Overview

The study of Physical Oceanography involves an understanding of the mathematical equations that describe fluid flow, and how these are used in the context of the ocean. It also explores ocean measurement and the numerical modelling of processes at various scales.
Faculty
Faculty of Science

School
School of Mathematics & Statistics

Study Level
Undergraduate

Minimum Units of Credit
90

Specialisation Type
Major
Available in Program(s)

Program(s) in which this major is available

Bachelor of Advanced Science (Honours) - BAdvSci(Hons)
3962 Advanced Science (Honours)
Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 192
Typical Duration: 4 Years
**Specialisation Structure**

Students must complete 90 UOC.

**Level 1 Core Courses**

Students must take 24 UOC of the following courses.

- **MATH1141 | 6 UOC**
  Higher Mathematics 1A

- **MATH1241 | 6 UOC**
  Higher Mathematics 1B

One of the following:
- **PHYS1121 | 6 UOC**
  Physics 1A

- **PHYS1131 | 6 UOC**
  Higher Physics 1A

One of the following:
- **PHYS1221 | 6 UOC**
  Physics 1B

- **PHYS1231 | 6 UOC**
  Higher Physics 1B

**Level 2 Core Courses**

Students must take 36 UOC of the following courses.

- **MATH2111 | 6 UOC**
  Higher Several Variable Calculus

- **MATH2221 | 6 UOC**
  Higher Theory and Applications of Differential Equations
MATH2241  |  6 UOC  
Introduction to Atmosphere and Ocean Dynamics

MATH2301  |  6 UOC  
Mathematical Computing

MATH2901  |  6 UOC  
Higher Theory of Statistics

PHYS2801  |  6 UOC  
Fundamentals of Atmospheric Science

**Level 3 Core Courses**

Students must take 30 UOC of the following courses.

MATH3041  |  6 UOC  
Mathematical Modelling for Real World Systems

MATH3101  |  6 UOC  
Computational Mathematics for Science and Engineering

MATH3121  |  6 UOC  
Mathematical Methods and Partial Differential Equations

MATH3261  |  6 UOC  
Fluids, Oceans and Climate

MSCI3001  |  6 UOC  
Physical Oceanography

**Recommended Electives**

The following course is not required for this major, but is recommended as a good complementary course when students are selecting electives.

Level 2
Enrolment Disclaimer

Unless advised otherwise by your program authority, you should follow the rules for the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.
Additional Information

Honours

For information about Honours in Advanced Physical Oceanography see the Physical Oceanography Honours plan or contact the School of Mathematics and Statistics.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
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Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179