Overview

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.
<table>
<thead>
<tr>
<th>Faculty</th>
<th>Faculty of Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>School of Photovoltaic and Renewable Engineering</td>
</tr>
<tr>
<td>Study Level</td>
<td>Undergraduate</td>
</tr>
<tr>
<td>Minimum Units of Credit</td>
<td>168</td>
</tr>
<tr>
<td>Specialisation Type</td>
<td>Honours</td>
</tr>
</tbody>
</table>
Available in Program(s)

Program(s) in which this honours is available

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
PHYS1231  |  6 UOC
Higher Physics 1B

One of the following:

COMP1911  |  6 UOC
Computing 1A

ENGG1811  |  6 UOC
Computing for Engineers

**Level 2 Core Courses**

Students must take 48 UOC of the following courses.

Note: Students selecting Mathematics Strand and Physics Stand, 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.

ENGG2500  |  6 UOC
Fluid Mechanics for Engineers

MATH2089  |  6 UOC
Numerical Methods and Statistics

MMAN2700  |  6 UOC
Thermodynamics

SOLA2051  |  6 UOC
Project in Photovoltaics and Renewable Energy 1

SOLA2052  |  6 UOC
Project in Photovoltaics and Renewable Energy 2

SOLA2060  |  6 UOC
Introduction to Electronic Devices

SOLA2540  |  6 UOC
One of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH2018</td>
<td>6</td>
<td>Engineering Mathematics 2D</td>
</tr>
<tr>
<td>MATH2019</td>
<td>6</td>
<td>Engineering Mathematics 2E</td>
</tr>
</tbody>
</table>

**Level 3 Core Courses**

Students must take 42 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH3610</td>
<td>6</td>
<td>Advanced Thermofluids</td>
</tr>
<tr>
<td>MECH9720</td>
<td>6</td>
<td>Solar Thermal Energy Design</td>
</tr>
<tr>
<td>SOLA3010</td>
<td>6</td>
<td>Low Energy Buildings and Photovoltaics</td>
</tr>
<tr>
<td>SOLA5051</td>
<td>6</td>
<td>Life Cycle Assessment</td>
</tr>
<tr>
<td>SOLA5052</td>
<td>6</td>
<td>Biomass</td>
</tr>
<tr>
<td>SOLA5053</td>
<td>6</td>
<td>Wind Energy Converters</td>
</tr>
<tr>
<td>SOLA5057</td>
<td>6</td>
<td>Energy Efficiency</td>
</tr>
</tbody>
</table>

**Level 4 Core Courses**

Students must take 24 UOC of the following courses.
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>Course Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM1021</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Chemistry 1B: Elements, Compounds and Life</td>
<td></td>
</tr>
<tr>
<td>CHEM1031</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Higher Chemistry 1A: Atoms, Molecules and Energy</td>
<td></td>
</tr>
<tr>
<td>CHEM1041</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Higher Chemistry 1B: Elements, Compounds and Life</td>
<td></td>
</tr>
<tr>
<td>CHEM1811</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Engineering Chemistry 1A</td>
<td></td>
</tr>
<tr>
<td>CHEM1821</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Engineering Chemistry 1B</td>
<td></td>
</tr>
<tr>
<td>COMPI521</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Computer Systems Fundamentals</td>
<td></td>
</tr>
<tr>
<td>COMPI531</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Software Engineering Fundamentals</td>
<td></td>
</tr>
<tr>
<td>CVEN1701</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Environmental Principles and Systems</td>
<td></td>
</tr>
<tr>
<td>ELEC1111</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Electrical and Telecommunications Engineering</td>
<td></td>
</tr>
<tr>
<td>ENGG1100</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Grand Challenges for Engineering</td>
<td></td>
</tr>
<tr>
<td>ENGG1200</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Undergraduate Special Projects</td>
<td></td>
</tr>
<tr>
<td>ENGG1300</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Engineering Mechanics</td>
<td></td>
</tr>
</tbody>
</table>
ENGG1400  |  6 UOC
Engineering Infrastructure Systems

GEOS1111  |  6 UOC
Fundamentals of Geology

GMAT1110  |  6 UOC
Surveying and Geospatial Engineering

MATH1081  |  6 UOC
Discrete Mathematics

MATS1101  |  6 UOC
Engineering Materials and Chemistry

MINE1010  |  6 UOC
Mineral Resources Engineering

PHYS1231  |  6 UOC
Higher Physics 1B

PSYC1001  |  6 UOC
Psychology 1A

SOLA1070  |  6 UOC
Sustainable Energy

**Recommended Level 1 Electives**

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

**Enrolment Disclaimer**

Unless advised otherwise by your program authority, you should follow the rules for
the handbook for the year you commenced your program. You are also 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.
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)

Pre-2019 Handbook Editions
© UNSW Sydney (CRICOS Provider No.: 00098G), 2019. The information contained in this Handbook is indicative only. While every effort is made to keep this information up-to-date, the University reserves the right to discontinue or vary arrangements, programs and courses at any time without notice and at its discretion. While the University will try to avoid or minimise any inconvenience, changes may also be made to programs, courses and staff after enrolment. The University may also set limits on the number of students in a course.

Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179