



VACATION SCHOLARSHIPS/WORK EXPERIENCE

Each year several Vacation Scholarships are offered for students of both astronomy and physics. Students are also encouraged to obtain work experience through the summer scholarships offered both by the Australia Telescope National Facility(ATNF) and the Anglo-Australian Observatory (AAO).

RESEARCH DEGREES IN ASTRONOMY

Some graduates go on to higher research degrees with projects in Astronomy and Astrophysics at Macquarie University, often jointly supervised by staff at the ATNF and the AAO. MSc and PhD research programs are available with all members of the astronomy staff. Research degrees involving the development of astronomical instrumentation may also be available. Astronomy postgraduates can either proceed to a professional astronomical career in a University or Observatory (here or overseas) or enter the general workforce in any field where enhanced research, computational, analytical and technical skills are highly regarded.

RESEARCH IN ASTRONOMY & ASTROPHYSICS

Current research in astronomy and astrophysics include wide-field astronomy, optical and radio studies of planetary nebulae , stellar proper motions from measurements of archival photographic plates, and theoretical studies of shock waves and star formation.

SCHOLARSHIPS

Super Innovation Scholarships—Available to all commencing students who have nominated MU as their first preference for tertiary study and with a UAI of 100. Valued at \$2500 annually subject to satisfactory progress.

Innovation Scholarships—Available to all commencing students who have nominated MU as their first preference for tertiary study and with a UAI of 99.50 or above. Valued at \$2500. For one year only.

CONTACT DETAILS

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AUSTRALIA'S INNOVATIVE UNIVERSITY



BSc (Majoring in Astronomy & Astrophysics)



DIVISION OF INFORMATION &
COMMUNICATION SCIENCES

BACHELOR OF SCIENCE (Majoring in ASTRONOMY & ASTROPHYSICS)

This BSc degree is about the science and technology of Astronomy. It aims to prepare students for postgraduate studies in astronomy and astrophysics. It also exposes students to the basic sciences in the context of Astronomy. It is therefore suitable for any Science student who is interested in Astronomy. The University has an observatory, with a number of telescopes, which is used for viewing by students at all levels of the program.

Any student not proceeding to postgraduate studies will have achieved proficiency in Physics, Mathematics and Computing to a level which will provide employment prospects similar to those for any BSc graduate.

SUBJECT PREREQUISITE

For completion in three years the program requires HSC Mathematics Band 6 or HSC Mathematics Extension 1 band 3 or HSC Mathematics Extension 2 or HSC 3-unit Mathematics 75% or HSC 4-unit Mathematics or equivalent. A lesser mathematics background may add an extra year to the program, which may be avoided with the summer offering of MATH136 between the first and second years.

Study Program

Detailed descriptions of units of study can be obtained from the Handbook of Undergraduate Studies or on the University Web Site—

<http://www.cal.mq.edu.au/>

The BSc program consists of at least 68 credit points of undergraduate units (3 credit points each). The table opposite indicates a possible choice of units.

FIRST YEAR

The first year of the program concentrates on giving students a strong foundation in the essential disciplines of physics, mathematics, computing and electronics. Strong students may be allowed to take the introductory astronomy unit PHYS270 in first year.

SECOND YEAR

Continuing the physics and mathematics, students now take the main astronomy units, with computing or electronics as their optional units.

THIRD YEAR

Astrophysics and General Relativity & Cosmology now add to the physics and mathematics units, with other optional units to satisfy the degree regulations.

HONOURS YEAR

Students who achieve a grade point average of 2.50 overall and 2.50 at 300 level are eligible to enrol in the one-year Honours program after completing the BSc. The Honours course is assessed at 50% coursework and 50% research thesis. The research thesis involves a substantial research project in astronomy or astrophysics. The research projects vary from year to year and those currently on offer can be seen on the website—

<http://www.physics.mq.edu.au>

and follow the links.

PROGRAM OF STUDY

FIRST YEAR PROGRAM		1st Half	2nd Half
PHYS140	Physics IA	■	
MATH135	Mathematics IA	■	
COMP115	Introduction to Computer Science	■	
GEOS112	The Planet Earth	■	
PHYS143	Physics IB		■
MATH136	Mathematics IB		■
COMP125	Fundamentals of Computer Science		■
ELEC166	Introduction to Electronic Systems		■
SECOND YEAR PROGRAM			
PHYS270	Astronomy	■	
PHYS201	Physics IIA	■	
MATH235	Mathematics IIA	■	
PHYS220	Scientific Modelling	■	
PHYS278	Advanced Astronomy		■
PHYS202	Physics IIB		■
MATH236	Mathematics IIB		■
ELEC280	Simulation and Measurement		■
THIRD YEAR PROGRAM			
PHYS377	Astrophysics I	■	
PHYS301	Electromagnetism and Quantum Physics	■	
MATH335	Mathematical Methods	■	
OPTO300	Optoelectronic Devices and Systems I	■	
PHYS378	General Relativity and Cosmology		■
PHYS306	Optical Physics		■
MATH336	Differential Equations		■
PHYS304	Quantum Physics II		■

Other units considered suitable for inclusion in the program are MATH132, MATH133, COMP155, COMP165, other 100-level BIOL, CHEM, GEOS, or STAT units, COMP225, COMP226, COMP226, ELEC260, PHYS303, OPTO301, GEOS309.

GRADUATE EMPLOYMENT

Students who do not proceed to post-graduate studies can find employment in a wide range of scientific, technical and IT fields by virtue of the broad educational merit of the physics, mathematics and computing contained in the major.