## Year 1

### No HSC Physics

**Semester 1**
- PHYS1002 Physics 1 (Fundamental)
  - Language of physics
  - Mechanics
  - Oscillations and waves
  - Experimental physics
  - 6cp

**Semester 2**
- PHYS1004 Physics 1 (Environmental and Life Sciences)
  - Properties of matter
  - Electromagnetism
  - Radiation and matter
  - Experimental physics
  - 6cp

### HSC Physics

**Semester 1**
- PHYS1001 Physics 1 (Regular)
  - Mechanics
  - Thermal physics
  - Oscillations and waves
  - Experimental physics
  - 6cp

**Semester 2**
- PHYS1003 Physics 1 (Technological)
  - Fluids
  - Electromagnetism
  - Quantum physics
  - Experimental physics
  - 6cp

### HSC Physics Result >85

**Semester 1**
- PHYS1001 Physics 1A (Advanced)
  - Mechanics
  - Thermal physics
  - Waves, oscillations and chaos
  - Experimental physics
  - Research project
  - 6cp

**Semester 2**
- PHYS1002 Physics 1B (Advanced)
  - Fluids
  - Electricity and magnetism
  - Quantum physics
  - Experimental physics
  - Research project
  - 6cp

### HSC Physics Result >92

**Semester 1**
- PHYS1001 Physics 1A (Special Studies Program)
  - Mechanics
  - Thermal physics
  - Waves, oscillations and chaos
  - Experimental physics
  - Research project
  - 6cp

**Semester 2**
- PHYS1002 Physics 1B (Special Studies Program)
  - Fluids
  - Electricity and magnetism
  - Quantum physics
  - Experimental physics
  - Research project
  - 6cp

## Year 2

**Semester 1**
- PHYS2011 Physics 2A
  - Optics
  - Thermodynamics
  - Computational physics
  - Experimental physics
  - 6cp

**Semester 2**
- PHYS2012 Physics 2B
  - Quantum physics
  - Electromagnetic properties of matter
  - Computational physics
  - 6cp

## Year 3

### Core Unit

**Semester 1**
- PHYS3034 Quantum, Statistical
  - and Comp Phys
  - 6cp

**Semester 2**
- PHYS3035 Electro dynamics and
  - Optics
  - Electrodynamics
  - Optics
  - Experimental physics
  - 6cp

### Selective Unit

**Semester 1**
- PHYS3036 Condensed Matter and
  - Particle Phys (Advanced)
  - Condensed matter
  - Particle physics
  - Experimental physics
  - 6cp

**Semester 2**
- PHYS3037 Plasma and
  - Astrophysics
  - Plasma physics
  - Astrophysics
  - Experimental physics
  - 6cp

**Selective Unit**

**Semester 1**
- PHYS3038 Interdisciplinary Project
  - Lecture and tutorial component
  - Project component
  - 6cp

**Semester 2**
- PHYS3039 Interdisciplinary Project
  - Project component
  - 6cp

### Core Unit

**Semester 1**
- PHYS3934 Quantum, Statistical,
  - and Comp Phys (Advanced)
  - Quantum physics
  - Statistical mechanics
  - Computational physics
  - 6cp

**Semester 2**
- PHYS3935 Plasma and
  - Astrophysics (Advanced)
  - Plasma physics
  - Astrophysics
  - 6cp

**Selective Unit**

**Semester 1**
- PHYS3936 Interdisciplinary Project
  - Lecture and tutorial component
  - Project component
  - 6cp

**Semester 2**
- PHYS3937 Interdisciplinary Project
  - Project component
  - 6cp

Please note. You must complete one selective unit and one interdisciplinary project unit in a Physics Major.
# Physics Major Course Structure

## Year 1

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 1 or Physics 1A</td>
<td>Physics 1B</td>
</tr>
<tr>
<td>PHYS1002</td>
<td>PHYS1001</td>
</tr>
<tr>
<td>PHYS1901</td>
<td>PHYS1902</td>
</tr>
<tr>
<td>PHYS1903</td>
<td>PHYS1904</td>
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<tr>
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<td>6cp</td>
</tr>
<tr>
<td>Calculus of One Variable</td>
<td>Multivariable Calculus and Modelling</td>
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<tr>
<td>MATH1021</td>
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<tr>
<td>MATH1921</td>
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<td>MATH1931</td>
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<tr>
<td>3cp</td>
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</tr>
<tr>
<td>Linear Algebra</td>
<td>Statistical Thinking with Data</td>
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<tr>
<td>MATH1002</td>
<td>MATH1005</td>
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<td>MATH1902</td>
<td>MATH1905</td>
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<tr>
<td>3cp</td>
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</tbody>
</table>

**OLET**

- Any combination of OLET units
  - 6cp

## Year 2

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 2A</td>
<td>Physics 2B</td>
</tr>
<tr>
<td>PHYS1201</td>
<td>PHYS1202</td>
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<tr>
<td>PHYS2911</td>
<td>PHYS2912</td>
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<td>PHYS2921</td>
<td>PHYS2922</td>
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<td>6cp</td>
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<tr>
<td>Vector Calculus and Differential Equations</td>
<td>Astrophysics and relativity</td>
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<td>MATH2021</td>
<td>PHYS2015</td>
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<td>MATH2021</td>
<td>PHYS2923</td>
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<td>6cp</td>
<td>6cp</td>
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</tbody>
</table>

**Elective**

## Year 3

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantum, Statistical and Comp Physics</td>
<td>Quantum and Particle Physics</td>
</tr>
<tr>
<td>PHYS1014</td>
<td>PHYS3016</td>
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<tr>
<td>PHYS2014</td>
<td>PHYS3016</td>
</tr>
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<td>PHYS3016</td>
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<tr>
<td>Condensed Matter and Particle Physics</td>
<td>Plasma and Astrophysics</td>
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<td>PHYS2015</td>
<td>PHYS3017</td>
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<td>PHYS3017</td>
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<tr>
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</tr>
</tbody>
</table>

## Physics OLEs and Electives

**Major 2**

- 6cp

**Elective**

- 6cp

**OLET**

- Any combination of OLET units
  - 6cp

This is an example of the course structure for a physics major for a student intending to continue into Honours.

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**Physics OLEs and Electives**

- **OLET1605 Communication in STEM** 2cp
- **OLET1618 Data Science in Astronomy: Algorithms** 2cp
- **OLET1620 Data Science in Astronomy: Analysis** 2cp
- **OLET1622 Numbers and Numerics** 2cp
- **OLET1636 Astronomy: from Earth to Exoplanets** 2cp
- **OLET1638 Astronomy: from Stars to Black Holes** 2cp
- **OLET1640 Astronomy: from Big Bang to Darkness** 2cp
- **OLET1652 How to Estimate Anything** 2cp
- **OLET2610 Foundations of Quantum Computing** 2cp

**Semester 1**

- **COSC1002 Computational Modelling** 6cp
- **COSC2902 Computational Modelling (Advanced)** 6cp

**Semester 2**

- **NANO2002 Introduction to Nanoscience** 6cp
- **PHYS2013 Astrophysics and Relativity** 6cp
- **PHYS2913 Astrophysics and Relativity (Advanced)** 6cp
- **PHYS2923 Astrophysics and Relativity SSP** 6cp
- **PHYS3037 Physics Interdisciplinary project** 6cp
- **PHYS3038 Physics Interdisciplinary project** 6cp

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**This is an example of the course structure for a physics major for a student intending to continue into Honours.**