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.
<table>
<thead>
<tr>
<th><strong>Faculty</strong></th>
<th>Faculty of Science</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School</strong></td>
<td>School of Mathematics &amp; Statistics</td>
</tr>
<tr>
<td><strong>Study Level</strong></td>
<td>Undergraduate</td>
</tr>
<tr>
<td><strong>Minimum Units of Credit</strong></td>
<td>90</td>
</tr>
<tr>
<td><strong>Specialisation Type</strong></td>
<td>Major</td>
</tr>
</tbody>
</table>
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
GEOS2821 Introduction to GIS and Remote Sensing (6 UOC)
MATH2621 Higher Complex Analysis (6 UOC)

**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