Masters in Nuclear Engineering

Curious about nuclear?

The UNSW Masters of Engineering Science in Nuclear Engineering gives you knowledge about the nuclear properties of matter and materials, and how to apply this to the industries of today and the technologies of the future. As a nuclear engineer, you will learn to understand and harness these innate properties of the universe, to impact real-world, large-scale disciplines as diverse as energy, scientific research, engineering design, and manufacturing.

Program Information

We offer a masters degree, graduate diploma and graduate certificate, and the only nuclear engineering programs in Australia, in collaboration with Imperial College London and our international PLuS Alliance partners, including Arizona State University. You will also work on a 1-year thesis project in nuclear research. Up to half of program credit may be transferrable from prior degrees, shortening the program from two years to one year.

The postgraduate degree, taught by the School of Mechanical and Manufacturing Engineering, features complex, open-ended, enquiry-based projects. You'll develop knowledge and skills in topics such as:

- Radiation and matter interactions
- Societal, economic and environmental considerations
- Nuclear reactor theory
- Nuclear engineering design
- Nuclear materials
- Systems engineering
- The uranium and thorium fuel cycles
- Nuclear and radiation safety
- Nuclear security and safeguards

"UNSW is Australia's nuclear engineering university. With a global network of education and research partners, we're training the next generation of nuclear engineers and scientists."

Dr Edward Obbard, UNSW Nuclear Engineering Degree Coordinator, here with research fellow Claudia Gasparrini, at ANSTO

Full scholarships available

The Sir William Tyree Foundation has donated nearly $1 million to support UNSW's expanding nuclear engineering program and foster high-tech skills in Australia. This funding supports:

- **Scholarships** will be available, visit scholarships.unsw.edu.au for more info
- **PhD top-up scholarships** and research expenses
- **Work placements** with industry partners and other professional development opportunities

Prepare for a career in high-tech industries

We are building the foundation of skills in Australia to support advanced manufacturing and technology. The nuclear engineering program prepares students for careers in high-tech industries including:

- Advanced Manufacturing
- Energy
- Nuclear medicine
- Defence
- Mining & Resources
- Fusion
- Nuclear science
- Aerospace

Together with our students, postdoctoral researchers, and industry partners we advance the cutting edge of nuclear science and technology in fission, fusion and non-energy applications of nuclear technology. Our engagement with key international forums involves our students on the big questions surrounding nuclear technology in Australia and the world.

Learn at Australia's top engineering university

1st in Australia
QS World University Rankings

Top 50 Worldwide
QS World University Rankings, 2022

Most Employable Graduates
AFR Top 100 Future Leaders Award

Leading Innovation
#1 Australian uni attended by start-up founders

A wide range of electives across engineering and other disciplines are available to build your knowledge in advanced engineering subjects such as renewable energy, computer science, and humanitarian engineering.

Part time and flexible options

The masters program normally takes students 1-2 years to complete. Students can study in-person at UNSW Sydney's Kensington campus or remotely online. Part-time options are available to allow you to continue working or complete industry placements.

Go international

The need for nuclear technologists is growing globally as both countries with and without nuclear energy recognise the need for new generations of engineers with the expertise to apply nuclear science and technology to meet medical, industrial, energy, and environmental challenges. A masters degree can facilitate these international job opportunities. Our program can support international opportunities:

- Study remotely and in-person with PLuS Alliance partners, including Arizona State University (US)
- Shape future policy through UNSW leadership in the OECD Nuclear Energy Agency (NEA) Global Forum on Nuclear Education, Science, Technology and Policy
- Exchange programs and student-led initiatives at Imperial College London, national laboratories in the United States, and technology startups
- Funding available for international professional development opportunities, such as presenting research at global conferences and internship opportunities in nuclear companies affiliated with UNSW

"I really enjoyed the UNSW Nuclear Engineering program. It has given me the knowledge across a raft of nuclear technology considerations from reactor processes through to safety, security and safeguards considerations. It was RAD!"

Jasmin Diab, President of Women in Nuclear Australia & ARPANSA Nuclear Safety Committee member

How to apply

Applications are accepted each term with the following deadlines:

Term 1: 30 November 2021
Term 2: 31 March 2022
Term 3: 31 July 2022

Qualifications to apply

For masters: undergraduate honours degree in an engineering discipline; graduate certificate/diploma provides greater flexibility for admission requirements

Materials needed for the application

Degree transcripts, CV and cover letter

More program information and how to apply is on our website

unsw.edu.au/study/postgraduate/master-of-engineering-science-nuclear-engineering?studentType=Domestic

For more information about the program or partnerships, contact:

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