



# Physics

## Bachelor of Science

### 2015 SAMPLE COURSE PLANS

	Leading to major subjects
	Recommended subjects
	Science electives
	Major subjects
	Breadth subjects

#### PHYSICS

First Year	Semester 1	<a href="#">PHYC10003 Physics 1</a>	<a href="#">MAST10006 Calculus 2</a>	Science Elective	Breadth
	Semester 2	<a href="#">PHYC10006 Physics 2: Life Sciences &amp; Environment</a>	<a href="#">MAST10007 Linear Algebra</a>	Science Elective	Breadth
Second Year	Semester 1	<a href="#">PHYC20010 Quantum Mechanics and Special Relativity</a>	<a href="#">PHYC20009 Thermal and Classical Physics</a>	Science Elective	Breadth
	Semester 2	<a href="#">PHYC20011 Electromagnetism and Optics</a>	<a href="#">MAST20009 Vector Calculus</a>	<a href="#">MAST20026 Real Analysis</a>	Breadth
Third Year	Semester 1	<a href="#">PHYC30018 Quantum Physics</a>	<a href="#">PHYC30014 Laboratory Work A</a>	Science Elective	Breadth
	Semester 2	<a href="#">PHYC30017 Statistical Physics</a>	<a href="#">PHYC30015 Laboratory Work B</a>	Science Elective	Breadth

#### CHEMICAL PHYSICS

First Year	Semester 1	<a href="#">MAST10006 Calculus 2</a>	<a href="#">PHYC10003 Physics 1</a>	<a href="#">CHEM10003 Chemistry 1</a>	Breadth
	Semester 2	<a href="#">MAST10007 Linear Algebra</a>	<a href="#">PHYC10006 Physics 2: Life Sciences &amp; Environment</a>	<a href="#">CHEM10004 Chemistry 2</a>	Breadth
Second Year	Semester 1	<a href="#">PHYC20010 Quantum Mechanics and Special Relativity</a>	<a href="#">PHYC20009 Thermal and Classical Physics</a>	<a href="#">CHEM20018 Reactions and Synthesis</a>	Breadth
	Semester 2	<a href="#">PHYC20011 Electromagnetism and Optics</a>	<a href="#">MAST20009 Vector Calculus</a>	<a href="#">CHEM20020 Structure and Properties</a>	<a href="#">MAST20026 Real Analysis</a>
Third Year	Semester 1	<a href="#">PHYC30018 Quantum Physics</a>	<a href="#">PHYC30016 Electrodynamics</a>	<a href="#">CHEM30016 Reactivity and Mechanism</a>	Breadth
	Semester 2	<a href="#">CHEM30014 Specialised Topics in Chemistry B</a>	Science Elective	Science Elective	Breadth

The course plan displayed is a sample only. The University gives no warranty and accepts no responsibility for the accuracy or the completeness of the material. No reliance should be made by any person on the material, but instead should check for confirmation with the originating or authorising faculty, department or other university body.

In the Physics major you will study nature at its most fundamental level, and gain an understanding of many familiar and interesting questions in this area. You will also learn about matter and energy and be fascinated by their interactions, which occur on all scales, from the tiniest particles inside the atomic nucleus to the forces that give rise to the structure of the universe.

This major will integrate knowledge principally from physics and mathematics to equip you with the necessary tools to think critically about the world around you and how it works. You can choose to specialise in Physics, Chemical Physics or Mathematical Physics.

**What careers can this major lead to?**

Graduates with a major in Physics can pursue career paths in multiple research and development areas including astrophysics, medical physics, meteorology, mining, scientific instrumentation, synchrotron science and vision sciences.

Graduates can also consider working in a number of commercial roles in telecommunications, government departments, management consultancies, science museums, teaching and video gaming industry.

**What graduate courses does Physics lead to?**

Bachelor of Science graduates with a major in Physics are well-placed to apply for:

- Professionally focused graduate degrees in the sciences and technology, including biotechnology, environmental systems, informatics, management science, and nanotechnology
- Graduate degrees preparing for a wide range of professions including engineering, law, medicine and other health sciences and teaching
- Masters and Honours pathways to research higher degrees in the sciences and technology within the Melbourne Graduate School of Science, Melbourne School of Engineering, Melbourne School of Land and Environment, and the Faculty of Medicine, Dentistry and Health Sciences