Specialisation

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
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:
COMPI911 | 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 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.

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:

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.
<table>
<thead>
<tr>
<th>Code</th>
<th>UOC</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC4122</td>
<td>6</td>
<td>Strategic Leadership and Ethics</td>
</tr>
<tr>
<td>SOLA4951</td>
<td>4</td>
<td>Research Thesis A</td>
</tr>
<tr>
<td>SOLA4952</td>
<td>4</td>
<td>Research Thesis B</td>
</tr>
<tr>
<td>SOLA4953</td>
<td>4</td>
<td>Research Thesis C</td>
</tr>
<tr>
<td>SOLA5050</td>
<td>6</td>
<td>Renewable Energy Policy</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Code</th>
<th>UOC</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BABS1201</td>
<td>6</td>
<td>Molecules, Cells and Genes</td>
</tr>
<tr>
<td>BIOM1010</td>
<td>6</td>
<td>Engineering in Medicine and Biology</td>
</tr>
<tr>
<td>BIOS1301</td>
<td>6</td>
<td>Ecology, Sustainability and Environmental Science</td>
</tr>
<tr>
<td>CEIC1000</td>
<td>6</td>
<td>Sustainable Product Engineering and Design</td>
</tr>
<tr>
<td>CHEM1011</td>
<td>6</td>
<td>Chemistry 1A: Atoms, Molecules and Energy</td>
</tr>
<tr>
<td>Course Code</td>
<td>UOC</td>
<td>Course Title</td>
</tr>
<tr>
<td>-------------</td>
<td>-----</td>
<td>--------------------------------------------------</td>
</tr>
<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>
</tr>
<tr>
<td>CHEM1811</td>
<td>6</td>
<td>Engineering Chemistry 1A</td>
</tr>
<tr>
<td>CHEM1821</td>
<td>6</td>
<td>Engineering Chemistry 1B</td>
</tr>
<tr>
<td>COMP1521</td>
<td>6</td>
<td>Computer Systems Fundamentals</td>
</tr>
<tr>
<td>COMP1531</td>
<td>6</td>
<td>Software Engineering Fundamentals</td>
</tr>
<tr>
<td>CVEN1701</td>
<td>6</td>
<td>Environmental Principles and Systems</td>
</tr>
<tr>
<td>ELEC1111</td>
<td>6</td>
<td>Electrical and Telecommunications Engineering</td>
</tr>
<tr>
<td>ENGG1100</td>
<td>6</td>
<td>Grand Challenges for Engineering</td>
</tr>
<tr>
<td>ENGG1200</td>
<td>6</td>
<td>Undergraduate Special Projects</td>
</tr>
<tr>
<td>ENGG1300</td>
<td>6</td>
<td>Engineering Mechanics</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**  
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)

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