part E or other courses approved by the associate dean (academic) with a maximum of 4 units from courses not on the ME list.
Course Prerequisite (Required course before taking on this course)

Renewable Energy Integration: Technologies to Technical Challenges (ELEC7313)

**Course level**
Postgraduate Coursework

**Faculty**
Engineering, Architecture & Information Technology

**School**
Info Tech & Elec Engineering

**Units**
2

**Duration**
One Semester

**Class contact**
3 Lecture hours, 1 Tutorial hour, 1 Practical or Laboratory hour

**Recommended prerequisite**
ELEC4310

**Assessment methods**
Exams, Assignments, Labs, Quizzes

**Course coordinator**
Dr Rui Feng (Richard) Yan
(rui.feng@itee.uq.edu.au)

**Study Abroad**
This course is pre-approved for Study Abroad and Exchange students.

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**Current course offerings**

<table>
<thead>
<tr>
<th>Course offerings</th>
<th>Location</th>
<th>Mode</th>
<th>Course Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1, 2021</td>
<td>External</td>
<td>External</td>
<td>COURSE PROFILE</td>
</tr>
<tr>
<td>Semester 1, 2021</td>
<td>St Lucia</td>
<td>Flexible Delivery</td>
<td>COURSE PROFILE</td>
</tr>
</tbody>
</table>

Please Note: Course profiles marked as not available may still be in development.

**Course description**
Covers renewable energy technologies around the world; current grid codes and standards and the major issue of intermittency; key technical challenges associated with renewable energy integration and ways to overcome them.

**Archived offerings**

<table>
<thead>
<tr>
<th>Course offerings</th>
<th>Location</th>
<th>Mode</th>
<th>Course Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1, 2020</td>
<td>St Lucia</td>
<td>Internal</td>
<td>COURSE PROFILE</td>
</tr>
<tr>
<td>Semester 2, 2018</td>
<td>St Lucia</td>
<td>Internal</td>
<td>COURSE PROFILE</td>
</tr>
<tr>
<td>Semester 2, 2016</td>
<td>St Lucia</td>
<td>Internal</td>
<td>COURSE PROFILE</td>
</tr>
<tr>
<td>Semester 2, 2014</td>
<td>St Lucia</td>
<td>Internal</td>
<td>COURSE PROFILE</td>
</tr>
</tbody>
</table>
Course Prerequisite (Required course before taking on this course)

Electronic Circuits (ELEC3400)

Course level
Undergraduate

Faculty
Engineering, Architecture & Information Technology

School
Info Tech & Elec Engineering

Units
2

Duration
One Semester

Class contact
3 Lecture hours, 1 Tutorial hour, 2 Practical or Laboratory hours

Incompatible
ELEC7401, ELEC2400

Prerequisite
ELEC2003 and (ELEC2004 or MATH2010)

Assessment methods
Practical reports and demonstrations, mid-semester exam, final exam

Course coordinator
Dr Negareh Ghasemi (n.ghasemi@uq.edu.au)

Study Abroad
This course is pre-approved for Study Abroad and Exchange students.

Current course offerings

<table>
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<tr>
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<tbody>
<tr>
<td>Semester 1, 2021</td>
<td>External</td>
<td>External</td>
<td>PROFILE UNAVAILABLE</td>
</tr>
<tr>
<td>Semester 1, 2021</td>
<td>St Lucia</td>
<td>Flexible Delivery</td>
<td>PROFILE UNAVAILABLE</td>
</tr>
</tbody>
</table>

Please Note: Course profiles marked as not available may still be in development.

Course description
Detailed examination of electrical & electronic circuit analysis & synthesis tools & techniques such as the Laplace transform, nodal analysis & two port network theory. Examples of use in analysis & design of amplifiers, filters, oscillators & other circuits.

Archived offerings

<table>
<thead>
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<th>Course offerings</th>
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<th>Course Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1, 2020</td>
<td>St Lucia</td>
<td>Internal</td>
<td>COURSE PROFILE</td>
</tr>
<tr>
<td>Semester 1, 2019</td>
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<td>Semester 1, 2018</td>
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<td>COURSE PROFILE</td>
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<tr>
<td>Semester 1, 2017</td>
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<tr>
<td>Semester 1, 2016</td>
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</tr>
<tr>
<td>Semester 1, 2015</td>
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<td>COURSE PROFILE</td>
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<tr>
<td>Semester 1, 2014</td>
<td>St Lucia</td>
<td>Internal</td>
<td>COURSE PROFILE</td>
</tr>
<tr>
<td>Semester 1, 2013</td>
<td>St Lucia</td>
<td>Internal</td>
<td>COURSE PROFILE</td>
</tr>
<tr>
<td>Semester 1, 2012</td>
<td>St Lucia</td>
<td>Internal</td>
<td>COURSE PROFILE</td>
</tr>
</tbody>
</table>
UQ Terminology

• **Program** = degree you’re studying, e.g. BInfTech degree
• **Course** = subject
• **Credit Unit** (#) = measure of workload for course (most courses #2, CSSE7306 is #4)
• Standard load is #8 (typically 4 courses) per semester
Responsibility

- We are responsible for helping you understand your **study plan** and giving you academic advice
- You are responsible for almost everything else: following rules, choosing electives, timetable, enrolment, attendance, assignments …
- Ask questions: academic advice, lectures, tutorials, …
Getting help

• The lectures and tutors are there to help you. Seek them out.
• Ask questions! There are no dumb questions.
• Chat with fellow students but don’t get involved in plagiarism!
• Check your student email often.
ME (# 32) Program Structure (Code 5674)

Plan and course requirements

Information for students commencing

2021

Complete 32 units comprising:

- 6 units for all ME (Electrical Engineering) Compulsory Courses, and
- 4 to 8 units from ME (Electrical Engineering) Research Project Courses, and
- 6 to 16 units from ME (Electrical Engineering) Advanced Undergraduate Elective Courses, and
- 6 to 16 units from ME (Electrical Engineering) Postgraduate Elective Courses, and
- 0 to 10 units from ME (Electrical Engineering) Breadth Elective Courses
# ME (Electrical in area of Power System) – Sample Study Plan #32

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Semester 3</th>
<th>Semester 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGG7302</strong>&lt;br&gt;Advanced Computational Techniques in Engineering</td>
<td><strong>ENGG7902</strong>&lt;br&gt;Engineering Innovation and Leadership</td>
<td><strong>METR4201</strong>&lt;br&gt;Control Engineering 1</td>
<td><strong>ENGG7811</strong>&lt;br&gt;Research Methods</td>
</tr>
<tr>
<td><strong>ENGG7901</strong>&lt;br&gt;Professional Engineering and the Business Environment: Global Practice</td>
<td><strong>ELEC7051</strong>&lt;br&gt;Transformer Technology Design and Operation</td>
<td><strong>COMS4104</strong>&lt;br&gt;Microwave Engineering</td>
<td><strong>ELEC4302</strong>&lt;br&gt;Power System Protection</td>
</tr>
<tr>
<td><strong>ELEC4310</strong>&lt;br&gt;Power Systems Analysis</td>
<td><strong>ELEC7309</strong>&lt;br&gt;Power System Planning and Reliability</td>
<td><strong>ELEC7313</strong>&lt;br&gt;Renewable Energy Integration: Technologies to Technical Challenges</td>
<td><strong>ELEC4410</strong>&lt;br&gt;Advanced Electronic &amp; Power Electronics Design</td>
</tr>
<tr>
<td><strong>ELEC7310</strong>&lt;br&gt;Electricity Market Operation and Security</td>
<td><strong>ELEC4320</strong>&lt;br&gt;Modern Asset Management and Condition Monitoring in Power System</td>
<td><strong>ENGG7813</strong>&lt;br&gt;Engineering Postgraduate Project B-Part A</td>
<td><strong>ENGG7813</strong>&lt;br&gt;Engineering Postgraduate Project B-Part B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Compulsory Course</th>
<th>Research Project Courses</th>
<th>Advanced Undergraduate Elective Courses</th>
<th>Postgraduate Elective Courses</th>
<th>Breadth Elective Courses</th>
</tr>
</thead>
</table>

*Note: The table represents the course offerings for a sample study plan. Actual offerings may vary.*
MEngSc (# 16) Program Structure (Code 5528)

Plan and course requirements

Information for students commencing

2021

Complete 16 units comprising:

- 2 units for all MEngSc (Electrical Engineering) Compulsory Course, and
- 4 to 10 units from MEngSc (Electrical Engineering) Discipline Elective Courses, and
- 4 to 8 units from MEngSc (Electrical Engineering) Research Project Courses, and
- 0 to 4 units from MEngSc (Electrical Engineering) Breadth Elective Courses
## MEngSc (Electrical in area of Power System) – Sample Study Plan #16

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGG7302 Advanced Computational Techniques in Engineering</td>
<td>ELEC4410 Advanced Electronic &amp; Power Electronics Design</td>
</tr>
<tr>
<td>ELEC7310 Electricity Market Operation and Security</td>
<td>ELEC7051 Transformer Technology Design and Operation</td>
</tr>
<tr>
<td>ELEC4310 Power Systems Analysis</td>
<td>ELEC7309 Power System Planning and Reliability</td>
</tr>
<tr>
<td>ENGG7813 Engineering Postgraduate Project B-Part A</td>
<td>ENGG7813 Engineering Postgraduate Project B-Part B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Compulsory Course</th>
<th>Discipline Elective Courses</th>
<th>Research Project Courses</th>
<th>Breadth Elective Courses</th>
</tr>
</thead>
</table>

The table above outlines the course structure for Semester 1 and Semester 2 of the MEngSc (Electrical in area of Power System) program. It includes essential courses in advanced computational techniques, electricity market operation, power systems analysis, and postgraduate projects.
MEngSc(Man) (# 32) Program Structure (Code 5530)

Plan and course requirements

Information for students commencing

Complete 32 units comprising:

- 0 to 6 units from MEngSc (Man) (Electrical Engineering) Foundational Courses, and
- 4 units for all MEngSc (Man) (Electrical Engineering) Compulsory Courses, and
- 6 to 18 units from MEngSc (Man) (Electrical Engineering) Discipline Elective Courses, and
- 4 to 8 units from MEngSc (Man) (Electrical Engineering) Research Project Courses, and
- 0 to 12 units from MEngSc (Man) (Electrical Engineering) Breadth Elective Courses, and
- 6 to 12 units from MEngSc (Man) (Electrical Engineering) Management Elective Courses.
MEngSc(Man) (Electrical in area of Power systems)
Sample Study Plan #32

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Semester 3</th>
<th>Semester 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGG7302</td>
<td>MGTS7610</td>
<td>ELEC3004</td>
<td>TIMS7301</td>
</tr>
<tr>
<td>ENGY7002</td>
<td>ELEC7051</td>
<td>ENGG4800</td>
<td>ELEC4302</td>
</tr>
<tr>
<td>Energy and Development</td>
<td>Transformer Technology Design and Operation</td>
<td>Project Management</td>
<td>Power System Protection</td>
</tr>
<tr>
<td>ELEC4310</td>
<td>ELEC7309</td>
<td>ELEC7313</td>
<td>ELEC4410</td>
</tr>
<tr>
<td>ELEC7310</td>
<td>ECON7540</td>
<td>ENGG7803</td>
<td>ENGG7803</td>
</tr>
<tr>
<td>Electricity Market Operation and Security</td>
<td>Economics of Innovation &amp; Entrepreneurship</td>
<td>Engineering Postgraduate Project B-Part A</td>
<td>Engineering Postgraduate Project B- Part B</td>
</tr>
</tbody>
</table>

Foundational Courses  Compulsory Courses  Discipline Elective Courses  Research Project Courses  Breadth Elective Courses  Management Elective Courses
Things to remember

- Not all courses are offered in every semester
- Be careful about the pre-requisites

Make a study plan! Seek advice before changing your plan!

Stick to your study plan.
Visa issue for international students
Credit and Exemptions

  - Forms Online
  - Credit from previous postgraduate study

- Documents Required
  - Course Description: Extended syllabus, aims and objectives, contact hours, texts and references and assessment.
  - Official Academic Transcript

- Determined by Faculty (Not School of ITEE)

- Submit request as early as possible
Academic integrity is:

Acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research.

(Universities Australia, 2017)
Benefits of academic integrity

High standards of academic integrity protect you, the University and the community:

• You have the pride and confidence that comes with knowing you have developed your knowledge and learnt new skills
• You understand how new knowledge is created and how to apply that knowledge to your studies and future career
• You model the practices of integrity we want for society
• The community has faith in the value of a UQ qualification
• Your employer, your clients and your patients know you are knowledgeable and skilled.
Plagiarism and Collusion

See
https://www.itee.uq.edu.au/itee-student-misconduct-including-plagiarism

- Academic Merit: Original effort
- Plagiarism: Proper referencing
- Collusion: Know your boundaries
- Severe penalties!
- Ignorance is not a defense

- When in doubt, consult with your lecturer
Information

- mySI-net: [https://www.sinet.uq.edu.au](https://www.sinet.uq.edu.au)
- Library: [http://www.library.uq.edu.au](http://www.library.uq.edu.au)
Contacts

- ITEE
  - studentenquiries@itee.uq.edu.au
  - Tel: 3365 2097
  - Office open: 8:30am to 4:30pm, Monday to Friday

www.itee.uq.edu.au