



**UNSW**  
AUSTRALIA

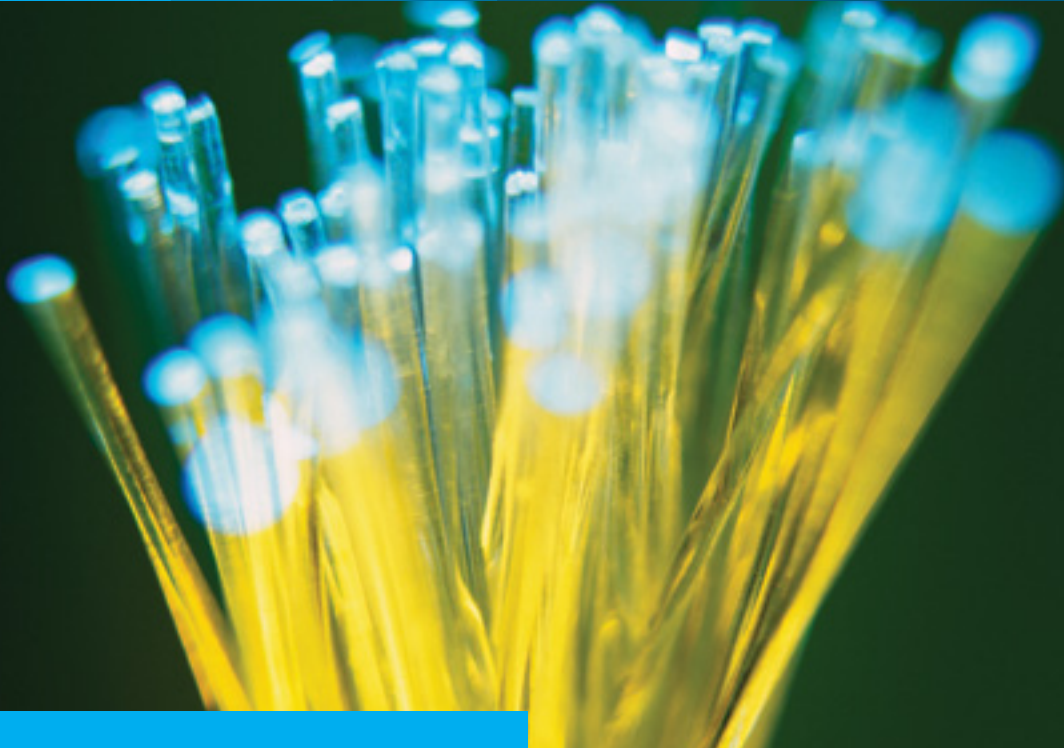
# Physics

Postgraduate Coursework Degrees and Research Degrees

Never Stand Still

Science

Physics



The UNSW School of Physics is one of the leading Physics schools in Australia and well recognised internationally. The school has more than 60 staff, including 29 academic and 32 research staff, and more than 50 postgraduate students from all over the world who are engaged in a variety of research projects. Many of the projects have strong international collaborations and links. The School receives significant external research funding each year from various Australian and international funding agencies. Postgraduate students have access to first-rate laboratories, equipment and projects, which have been independently judged to be of the highest quality.

Research projects are available in all areas of the School, including Astrophysics, Biophysics, Condensed Matter Physics, Music Acoustics, Theoretical Physics, and in the Australian Centre of Excellence for Quantum Computation and Communication Technology. Current research projects within the School include: searching for extra-solar planets; astronomy from Antarctica; protein structures; high-temperature superconductivity; quantum properties of black holes; acoustics of brass and woodwind instruments; semiconductor nanostructures; high speed quantum devices. Study areas vary over time.

## Contacts

Coursework and Research

Professor Tim Duty

☎ +61 2 9385 4077

✉ [t.duty@unsw.edu.au](mailto:t.duty@unsw.edu.au)

Postgraduate Coordinator

☎ +61 2 9385 4553

✉ [info@phys.unsw.edu.au](mailto:info@phys.unsw.edu.au)

🌐 [physics.unsw.edu.au](http://physics.unsw.edu.au)

Reference

[handbook.unsw.edu.au](http://handbook.unsw.edu.au)

Graduate Research School: [grs.unsw.edu.au](http://grs.unsw.edu.au)

## Coursework Degrees

### Graduate Diploma in Science (Research)

Program Code:	5304	The Graduate Diploma (Research) in Physics consists of 24 UOC of advanced coursework, and a research project worth 24 UOC. Postgraduate courses can be taken in areas such as quantum physics, astrophysics, electromagnetism, quantum field theory, and statistical mechanics. Research projects are available in all Departments of the School: Astrophysics; Biophysics; Condensed Matter Physics; Theoretical Physics; and Music Acoustics. Full-time and part-time projects are available, subject to the discretion of the supervisor.
Commencement:	Semester 1 or Semester 2	
Units of credit:	48	
Length of study:	1 year full-time or equivalent part-time	
Entry requirement:	An undergraduate science degree majoring in physics with a minimum WAM in the range 55-64% (or equivalent).	

### Graduate Certificate in Physics for Teachers

Program Code:	7440	This graduate certificate is designed for current qualified science teachers who would like to learn physics in order to be qualified to teach it. After taking this program, teachers should be confident in their ability to present physics to high school students by being able to clearly explain core concepts and present interesting contexts for applications of the physics. The courses are predominantly online, with the last three courses having a two day face-to-face laboratory session held at the UNSW Kensington campus. The courses in this graduate certificate are designed to be taken sequentially at a rate of one per semester, to cater for teachers with a full time job. A good understanding of mathematics is needed for these courses including understanding of trigonometry and calculus.
Commencement:	Semester 1	
Units of credit:	24	
Length of study:	2 years part-time	
Entry requirement:	Have completed a Bachelor of Education in Secondary Science, or a Bachelor of Science and Graduate Diploma in Education, or a Bachelor of Science and Master of Teaching, or equivalent qualifications. Be an accredited teacher with an Australian State Department of Education. Have completed a major in a science other than physics. The School of Physics is not offering this postgraduate certificate program to students until 2018. Please contact the school directly at <a href="mailto:info@phys.unsw.edu.au">info@phys.unsw.edu.au</a>	

## Research Degrees

### Master of Philosophy

Program Code:	2475 (Physics)	Advanced training and experience in scientific research. 48 units of credit (UOC) are gained by the completion of a research project and 18-24 UOC are gained by coursework. Postgraduate courses can be taken in the School of Physics, or in other schools at UNSW. Research projects are available in all departments in the School. It is expected that this qualification will allow entry to a higher degree program for students without an Honours degree.
Length of study:	1.5 to 2 years of advanced study leading to the submission of a thesis. Minimum duration for completion is 1.5 years.	
Entry requirement:	An undergraduate Bachelor of Science degree majoring in Physics, with a credit or higher average (or equivalent).	

### Master of Science (by Research)

Program Code:	2930 (Physics)	This program requires the completion of an original piece of research, more limited in scope and nature than a PhD. Candidates develop mastery of appropriate methodology and learn the fundamentals of research. Findings are presented in a thesis that places the work in the wider context of their discipline. Research projects are available in all departments in the School.
Length of study:	1.5 to 2 years of advanced study leading to the submission of a thesis. Minimum duration for completion is 1.5 years	
Entry requirement:	A four year Bachelor degree with first or upper second class honours (or equivalent).	

### Doctor of Philosophy

Program Code:	1890 (Physics)	A PhD requires the completion of a piece of research that demonstrates a significant and original contribution to knowledge in the field of study. Candidates acquire advanced specialist research training under academic supervision. The candidate's thesis summarises the research and provides evidence for independent thought and critical analysis, effective communication and expert knowledge of the discipline in the international context. Research projects are available in all departments in the School.
Length of study:	3 to 4 years of advanced study leading to the submission of a thesis. Minimum duration for completion is 3 years.	
Entry requirement:	A four year Bachelor degree with first or upper second class honours (or equivalent).	