THE PHYSICS MAJOR

(Physics and Astronomy & Astrophysics Streams)

THE UNIVERSITY OF WESTERN AUSTRALIA

Achieve International Excellence

Overview: Physics examines the world around us at the most fundamental level, from the origin and fate of the universe, to the behaviour of matter on the subatomic scale - and everything in between. Studying Physics at UWA gives you access to the frontiers of modern physics, built on the pillars of quantum physics and relativity. You will also discover physics is the driving force behind many advanced technologies, from radar to lasers, from transistors to quantum computers and MRI scanners. The Astronomy and Astrophysics stream in the major is particularly exciting as Western Australia has been chosen as one of the two sites for the Square Kilometre Array (SKA) - a multibillion dollar internationally funded radio telescope capable of seeing the early stages of evolution of the Universe following the Big Bang.

What are the entry requirements? WACE Physics 3A/B, Mathematics 3C/D and Mathematics Specialist 3C/D, or equivalents. Bridging units are available prior to commencing the Physics Major unit sequence for students not meeting the entry requirements, but may add to the length of the degree programme.

What units will you take? The Physics Major unit sequence comprises half the units required for a BSc degree. It includes core units common to the Physics stream and the Astronomy & Astrophysics stream, in addition to specialist units for each stream, and complementary Mathematics units necessary to access the frontiers of modern Physics and Astrophysics.

LEVEL/YEAR	SEMESTER	UNIT	PREREQUISITES
1	1	**PHYS1001 Physics for Scientists & Engineers***	**PHYS3A/B & MAT3C/D**
		complementary MATH1001 Mathematical Methods 1	*MAS3C/D*
	2	**PHYS1002 Modern Physics*** ***(includes Foundations of Astronomy)***	**PHYS3A/B & MAT3C/D**
		complementary MATH1002 Mathematical Methods 2	*MATH1001*
2	1	**PHYS2001 Quantum Mechanics 1 and Electromagnetism+**	**PHYS1001&2, & MATH1001**
		complementary CITS2401 Computer Analysis and Visualisation	*MAT3A/B*
	2	**PHYS2002 The Physics of Particles+**	**PHYS1001&2 & MATH1001**
		complementary MATH2501 Mathematical Methods 3	*MATH1002*
3	1	**PHYS3001 Quantum Mechanics 2 and Atomic Physics** or **PHYS3003 Astrophysics and Space Science**	**PHYS2001 & 2** **PHYS2001 & 2 & MATH2501**
		PHYS3011 Mathematical Physics	**PHYS2001 & 2 & MATH2501**
	2	**PHYS3002 Classical Mechanics and Electrodynamics**	**PHYS2001 & MATH2501**
		PHYS3012 Optics and Special Topics ***Special Topics give the choice of Astrophysics or Condensed Matter Physics***	**PHYS2001 & 2**

** PHYS1001 & PHYS1002 can be studied in either order: +PHYS2001 & PHYS2002 can be studied in either order*

A second Major? A key aspect of the new course structure at UWA is that students are encouraged to take two majors. A large variety of majors can be studied alongside the Physics Major, including majors in disciplines in the Bachelor of Arts and the Bachelor of Commerce. Recommended second majors are Engineering Science, Mathematics & Statistics, Chemistry, Geology, Computer Science, and Applied Computing.

For more information see: http://handbooks.uwa.edu.au/majors/bp004/mjdphysc where hotlinks are available to descriptions of each of the units listed above. For a more general description, with some careers information, see http://www.studyat.uwa.edu.au/courses/physics