

COURSEWORK STUDY

WHY STUDY AT ICRAR?

The International Centre for Radio Astronomy Research (ICRAR) is a joint venture between Curtin University and The University of Western Australia with strong support from the West Australian and Australian governments. ICRAR is a multi-skilled institute of astronomers, engineers and data specialists working with industry partners throughout Australia, Europe and the world to support the build up of the SKA in Australia and expand our understanding of the Universe.

By studying astronomy and astrophysics or related computer science or engineering in Western Australia you will become part of the fast growing, internationally recognised, community of astronomers, computer scientists and engineers at ICRAR who are working with the world on these and many other projects. You will have the opportunity to work with researchers who are helping to shape the future of astronomy and conducting research on a wide variety of areas in both radio and optical astronomy, as well as astronomy engineering and information and communication technologies (ICT) or computer science.



STUDENTSHIPS

ICRAR offers a summer studentship program which provides an excellent opportunity for later year undergraduate students to experience current research in astronomy, astrophysics, engineering and data intensive astronomy. Students work on a project with an ICRAR researcher for up to 10 weeks.

These projects are a perfect way to get a taste for the work that is going on in WA at the moment, as well as accessing an opportunity to network and meet potential supervisors for postgraduate research. The program is highly competitive and recipients receive a stipend during their time in Perth.

For further details and past projects see: icrar.org/studentships

SCHOLARSHIPS

There are many options for scholarships at both nodes for both local and international students. ICRAR does not offer any scholarships as an institute, the best place to search for them is the scholarship database for each University:

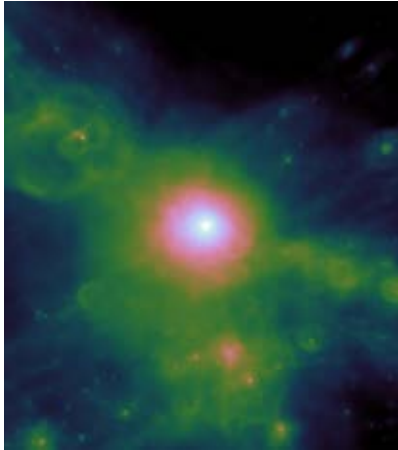
Curtin: scholarships.curtin.edu.au

UWA: scholarships.uwa.edu.au

STUDY ASTRONOMY/ASTROPHYSICS

WHY STUDY ASTRONOMY & ASTROPHYSICS IN WA?

WA hosts national and international cutting-edge astronomy facilities, including the Murchison Widefield Array (MWA) and the Australian Square Kilometre Array Pathfinder (ASKAP). Together with South Africa, Western Australia will host the world's largest science experiment, the Square Kilometre Array (SKA) radio telescope. You can study undergraduate Astronomy and Astrophysics with ICRAR at either Curtin University or The University of Western Australia, where you will have the opportunity to work with researchers who are helping to shape the future of astronomy.



CURTIN UNIVERSITY

DEGREE

Bachelor of Science/Bachelor of Advanced Science with a major in Physics

FACULTY/DEPARTMENT

School of Electrical Engineering, Computing and Mathematical Sciences

DURATION

3 years / 4 years with Honours

PREREQUISITES

Mathematics, Physics and English.
Bachelor of Advanced Science minimum ATAR of 95

STRUCTURE

Each year, you will study Astronomy and Physics units, along with Computer Science and Mathematics courses in 1st and 2nd year. In 3rd year, you will undertake a one or two semester research project supervised by our research staff in addition to your core Physics and Astronomy units. Once you have completed three years, you can choose to further your study with a one-year Honours course (incorporating both advanced coursework and a research project) or a two-year Masters.

FURTHER INFORMATION

Refer to the course handbook online at: futurestudents.curtin.edu.au

UWA

DEGREE

Bachelor of Science with a major in Physics

FACULTY/DEPARTMENT

Faculty of Engineering and Mathematical Sciences, Department of Physics

DURATION

3 years / 4 years with Honours / 5 years with Masters

PREREQUISITES

Mathematics Methods/Specialist, Physics and English

STRUCTURE

You will gain a thorough grounding in Physics and Mathematics, as well as basic Astronomy and Astrophysics in the early years of your degree. In 3rd year the focus shifts strongly to courses in Astronomy and Astrophysics. Once you've completed the three year degree, you can choose to further your study with an Honours research project or a Master of Physics.

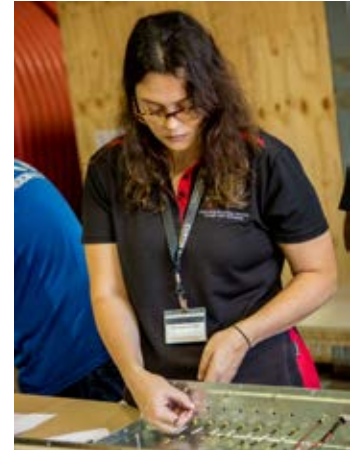
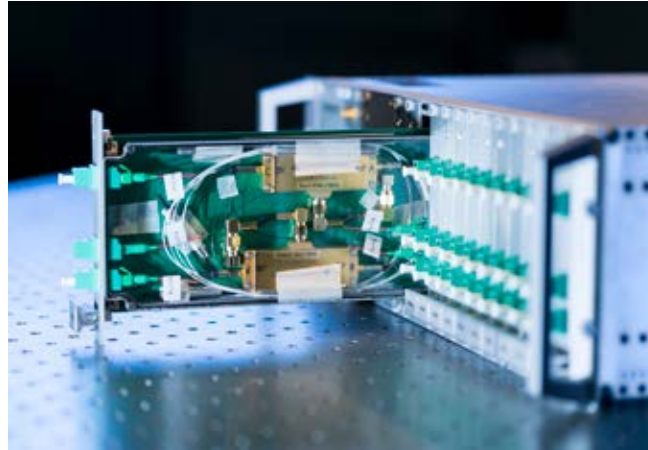
FURTHER INFORMATION

Refer to the course handbook online at: www.studyat.uwa.edu.au

STUDY ENGINEERING

WHY STUDY RADIO ASTRONOMY ENGINEERING IN WA?

Radio astronomy engineering develops high levels of system engineering, problem solving and advanced design skills. With a high demand for graduates, you could end up working in the fields of radio astronomy, wireless networks, satellite communications, high speed data transport or high-performance computing. ICRAR offers students unique opportunities to pursue their interest in radio astronomy engineering. You can study a variety of Electrical Engineering degrees at Curtin University, with optional subjects and project work oriented towards radio astronomy. You can study Masters-level coursework engineering at UWA.



CURTIN UNIVERSITY

DEGREE

Bachelor of Engineering (Electrical and Electronic Engineering) alone or combined with Bachelor of Science (Physics) or Bachelor of Science (Data Science)

FACULTY/DEPARTMENT

School of Electrical Engineering, Computing and Mathematical Sciences

DURATION

4 years (with or without Honours) for BEng /
5 years when combined with a BSc

PREREQUISITES

English and 3 from: Mathematics, Mathematics Specialist, Physics or Chemistry

STRUCTURE

This accredited BEng course offers a strong grounding in Electrical Engineering, specialising in either Electrical Power Engineering, or Electronic Engineering.

You also complete at least 12 weeks of engineering work experience, which can be in radio astronomy engineering. Throughout your course you can also incorporate radio astronomy projects and astronomy-related course options with ICRAR. Double degree students add a variety of physics/data science options after your second year.

FURTHER INFORMATION

Refer to the course handbook online at:
futurestudents.curtin.edu.au

UWA

DEGREE

Bachelor of Science majoring in Engineering Science and Physics or Computer Science, followed by a Master of Professional Engineering

FACULTY/DEPARTMENT

Faculty of Engineering and Mathematical Sciences,
School of Engineering

DURATION

3 years / 4 years with Honours /
5 years with Masters

PREREQUISITES

Mathematics Methods

STRUCTURE

The Engineering program at UWA has been developed in consultation with industry to equip students with the skills to succeed in their future careers. To become a professionally qualified engineer, you'll complete five years of study, consisting of a three-year undergraduate degree with an Engineering Science major, followed by a two-year Master of Professional Engineering. Throughout your course you will have the opportunity to complete your 12 week professional practicum and research project with ICRAR.

FURTHER INFORMATION

Refer to the course handbook online at:
www.studyat.uwa.edu.au



HAVE A PASSION FOR COMPUTING?

Astronomy, and radio astronomy in particular, is fast becoming an ICT centric science. Astronomers with technical ICT skills, or ICT researchers with an astronomy background, are in increasing demand to work on the challenges facing large-scale astronomy projects.

Both Curtin and UWA offer courses in ICT and Computer Science which can be combined with astronomy at ICRAR through undergraduate research projects and summer studentships. ICRAR also offers Data Intensive Astronomy based Honours and postgraduate research opportunities with our researchers. Areas include high performance computing, data visualisation, astronomical simulations and GPU programming.



WANT TO START A CAREER IN ASTRONOMY OR RELATED FIELDS?

If you complete an honours thesis as part of your undergraduate program, you would normally start your research training with a PhD. Students without Honours can transition to a PhD through study at the Masters level. ICRAR offers study in Astronomy and Astrophysics (Curtin and UWA), Radio Astronomy Engineering (Curtin) and Data Intensive Astronomy (UWA) at the Masters and PhD levels.

LEARN MORE

www.icrar.org
education@icrar.org