Bachelor of Engineering (Honours)
Renewable Energy Systems Major

Instructions
1. Make sure that you are familiar with the program requirements of your degree.
2. Make sure you are following the program requirements for the academic year that you commenced your degree.
3. Fill in the boxes once you have successfully passed the course (or if you have been awarded course credit or exemption).
4. Ensure that you have completed the listed requirements for each section.
5. Always check your enrolments with CECS Student Services to ensure that you are on track to graduate.

The Bachelor of Engineering (Honours) requires completion of 192 units, of which:

A maximum of 10 courses may come from completion of 1000-level courses.

1  2  3  4  5  6  7  8  9  10

Compulsory Courses

Complete the 14x courses listed below

- PHYS1013 Physics of Materials (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites: N/A
  
  Availability: Semester 1

- ENGN1211 Discovering Engineering (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites: N/A
  
  Availability: Semester 1

- ENGN1217 Introduction to Mechanics (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites: N/A
  
  Availability: Semester 2

- ENGN1218 Introduction to Electronics (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites: N/A
  
  Availability: Semester 2

- ENGN2217 Mechanical Systems and Design (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites:
  - Successful completion of ENGN1217
  
  Availability: Semester 1

- ENGN2218 Electronic Systems and Design (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites:
  - Successful completion of ENGN1218
  
  Availability: Semester 1

- ENGN2219 Computer Architecture and Simulation (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites:
  - Successful completion of COMP1100 or COMP1130 or COMP1730
  
  Availability: Semester 1

- ENGN2222 Engineering Thermodynamics (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites:
  - Successful completion of MATH1013 or MATH1014
  
  Availability: Semester 2

- ENGN2228 Signals and Systems (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  
  Prerequisites:
  - Successful completion of MATH1013 or MATH1014
  
  Availability: Semester 2
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Status</th>
<th>Grading</th>
<th>Prerequisites</th>
<th>Availability</th>
<th>Prerequisites Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN2300</td>
<td>Engineering Design 2: Systems Approaches for Design</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 1</td>
<td>✔️ Successful completion of ENGN1211</td>
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<tr>
<td>ENGN2301</td>
<td>Engineering Design 3: Systems Approaches for Analysis</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 2</td>
<td>✔️ Successful completion of ENGN2300</td>
</tr>
<tr>
<td>ENGN3300</td>
<td>Engineering Design 4A: Systems Approaches for Management</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 1</td>
<td>✔️ Successful completion of ENGN2301</td>
</tr>
<tr>
<td>ENGN3301</td>
<td>Engineering Design 4B: Systems Approaches for Operations</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 2</td>
<td>✔️ Successful completion of ENGN3300</td>
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</table>

**Compulsory Courses**

Complete 1x of the courses listed below

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Status</th>
<th>Grading</th>
<th>Prerequisites</th>
<th>Availability</th>
<th>Prerequisites Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP1100</td>
<td>Programming as Problem Solving</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 1 / Semester 2</td>
<td>N/A</td>
</tr>
<tr>
<td>COMP1730</td>
<td>Programming for Scientists</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 1 / Semester 2</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
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<th>Credits</th>
<th>Status</th>
<th>Grading</th>
<th>Prerequisites</th>
<th>Availability</th>
<th>Prerequisites Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH1013</td>
<td>Mathematics and Applications 1</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 1 / Semester 2</td>
<td>N/A</td>
</tr>
<tr>
<td>MATH1115</td>
<td>Advanced Mathematics and Applications 1</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 1</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Compulsory Courses**

Complete 1x of the courses listed below

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Status</th>
<th>Grading</th>
<th>Prerequisites</th>
<th>Availability</th>
<th>Prerequisites Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH1014</td>
<td>Mathematics and Applications 2</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 1 / Semester 2</td>
<td>✔️ Successful completion of MATH1013 or MATH1115 or MATH1113</td>
</tr>
<tr>
<td>MATH1116</td>
<td>Advanced Mathematics and Applications 2</td>
<td>6 units</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>Semester 2</td>
<td>✔️ Successful completion of MATH1115 with a grade of ≥ 60% or MATH1113 with a grade of ≥ 80%</td>
</tr>
</tbody>
</table>
### Compulsory Research Courses

**Complete 1x of the courses listed below**

- **ENGN4300** Capstone Design Project *(12 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Semester 1 / Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of ENGN3301</td>
</tr>
</tbody>
</table>

  This course must be completed over two consecutive semesters.

- **ENGN4350** Individual Project *(12 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Semester 1 / Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of 4x ENGN-coded 3000-level or 4000-level courses</td>
</tr>
</tbody>
</table>

  Before you enrol into this course you must:
  
  - Have a weighted average mark of 75%
  - Find a Project Supervisor
  - Complete an 'Independent Study Contract'
  - Obtain approval from the Course Convenor

### Major Courses – Renewable Energy Systems

**Complete 4x of the courses listed below**

- **ENGN3224** Fluid Mechanics and Heat Transfer *(6 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of ENGN2222</td>
</tr>
</tbody>
</table>

- **ENGN3516** Energy Resources and Renewable Technologies *(6 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of ENGN2301</td>
</tr>
</tbody>
</table>

- **ENGN4547** Grid Integration of Renewable and Storage Technologies *(6 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of ENGN4625</td>
</tr>
</tbody>
</table>

- **ENGN4625** Power Systems and Power Electronics *(6 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of ENGN2218</td>
</tr>
</tbody>
</table>

**Complete 2x of the courses listed below**

- **ENGN4524** Photovoltaic Technologies *(6 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of ENGN2218</td>
</tr>
</tbody>
</table>

- **ENGN4525** Solar Thermal Technologies *(6 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Semester 2</th>
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</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of ENGN3224</td>
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</tbody>
</table>

- **ENGN4548** Wind Energy *(6 units)*
  - completed at the ANU  ☐ awarded as credit  ☐ awarded as exemption
  
<table>
<thead>
<tr>
<th>Availability: Winter / Semester 2</th>
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</thead>
<tbody>
<tr>
<td>Prerequisites:</td>
</tr>
<tr>
<td>Successful completion of PHYS1013</td>
</tr>
</tbody>
</table>
### Unspecified Elective Courses

**Complete 8x ANU-wide courses**

<table>
<thead>
<tr>
<th>ANU-wide course (6 units)</th>
<th>Course: ___________________________</th>
<th>☐ completed at the ANU</th>
<th>☐ awarded as credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANU-wide course (6 units)</td>
<td>Course: ___________________________</td>
<td>☐ completed at the ANU</td>
<td>☐ awarded as credit</td>
</tr>
<tr>
<td>ANU-wide course (6 units)</td>
<td>Course: ___________________________</td>
<td>☐ completed at the ANU</td>
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<td>Course: ___________________________</td>
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<td>☐ awarded as credit</td>
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<td>Course: ___________________________</td>
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<td>ANU-wide course (6 units)</td>
<td>Course: ___________________________</td>
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<tr>
<td>ANU-wide course (6 units)</td>
<td>Course: ___________________________</td>
<td>☐ completed at the ANU</td>
<td>☐ awarded as credit</td>
</tr>
</tbody>
</table>

**Additional electives as a result of awarded course exemption(s)**

You are required to complete an additional ____ COMP-coded elective courses

You are required to complete an additional ____ ANU-wide elective courses
### 2020 Suggested Study Plan – Semester 1 Commencement

#### YEAR 1

<table>
<thead>
<tr>
<th>Semester 1 2020</th>
<th>PHYS1013 Physics of Materials</th>
<th>ENGN1211 Discovering Engineering</th>
<th>MATH1013 Mathematics and Applications 1</th>
<th>COMP1100 Programming as Problem Solving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 2 2020</td>
<td>ENGN1217 Introduction to Mechanics</td>
<td>ENGN1218 Introduction to Electronics</td>
<td>MATH1115 Advanced Mathematics and Applications 1</td>
<td>COMPS1730 Programming for Scientists</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MATH1014 Mathematics and Applications 2</td>
<td>ANU-wide elective course</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MATH1116 Advanced Mathematics and Applications 2</td>
<td>ANU-wide elective course</td>
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</tbody>
</table>

#### YEAR 2

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Semester 2 2021</td>
<td>ENGN2222 Engineering Thermodynamics</td>
<td>ENGN2228 Signals and Systems</td>
<td>ENGN2301 Engineering Design 3: Systems Approaches for Analysis</td>
<td>ANU-wide elective course</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>ANU-wide elective course</td>
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</tbody>
</table>

#### YEAR 3

<table>
<thead>
<tr>
<th>Semester 1 2022</th>
<th>ENGN3300 Engineering Design 4A: Systems Approaches for Management</th>
<th>ENGN3224 Fluid Mechanics and Heat Transfer</th>
<th>ANU-wide elective course</th>
<th>ANU-wide elective course</th>
</tr>
</thead>
</table>

#### YEAR 4

<table>
<thead>
<tr>
<th>Semester 1 2023</th>
<th>ENGN4300 Capstone Design Project</th>
<th>ENGN4547 Grid Integration of Renewable and Storage Technologies</th>
<th>ANU-wide elective course</th>
<th>ANU-wide elective course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 2 2023</td>
<td>ENGN4350 Individual Project</td>
<td>ENGN4525 Solar Thermal Technologies</td>
<td>ENGN4548 Wind Energy</td>
<td>ANU-wide elective course</td>
</tr>
</tbody>
</table>

*Please make sure to enrol and complete ENGN3100 Practical Experience in your final year.*
### YEAR 1

**Semester 2 2020**

- COMP1100 Programming as Problem Solving
- MATH1013 Mathematics and Applications 1
- ANU-wide elective course

**OR**

- COMP1730 Programming for Scientists
- MATH1014 Mathematics and Applications 2
- ANU-wide elective course

**Semester 1 2021**

- PHYS1013 Physics of Materials
- ENGN1211 Discovering Engineering
- ANU-wide elective course

**Semester 2 2021**

- ENGN1217 Introduction to Mechanics
- ENGN1218 Introduction to Electronics
- ENGN2222 Engineering Thermodynamics
- ENGN2228 Signals and Systems

**Semester 1 2022**

- ENGN2217 Mechanical Systems and Design
- ENGN2218 Electronic Systems and Design
- ENGN2219 Computer Architecture and Simulation
- ENGN2300 Engineering Design 2: Systems Approaches for Design

### YEAR 2

**Semester 2 2022**

- ENGN2301 Engineering Design 3: Systems Approaches for Analysis
- ENGN4625 Power Systems and Power Electronics
- ANU-wide elective course

**Semester 1 2023**

- ENGN3300 Engineering Design 4A: Systems Approaches for Management
- ENGN3224 Fluid Mechanics and Heat Transfer
- ENGN4547 Grid Integration of Renewable and Storage Technologies
- ANU-wide elective course

### YEAR 3

**Semester 2 2023**

- ENGN4300 Capstone Design Project
  
  (permission required to complete ENGN3301 as a co-requisite)
- ENGN3301 Engineering Design 4B: Systems Approaches for Operations
- ENGN3516 Energy Resources and Renewable Technologies
- ENGN4525 Solar Thermal Technologies

**OR**

- ENGN4350 Individual Project

**Semester 1 2024**

- ENGN4300 Capstone Design Project
  
  (permission required to complete ENGN3301 as a co-requisite)
- ENGN4524 Photovoltaic Technologies
- ANU-wide elective course

**OR**

- ENGN4350 Individual Project

### YEAR 4

**Semester 2 2023**

- ENGN4300 Capstone Design Project
  
  (permission required to complete ENGN3301 as a co-requisite)
- ENGN3301 Engineering Design 4B: Systems Approaches for Operations
- ENGN3516 Energy Resources and Renewable Technologies
- ENGN4525 Solar Thermal Technologies

**OR**

- ENGN4350 Individual Project

**Semester 1 2024**

- ENGN4300 Capstone Design Project
  
  (permission required to complete ENGN3301 as a co-requisite)
- ENGN4524 Photovoltaic Technologies
- ANU-wide elective course

**OR**

- ENGN4350 Individual Project

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*Please make sure to enrol and complete ENGN3100 Practical Experience in your final year.*