



2018 MAJOR – Astronomy and Astrophysics

(Qualifying Major for Bachelor of Science)

In this major we develop a quantitative interpretation of the Universe and the underlying physical processes within it. The quantitative interpretation begins with observational astronomy - the process of measuring the Universe with particular emphasis on detecting electromagnetic radiation throughout its spectrum. In order to understand what this radiation means, the Astronomy and Astrophysics major includes the study of radiative transfer: the way in which light propagates through and interacts with matter. From both an observational and theoretical perspective, we study the astrophysical processes that govern the formation and evolution of stars, planets and galaxies, including the structure of our own Galaxy. An essential part of developing this understanding is a solid background in physics and mathematics, including topics such as mechanics, electromagnetic radiation and differential equations. This knowledge development is complemented by hands-on laboratory experiments, collection of astronomical imaging and spectroscopic data, and computer-based analysis.



The table below is a suggested first year program guide to support your enrolment. Please make your selection of units after reviewing the requirements of your award in the 2018 Handbook:

www.handbook.mq.edu.au/2018/DegreesDiplomas/Degree/Bachelor+of+Science

Suggested First Year			
Session 1, 2018		Session 2, 2018	
Unit Code	Unit Name	Unit Code	Unit Name
PHYS107 *	Modern Mechanics	PHYS106	Electric and Magnetic Interactions
MATH135 *	Mathematics IA	MATH136	Mathematics IB
ASTR170 or STAT170 or PHL137	Introductory Astronomy: Our Place in the Universe Introductory Statistics Critical Thinking	ASTR178 or STAT170 or ACSC100	Other Worlds: Planets and Planetary Systems Introductory Statistics Academic Communication in Science
Elective	Choose a People or Planet unit	Elective	COMP or GEOS unit at 100-level

- You must also meet the general requirements for the degree for which you will qualify.
- It may be possible to satisfy the requirements of your degree by taking a different selection of units in your first year from those suggested above.
- * PHYS107 and MATH135 require HSC Mathematics Band 4 or higher. If you do not meet this prerequisite please seek academic advice by lodging a "Program Advice" enquiry via <http://ask.mq.edu.au>.
- Bridging courses in Mathematics are available in February and are recommended for those without recent HSC study: See: <http://web.science.mq.edu.au/bridging-courses>.
- Other popular electives for Astronomy and Astrophysics students include computing [COMP115, ISYS114], engineering [ENGG141] and geology [GEOS112, GEOS126]. Outside the Faculty of Science and Engineering, ACSC100 is a unit designed to help science students with writing skills.



FIND OUT MORE
CONTACT: STUDENT CONNECT
LEVEL 2, MUSE C7A PHONE: 9850 6410
Macquarie University NSW 2109 Australia
Handbook.mq.edu.au

Disclaimer: This publication is correct at the time of creation, August 2017. Macquarie University reserves the right to change program details at any time and change its fees without notice.
CRICOS Provider 00002J

- Consider what units you will want to study in second and third year. Prerequisite requirements for those units must be completed prior to enrolment in the higher-level unit. In the second year of the Astronomy and Astrophysics major, students must complete PHYS201, PHYS202, MATH235 and ASTR278 and it is this core set of units that forms the prerequisite units for 300-level Astronomy and Astrophysics study. It is important to check the prerequisites for any planned 200- or 300-level elective units carefully, as they may require additional 100-level elective units.
- For a double major complete required units for both majors where possible in the first year. If considering a double major consult the criteria found at www.handbook.mq.edu.au/2018/Majors.
- All students must complete one People unit and one Planet unit. Criteria and available units can be viewed at www.handbook.mq.edu.au/2018/Units/Planet and www.handbook.mq.edu.au/2018/Units/People.
- You can receive specific program advice from the faculty at any stage in your degree by lodging a “Program Advice” enquiry via <http://ask.mq.edu.au>.



FIND OUT MORE
CONTACT: STUDENT CONNECT
LEVEL 2, MUSE C7A PHONE: 9850 6410
Macquarie University NSW 2109 Australia
Handbook.mq.edu.au

Disclaimer: This publication is correct at the time of creation, August 2017. Macquarie University reserves the right to change program details at any time and change its fees without notice.
CRICOS Provider 00002J