



Mathematical Physics

Bachelor of Science

2015 SAMPLE COURSE PLANS

	Leading subjects
	Recommended subjects
	Elective subjects
	Major subjects
	Breadth subjects

First Year	Semester 1	MAST10006 Calculus 2	PHYC10003 Physics 1	Science Elective	Breadth
	Semester 2	MAST10007 Linear Algebra	PHYC10004 Physics 2: Physical Science and Technology	Science Elective	Breadth
Second Year	Semester 1	MAST20026 Real Analysis	PHYC20010 Quantum Mechanics and Special Relativity	PHYC20009 Thermal and Classical Physics	Breadth
	Semester 2	MAST20022 Group Theory and Linear Algebra	PHYC20011 Electromagnetism and Optics	MAST20009 Vector Calculus	Breadth
Third Year	Semester 1	PHYC30018 Quantum Physics	PHYC30016 Electrodynamics	MAST30021 Complex Analysis	Breadth
	Semester 2	MAST30026 Metric and Hilbert Spaces	Science Elective	Science Elective	Breadth

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From black holes, thermodynamics, electricity and magnetism, to acoustics and aerodynamics, mathematical physics has helped answer many of the big questions about our world.

Inspired by physics with mathematical methods and rigour, this major will integrate knowledge principally from physics and mathematics to equip you with the necessary tools to think critically about the world and how it works.

You will gain a deep understanding of the physical world and develop skills in analysis, problem solving and critical thinking that will enable you to adapt to a wide range of tasks in research, teaching and management.

What careers can this major lead to?

A Mathematical Physics major will provide you with a strong foundation for an employment or research career in areas like the general sciences, agriculture and environmental sciences, banking, finance, commerce, engineering, government, and education. Job titles may include logistics/project manager, market research consultant or medical analyst.

What graduate courses does Mathematical Physics lead to?

Bachelor of Science graduates with a major in Mathematical 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