Renewable Energy Engineering

SOLABH

This stream in Renewable Energy Engineering encompasses a wider range of renewable energy technologies and their use. These include heat and electricity generation from solar thermal systems, photovoltaics, wind turbines, biomass and the important areas of solar architecture and the design of energy efficient buildings and appliances.

Renewable Energy Engineering is also available as a component of the dual degree programs.
**Faculty**
Faculty of Engineering

**School**
School of Photovoltaic and Renewable Engineering

**Study Level**
Undergraduate

**Minimum Units of Credit**
168

**Specialisation Type**
Honours
Bachelor of Engineering (Honours) - **BE (Hons)**

**3707 Engineering (Honours)**

Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 192
Typical Duration: 4 Years
Specialisation Structure

Students must complete 168 UOC.

Level 1 Core Courses

Students must take 42 UOC of the following courses.

**ENGG1000 | 6 UOC**  
Introduction to Engineering Design and Innovation

**MATS1101 | 6 UOC**  
Engineering Materials and Chemistry

One of the following:
**MATH1131 | 6 UOC**  
Mathematics 1A

**MATH1141 | 6 UOC**  
Higher Mathematics 1A

One of the following:
**MATH1231 | 6 UOC**  
Mathematics 1B

**MATH1241 | 6 UOC**  
Higher Mathematics 1B

One of the following:
**PHYS1121 | 6 UOC**  
Physics 1A

**PHYS1131 | 6 UOC**  
Higher Physics 1A

One of the following:
**PHYS1221 | 6 UOC**  
Physics 1B
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units (UOC)</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS1231</td>
<td>6</td>
<td>Higher Physics 1B</td>
</tr>
<tr>
<td>COMP1911</td>
<td>6</td>
<td>Computing 1A</td>
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<tr>
<td>ENGG1811</td>
<td>6</td>
<td>Computing for Engineers</td>
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**Level 2 Core Courses**

Students must take 48 UOC of the following courses. Note: Students selecting Mathematics Strand and Physics Strand, and BE/BSc students majoring in 'Mathematics' or 'Physics' should replace MATH2019 with MATH2011 Several Variable Calculus and MATH2121 Theory and Applications of Differential Equations.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units (UOC)</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENGG2500</td>
<td>6</td>
<td>Fluid Mechanics for Engineers</td>
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<tr>
<td>MATH2089</td>
<td>6</td>
<td>Numerical Methods and Statistics</td>
</tr>
<tr>
<td>MMAN2700</td>
<td>6</td>
<td>Thermodynamics</td>
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<tr>
<td>SOLA2051</td>
<td>6</td>
<td>Project in Photovoltaics and Renewable Energy 1</td>
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<tr>
<td>SOLA2052</td>
<td>6</td>
<td>Project in Photovoltaics and Renewable Energy 2</td>
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<tr>
<td>SOLA2060</td>
<td>6</td>
<td>Introduction to Electronic Devices</td>
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<tr>
<td>SOLA2540</td>
<td>6</td>
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</table>
One of the following:
MATH2018  6 UOC
Engineering Mathematics 2D

MATH2019  6 UOC
Engineering Mathematics 2E

**Level 3 Core Courses**

Students must take 42 UOC of the following courses.

MECH3610  6 UOC
Advanced Thermofluids

MECH9720  6 UOC
Solar Thermal Energy Design

SOLA3010  6 UOC
Low Energy Buildings and Photovoltaics

SOLA5051  6 UOC
Life Cycle Assessment

SOLA5052  6 UOC
Biomass

SOLA5053  6 UOC
Wind Energy Converters

SOLA5057  6 UOC
Energy Efficiency

**Level 4 Core Courses**

Students must take 24 UOC of the following courses.
ELEC4122 | 6 UOC
Strategic Leadership and Ethics

SOLA4951 | 4 UOC
Research Thesis A

SOLA4952 | 4 UOC
Research Thesis B

SOLA4953 | 4 UOC
Research Thesis C

SOLA5050 | 6 UOC
Renewable Energy Policy

**Level 1 Prescribed Electives**

Students must take at least 12 UOC of the following courses.

CHEM1031 and CHEM1041 will only be available to students enrolled in a program which has a Chemistry major.

BABS1201 | 6 UOC
Molecules, Cells and Genes

BIOM1010 | 6 UOC
Engineering in Medicine and Biology

BIOS1301 | 6 UOC
Ecology, Sustainability and Environmental Science

CEIC1000 | 6 UOC
Sustainable Product Engineering and Design

CHEM1011 | 6 UOC
Chemistry 1A: Atoms, Molecules and Energy
<table>
<thead>
<tr>
<th>Code</th>
<th>UOC</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM1021</td>
<td>6</td>
<td>Chemistry 1B: Elements, Compounds and Life</td>
</tr>
<tr>
<td>CHEM1031</td>
<td>6</td>
<td>Higher Chemistry 1A: Atoms, Molecules and Energy</td>
</tr>
<tr>
<td>CHEM1041</td>
<td>6</td>
<td>Higher Chemistry 1B: Elements, Compounds and Life</td>
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<tr>
<td>CHEM1811</td>
<td>6</td>
<td>Engineering Chemistry 1A</td>
</tr>
<tr>
<td>CHEM1821</td>
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<td>Engineering Chemistry 1B</td>
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<tr>
<td>COMP1521</td>
<td>6</td>
<td>Computer Systems Fundamentals</td>
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<td>COMP1531</td>
<td>6</td>
<td>Software Engineering Fundamentals</td>
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<td>CVEN1701</td>
<td>6</td>
<td>Environmental Principles and Systems</td>
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<td>ELEC1111</td>
<td>6</td>
<td>Electrical and Telecommunications Engineering</td>
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<tr>
<td>ENGG1100</td>
<td>6</td>
<td>Grand Challenges for Engineering</td>
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<td>ENGG1200</td>
<td>6</td>
<td>Undergraduate Special Projects</td>
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<td>ENGG1300</td>
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<td>Engineering Mechanics</td>
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<td>ENGG1400</td>
<td>6</td>
<td>Engineering Infrastructure Systems</td>
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<tr>
<td>GEOS1111</td>
<td>6</td>
<td>Fundamentals of Geology</td>
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<tr>
<td>GMAT1110</td>
<td>6</td>
<td>Surveying and Geospatial Engineering</td>
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<tr>
<td>MATH1081</td>
<td>6</td>
<td>Discrete Mathematics</td>
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<tr>
<td>MATS1101</td>
<td>6</td>
<td>Engineering Materials and Chemistry</td>
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<tr>
<td>MINE1010</td>
<td>6</td>
<td>Mineral Resources Engineering</td>
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<tr>
<td>PHYS1231</td>
<td>6</td>
<td>Higher Physics 1B</td>
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<tr>
<td>PSYC1001</td>
<td>6</td>
<td>Psychology 1A</td>
</tr>
<tr>
<td>SOLA1070</td>
<td>6</td>
<td>Sustainable Energy</td>
</tr>
</tbody>
</table>

**Recommended Level 1 Electives**

- ELEC1111 Elec & Telecomm Eng (6 UOC)
- SOLA1070 Sustainable Energy (6 UOC)

**Enrolment Disclaimer**

You are responsible for ensuring you enrol in courses according to your program
requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements. Do not assume that because you have enrolled in a course that the course will be credited towards your program.
**Additional Information**

**Professional Recognition**

The BE (Hons) in Renewable Energy is fully accredited by Engineers Australia.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)
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Authorised by Deputy Vice-Chancellor (Academic)
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