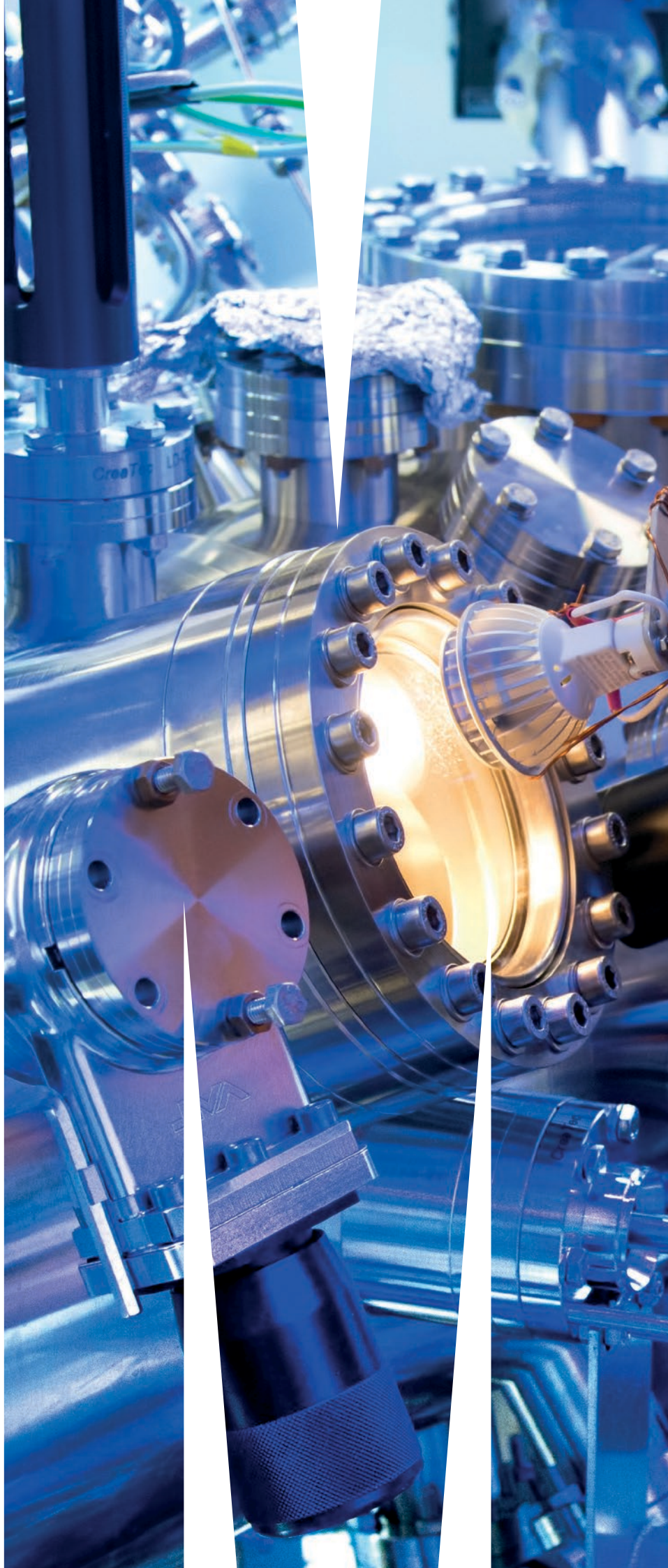
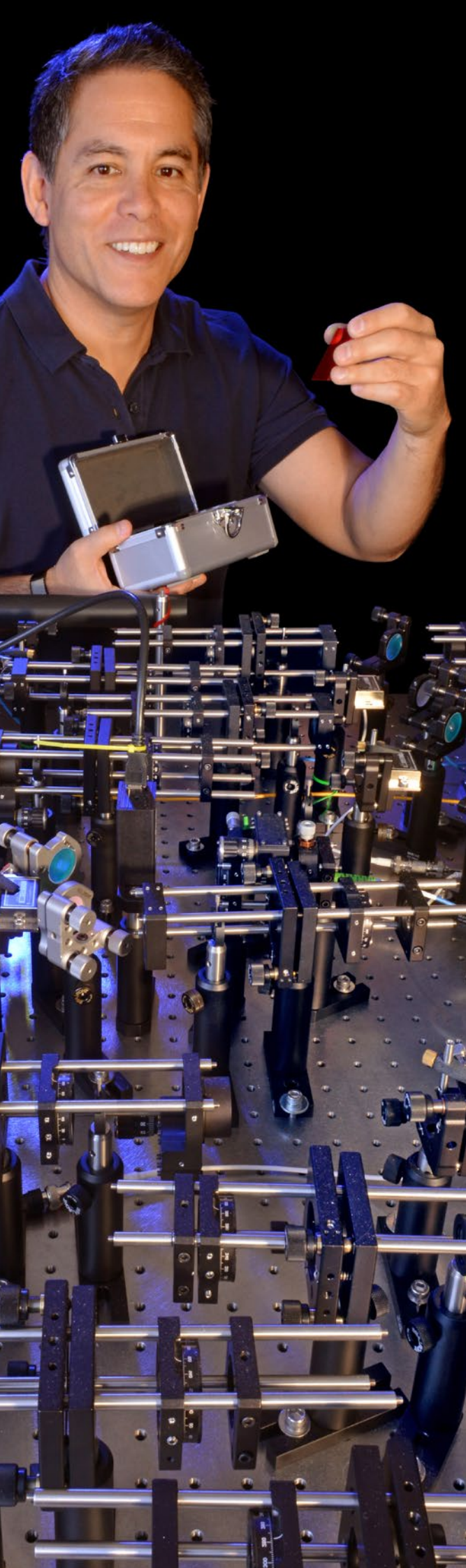


**MONASH**  
MASTER OF  
SCIENCE IN  
PHYSICS

[monash.edu/physics](http://monash.edu/physics)







# MASTER OF SCIENCE IN PHYSICS

Physics encompasses both the foundational and the practical. It provides the basis for understanding the Universe and underpins many of our current technologies, e.g., wifi, next generation electronics, medical imaging, quantum computing, and complex systems, to name a few.

With our new specialised Master of Science in Physics degree you will become a highly trained scientist, with the tools and creative insights to make your own discoveries and the adaptability to navigate a rapidly changing technological world.

## COURSE DESCRIPTION

This two-year program comprises advanced coursework and a research project leading to a major thesis in:

- observational astronomy
- computational astrophysics
- experimental physics
- computational or theoretical physics

Many of our Master's graduates proceed to further study, enrolling in a research Doctorate.

## CAREER OPPORTUNITIES

Physicists use their knowledge and training in diverse careers including:

- macromolecular biology and drug design
- medical imaging
- synchrotron science
- design of advanced materials
- photonics
- optoelectronics and lasers
- climate modelling and meteorology
- medical and scientific instrumentation
- the energy industry, solar power
- industrial product development
- science teaching, and
- science communication

Our graduates find employment in industry, hospitals and scientific organisations; recent examples include: **Agilent, Optiscan, the Alfred Hospital, the Australian Synchrotron, the Australian Antarctic Division, CSIRO, the Australian Nuclear Science and Technology Organisation, the EPA, and many other organisations.**

## FURTHER STUDY – RESEARCH PROJECTS

An important feature of the Master's degree is the research project, which extends over two years and is devoted to exploring in-depth a contemporary topic in **observational astronomy, computational astrophysics, experimental physics or computational/theoretical physics.**

For a full list of research projects visit:

**[monash.edu/science/schools/physics/masters/research](https://monash.edu/science/schools/physics/masters/research)**





New Horizons Research Centre

## COURSE STRUCTURE

The degree offers a wide choice of advanced coursework units and a research project.

Coursework units can be chosen from:

- Quantum mechanics (compulsory), Advanced quantum mechanics
- Quantum fluids and many body theory
- Quantum field theory I and II, particle physics, classical electrodynamics
- Quantum information and quantum computing
- Condensed matter physics I and II, statistical mechanics
- Advanced statistical mechanics and critical phenomena
- X-ray optics, atom and quantum optics
- General relativity and cosmology, advanced observational astronomy
- Computational astrophysics, Magneto-hydrodynamics I and II
- Exoplanets, stars and stellar processes, high energy astrophysics
- Digital image processing, data science

For more information:  
[monash.edu/master-science](https://monash.edu/master-science)

## SCHOLARSHIPS

You may be able to apply for generous scholarship opportunities to support you with your studies.

For more information:  
[monash.edu/study/fees-scholarships](https://monash.edu/study/fees-scholarships)

# COURSE STRUCTURE

YEAR 1  
Semester 1

=

PHS4020  
Physics coursework A  
(12 points)

+

PHS4021  
Physics coursework B  
(12 points)

YEAR 1  
Semester 2

=

PHS4000  
Physics research project  
(24 points)

YEAR 2  
Semester 1

=

PHS5020  
Advanced physics coursework A  
(12 points)

+

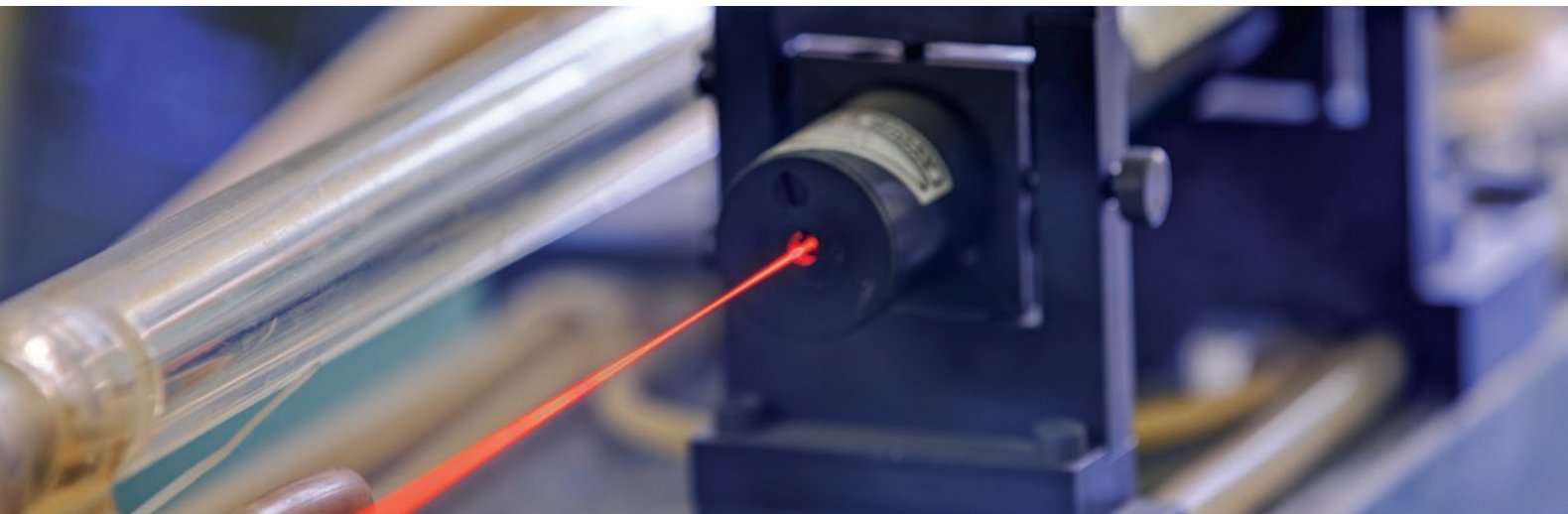
PHS5021  
Advanced physics coursework B  
(12 points)

YEAR 2  
Semester 2

=

PHS5000  
Advanced physics research project  
(24 points)

<b>Part A: Advanced studies</b> Consolidates the student's theoretical and/or technical knowledge in an area of specialisation	<b>Part B: Research project</b> To develop the student's ability to establish, plan and execute a research project under the guidance of an academic supervisor.
<b>Part C: Extended technical studies</b> To deepen the student's understanding of specific topics within their chosen discipline.	<b>Part D: Advanced research project</b> Students will establish, plan, execute and report on an advanced research project. Students will work with a supervisor on a chosen topic.





# ENTRY REQUIREMENTS

**Entry level 1**

96 points to complete

**Duration**

2 years full-time

**Intakes**

February and July

An undergraduate degree (equivalent to an Australian undergraduate degree) with a major in physics or a related discipline with at least a 65% average or qualification/experience that the faculty considers to be equivalent.

**Entry Level 2**

48 points to complete

**Duration**

1 year full-time

**Intakes**

February and July

A four-year Australian honours degree (or equivalent) with a major in physics or a related discipline with at least 65% average or qualification/experience or a satisfactory substitute that the faculty considers to be equivalent.

## English entry requirements

IELTS (Academic English Only)	TOEFL (Internet-based)	Pearsons Test of English (PTE)	Cambridge Certificate of Proficiency in English (CPE) & Cambridge Certificate in Advanced English (CAE)*
6.5 Overall (no band lower than 6.0)	79 Overall <b>Writing:</b> 21 <b>Speaking:</b> 18 <b>Reading:</b> 13 <b>Listening:</b> 12	58 Overall (no band lower than 50)	176 Overall (no band lower than 169)

\*Test taken from January 2015 and onwards

## Tuition fees

**International students**  
A\$44,500 per year.

## Further information

[monash.edu/physics](http://monash.edu/physics)

### International students

Australia freecall tel: 1800 181 838

Tel: +61 3 9903 4788 (outside Australia)

Email: [study@monash.edu](mailto:study@monash.edu)

[facebook.com/MonashUniScience](https://facebook.com/MonashUniScience)

[youtube.com/user/ScienceMonashUni](https://youtube.com/user/ScienceMonashUni)

**wechat:** MonashUniAus

**Youku:** Monash 蒙纳士大学

[weibo.com/monashuniversityaust](https://weibo.com/monashuniversityaust)

