#### **Engineering**

# Bachelor of Engineering (Honours) / Computer Science (3785)

#### Renewable Energy Engineering (SOLABH) / Computer Science (COMPA1)

## T1 Entry 2025 Sample Plan



|           | Year 1  |           | Year 2   |           |
|-----------|---|-----------|--|-----------|
|           | <b>DESN1000</b> Introduction to Engineering Design and Innovation   |           | MMAN2700<br>Thermodynamics   |           |
| Term<br>1 | MATH1131 Mathematics 1A <u>OR</u><br>MATH1141 Higher Mathematics 1A | Term<br>1 | MATH2018 Engineering Mathematics 2D <u>OR</u><br>MATH2019 Engineering Mathematics 2E | Term<br>1 |
|           | PHYS1121 Physics 1A <u>OR</u><br>PHYS1131 Higher Physics 1A         |           | SOLA2060<br>Introduction to Electronic Devices                                       |           |
|           | COMP1511 Programming Fundamentals                                   |           | COMP1521<br>Computer Systems Fundamentals  |           |
| Term<br>2 | <b>SOLA1070</b><br>Sustainable Energy                               | Term<br>2 | <b>SOLA2051</b><br>Project in Photovoltaics and Renewable Energy                     | Term<br>2 |
|           |   |           |  |           |
|           | ELEC1111<br>Electrical Circuit Fundamentals                         |           | <b>DESN2000</b> Engineering Design and Professional Practice                         |           |
| Term<br>3 | MATH1231 Mathematics 1B <u>OR</u><br>MATH1241 Higher Mathematics 1B | Term<br>3 | <b>SOLA2540</b><br>Applied Photovoltaics   | Term<br>3 |
|           | PHYS1221 Physics 1B <u>OR</u><br>PHYS1231 Higher Physics 1B         |           | MATH2089<br>Numerical Methods and Statistics   |           |

|           | Year 3   |
|-----------|--|
| Term<br>1 | COMP1531<br>Software Engineering Fundamentals          |
|           | <b>SOLA5050</b><br>Renewable Energy Policy             |
|           | <b>SOLA5053</b><br>Wind Energy Converters              |
| Term<br>2 | <b>SOLA5057</b><br>Energy Efficiency                   |
|           | COMP2521<br>Data Structures and Algorithms             |
|           |  |
| Term<br>3 | COMP3900<br>Computer Science Project                   |
|           | <b>ELEC2911</b> Power Engineering for Renewable Energy |
|           | COMP2511 Object-Oriented Design and Programming        |

|           | Year 4   |
|-----------|--|
| Term<br>1 | <b>ELEC4122</b><br>Strategic Leadership and Ethics   |
|           | Computing Elective   |
|           | Computing Elective   |
|           | <b>SOLA4012</b><br>Photovoltaic Systems Design   |
| Term<br>2 | Discipline Elective  |
|           |  |
| Term<br>3 | COMP3121 Algorithm Design and Analysis <u>OR</u><br>COMP3821 Extended Algorithm Design and<br>Analysis |
|           | Strand Elective  |
|           | Discipline Elective  |

|           | Year 5  |
|-----------|---|
|           | <b>SOLA4951</b><br>Research Thesis A                        |
| Term<br>1 | Stand Elective  |
|           | Computing Elective  |
|           | SOLA4952  |
|           | Research Thesis B   |
| Term<br>2 | Strand Elective   |
|           | Computing Elective  |
|           | SOLA4953  |
|           | Research Thesis C   |
| Term      | COMP4920  |
| 3         | Professional Issues and Ethics in Information<br>Technology |
|           | Computing Elective  |

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#### **Engineering**

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## T2 Entry 2025 Sample Plan



|           | Year 1   |
|-----------|--|
|           | <b>SOLA1070</b><br>Sustainable Energy                                      |
| Term<br>2 | <b>MATH1131</b><br>Mathematics 1A  |
|           | <b>PHYS1121</b> Physics 1 A <u>OR</u><br><b>PHYS1131</b> Higher Physics 1A |
|           | <b>DESN1000</b> Introduction to Engineering Design and Innovation          |
| Term<br>3 | <b>COMP1511</b> Programming Fundamentals                                   |
|           |  |
|           | MATH1231 Mathematics 1B <u>OR</u><br>MATH1241 Higher Mathematics 1B        |
| Term<br>1 | <b>PHYS1221</b> Physics 1B <u>OR</u><br><b>PHYS1231</b> Higher Physics 1B  |
|           | <b>ELEC1111</b><br>Electrical Circuit Fundamentals                         |

|           | Year 2   |  |
|-----------|--|--|
| Term<br>2 | <b>COMP1521</b><br>Computer Systems Fundamentals                 |  |
|           | <b>SOLA2051</b><br>Project in Photovoltaics and Renewable Energy |  |
|           | MATH2018<br>Engineering Mathematics 2D                           |  |
|           | <b>DESN2000</b><br>Engineering Design and Professional Practice  |  |
| Term<br>3 | MATH2089<br>Numerical Methods and Statistics                     |  |
|           | <b>SOLA2540</b><br>Applied Photovoltaics                         |  |
| Term<br>1 | <b>MMAN2700</b><br>Thermodynamics                                |  |
|           | SOLA2060<br>Introduction to Electronic Devices                   |  |
|           |  |  |

|           | Year 3  |
|-----------|---|
| Term<br>2 | COMP2521<br>Data Structures and Algorithms  |
|           | <b>SOLA5057</b><br>Energy Efficiency  |
|           | COMP1531<br>Software Engineering Fundamentals   |
| Term<br>3 | <b>ELEC2911</b> Power Engineering for Renewable Energy                                    |
|           | COMP2511 Object-Oriented Design and Programming   |
|           |   |
| Term<br>1 | COMP3121 Algorithm Design and Analysis OR COMP3821 Extended Algorithm Design and Analysis |
|           | <b>SOLA5050</b><br>Renewable Energy Policy  |
|           | <b>SOLA5053</b><br>Wind Energy Converters   |

|           | Year 4  |
|-----------|---|
| Term<br>2 | Discipline Elective   |
|           | Strand Elective   |
|           | Computing Elective  |
|           | COMP3900<br>Computer Science Project                              |
| Term<br>3 | Computing Elective  |
|           |   |
| Term<br>1 | COMP4920 Professional Issues and Ethics in Information Technology |
|           | Strand Elective   |
|           | Computing Elective  |

|           | Year 5   |
|-----------|--|
|           | <b>SOLA4951</b><br>Research Thesis A               |
| Term<br>2 | <b>SOLA4012</b><br>Photovoltaic Systems Design     |
|           | Computing Elective                                 |
|           | <b>SOLA4952</b><br>Research Thesis B               |
| Term<br>3 | Strand Elective                                    |
|           | Discipline Elective                                |
|           | <b>SOLA4953</b><br>Research Thesis C               |
| Term<br>1 | <b>ELEC4122</b><br>Strategic Leadership and Ethics |
|           | Computing Elective                                 |

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## T3 Entry 2025 Sample Plan



|           | Year 1  |
|-----------|---|
| Term<br>3 | <b>DESN1000</b> Introduction to Engineering Design and Innovation                 |
|           | MATH1131 Mathematics 1A <u>OR</u><br>MATH1141 Higher Mathematics 1A               |
|           | <b>PHYS1121</b> Physics 1A <u>OR</u><br><b>PHYS1131</b> Higher Physics 1A         |
|           | <b>MATH1231</b> Mathematics 1B <u>OR</u><br><b>MATH1241</b> Higher Mathematics 1B |
| Term<br>1 | <b>PHYS1221</b> Physics 1B <u>OR</u><br><b>PHYS1231</b> Higher Physics 1B         |
|           | <b>ELEC1111</b><br>Electrical Circuit Fundamentals                                |
| Term<br>2 | <b>SOLA1070</b><br>Sustainable Energy   |
|           | COMP1511<br>Programming Fundamentals  |
|           |   |

|           | Year 2   |
|-----------|--|
| Term<br>3 | MMAN2700<br>Thermodynamics   |
|           | <b>MATH2089</b><br>Numerical Methods and Statistics                                  |
|           | <b>DESN2000</b> Engineering Design and Professional Practice                         |
|           | MATH2018 Engineering Mathematics 2D <u>OR</u><br>MATH2019 Engineering Mathematics 2E |
| Term<br>1 | SOLA2060<br>Introduction to Electronic Devices                                       |
|           | <b>SOLA2540</b><br>Applied Photovoltaics   |
| Term<br>2 | SOLA2051 Project in Photovoltaics and Renewable Energy                               |
|           | COMP1531<br>Software Engineering Fundamentals  |
|           |  |

|           | Year 3   |
|-----------|--|
| Term<br>3 | <b>ELEC2911</b> Power Engineering for Renewable Energy |
|           | COMP1521<br>Computer Systems Fundamentals              |
|           |  |
| Term<br>1 | <b>COMP2521</b> Data Structures and Algorithms         |
|           | <b>SOLA5050</b><br>Renewable Energy Policy             |
|           | <b>SOLA5053</b> Wind Energy Converters                 |
| Term<br>2 | <b>SOLA5057</b><br>Energy Efficiency                   |
|           | Stand Elective   |
|           | COMP2511 Object-Oriented Design and Programming        |

|           | Year 4   |
|-----------|--|
| Term<br>3 | COMP3121 Algorithm Design and Analysis <u>OR</u><br>COMP3821 Extended Algorithm Design and<br>Analysis |
|           | Strand Elective  |
|           | Computing Elective   |
| Term<br>1 | <b>ELEC4122</b><br>Strategic Leadership and Ethics   |
|           | Computing Elective   |
|           | Discipline Elective  |
| Term<br>2 | <b>SOLA4012</b><br>Photovoltaic Systems Design   |
|           | <b>COMP3900</b><br>Computer Science Project  |
|           |  |

| Year 5    |   |  |
|-----------|---|--|
| Term<br>3 | <b>SOLA4951</b><br>Research Thesis A                              |  |
|           | Stand Elective  |  |
|           | Computing Elective  |  |
| Term<br>1 | <b>SOLA4952</b><br>Research Thesis B                              |  |
|           | Computing Elective  |  |
|           | Discipline Elective   |  |
| Term<br>2 | <b>SOLA4953</b><br>Research Thesis C                              |  |
|           | COMP4920 Professional Issues and Ethics in Information Technology |  |
|           | Computing Elective  |  |

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