

# MARINE SCIENCE

POSTGRADUATE HANDBOOK

2017



THE UNIVERSITY OF  
**AUCKLAND**  
Te Whare Wānanga o Tāmaki Makaurau  
NEW ZEALAND

**SCIENCE**

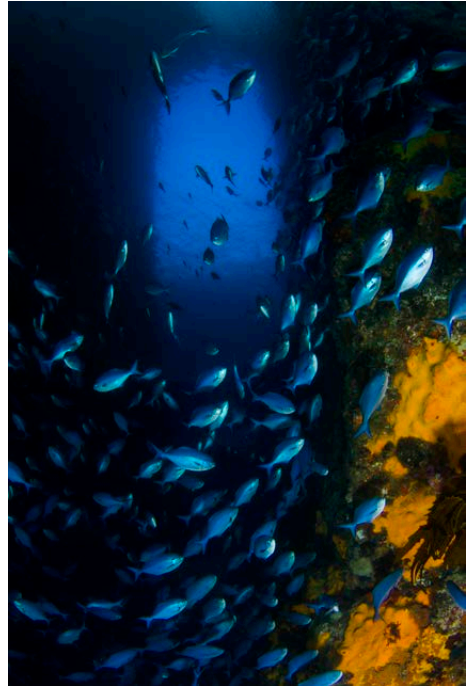
# Welcome to Marine Science

The marine environment plays an important role in many of our lives. Whether you are interested in seafood, conservation, management or contributing to the science that will influence our future – marine science offers many opportunities.



The Institute of Marine Science has an active and diverse programme of research in Marine Science. One of the biggest changes you will find in moving from undergraduate to postgraduate study is that you have much more opportunity to define what you learn. This means you need to think more carefully about what you want to achieve and where you want to go with your degree. If you are doing a Postgraduate Diploma in Science (specialising in Marine Science), choose your courses carefully. If you are doing a research year of a Masters in Science or a PhD, you need to think about research topics and supervisors. Do some research on possible supervisors, check our staff web pages, look at our CVs and talk to other students. And of course talk to us; we look forward to working with you.

**PROFESSOR SIMON THRUSH**  
Director, Institute of Marine Science



## Why study with us?

The Institute of Marine Science provides purpose-built facilities for students undertaking their research at the Leigh Marine Laboratory.

Postgraduate students can also use facilities at NIWA research sites.

[www.marine.auckland.ac.nz/excellence](http://www.marine.auckland.ac.nz/excellence)

[www.marine.auckland.ac.nz/research](http://www.marine.auckland.ac.nz/research)



Kelp forest ecology in the marine reserve. Photo: Paul Caiger (PhD, Marine Science).

# Postgraduate study options in Marine Science

Marine Science is a multi-disciplinary endeavour encompassing the physical, biological, social and economic dimensions of the marine environment.

## Postgraduate Diploma in Science (PGDipSci)

### Prerequisite

- An approved BSc, BE, or equivalent degree

### Programme structure

- 15 points: MARINE 701
- 15 points from BIOSCI 761, CHEM 795, ENVSCI 701
- 90 points from the following 700 level courses including at least two of the following subject areas: BIOSCI 724-727, ENVSCI 704, 714, ENVMG 746, GEOG 746, 748, MARINE 702, 703, PHYSICS 731, 732, STATS 767, 775, or other courses approved by the Programme Coordinator

# 1

The average number of years it takes to complete a Postgraduate Diploma in Science



*Please note: a student who is within 15 points of completing all the requirements for a BSc may, with the approval of the Head of School, enrol for a PGDipSci provided that the remaining course is completed within 12 months of entry to PGDipSci and is not a course required for the major.*

# Master of Science (MSc)

## Prerequisite

- A PGDipSci in Marine Science or equivalent

## Programme structure

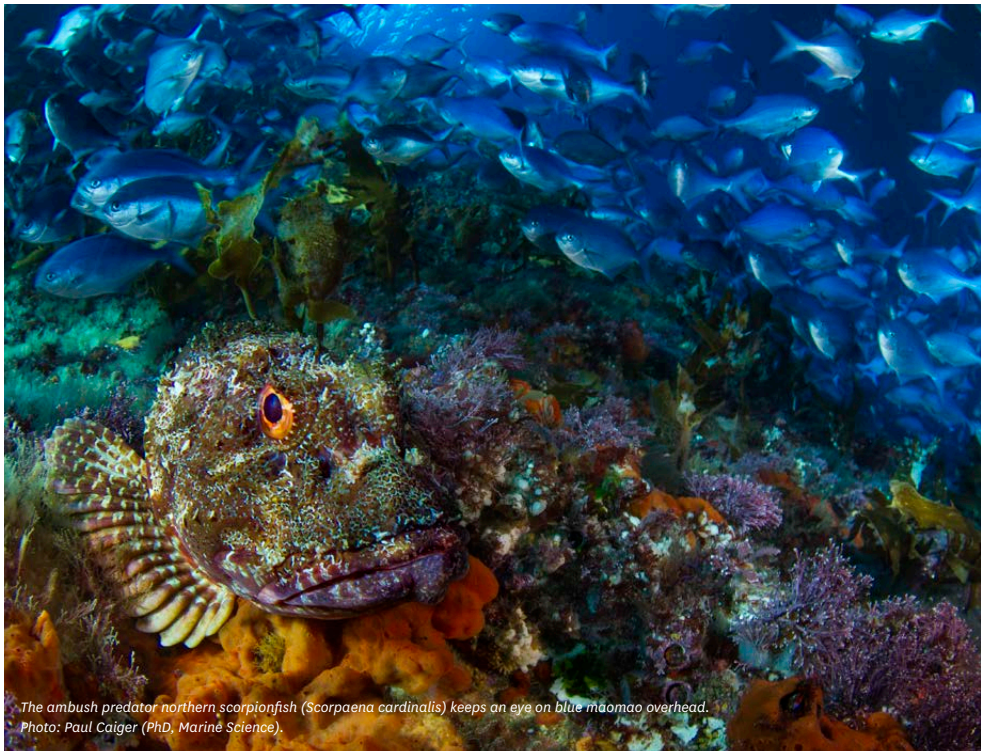
- 120 points: MARINE 796 MSc Thesis in Marine Science

1

The average number of years it takes to complete a Master of Science



Adjacent to New Zealand's first marine reserve



*The ambush predator northern scorpionfish (*Scorpaena cardinalis*) keeps an eye on blue mao mao overhead.*  
Photo: Paul Caiger (PhD, Marine Science).



One of the many Goat Island resident snapper (*Chrysophrys auratus*). Photo: Paul Caiger (PhD, Marine Science).

## Doctor of Philosophy (PhD)

### Quick facts

**Points per degree:** 360 points

**Full-time study:** 3-4 years

**Part-time study:** 6-8 years

**Degree structure:** research

**Application closing dates:** apply at anytime

**Start date:** start at anytime

### Programme highlights

- Pursue independent and original research
- Work with experts in your field
- Present your work both locally and abroad

For more information, go to

[www.science.auckland.ac.nz/phd](http://www.science.auckland.ac.nz/phd)

### Selection of supervisor

Students are required to select research supervisors for their MSc research thesis and PhD study in Marine Science. Please contact individual academic staff for the projects that are of interest to you. You should consult with at least 2-3 academic staff members.

Research topics:

[www.marine.auckland.ac.nz/research](http://www.marine.auckland.ac.nz/research)

Find a thesis:

[www.findathesis.auckland.ac.nz](http://www.findathesis.auckland.ac.nz)

## Postgraduate Marine Science courses

Course code	Title	Semester
MARINE 701	Current Issues in Marine Science	S1
MARINE 702	Field Techniques in Marine Science	S1
MARINE 703	Marine Protected Areas	S2
MARINE 796A & B	MSc Thesis in Marine Science	S1 and 2
BIOSCI 724	Marine Ecology	S1
BIOSCI 725	Ecological Physiology	S1
BIOSCI 727	Aquaculture	S2
BIOSCI 738	Advanced Biological Data Analysis	S1
BIOSCI 761	MSc Thesis Proposal	S1 and 2
CHEM 795	Research Methods in Chemistry	S1 and 2
ENVMGT 746	Collaborative Environmental Management	S1
ENVSCI 701	Research Practice in Earth, Environmental and Geographical Sciences	S1
ENVSCI 702	Special Topic: Applied Estuarine Ecology Consult Faculty	
ENVSCI 704	Modelling of Environmental Systems	S2
ENVSCI 714	Water Quality Science	S1
GEOG 730	Climate change: Past, Present, and Future	S1
GEOG 746	Dynamic Coasts	S1
GEOG 748	Fragile Coasts, Vulnerable Communities	S1
PHYSICS 731	Wave Propagation	S1
PHYSICS 732	Fluid Mechanics and Application	S1
STATS 762	Special Topic in Regression	S2
STATS 767	Topics in Multivariate Analysis	S1

*Prerequisites apply. For full course information, visit [www.marine.auckland.ac.nz/pg-courses](http://www.marine.auckland.ac.nz/pg-courses)*

The University of Auckland is the highest ranked university in New Zealand by both Times Higher Education and QS rankings.



# Careers in Marine Science

New Zealand has the world's fifth largest coastal exclusive economic zone. It must be managed sustainably to ensure it provides for our social and economic wellbeing. For this reason, Marine Science graduates have many opportunities to work in a variety of areas, including government, research organisations and the private sector. A specialisation in Marine Science will enable you to pursue employment opportunities here and around the world in:

Aquaculture

Biodiversity management

Conservation

Consulting

Fisheries management

Marine biology

Marine education

Pharmaceutical development

Policy advice

Research

Resource planning

Teaching

## Who would employ you?

Crown Research Institutes (CRIs)

Local councils

Government departments and ministries, such as conservation, fisheries

Museums

Private sector, such as mussel and salmon farming

Universities

[www.marine.auckland.ac.nz/careers](http://www.marine.auckland.ac.nz/careers)

## Disclaimer

Although every reasonable effort is made to ensure accuracy, the information in this document is provided as a general guide only for students and is subject to alteration. All students enrolling at the University of Auckland must consult its official document, the University of Auckland Calendar, to ensure that they are aware of and comply with all regulations, requirements and policies.



*"Studying for my postgraduate diploma was an excellent year where I learnt so many different research techniques that are not focussed on at the undergraduate level."*

*"The master's year is a chance to really take control of my own interests doing a year-long individual project under the supervision of experts in the field."*

*"My thesis topic is about the effect of intermittent hypoxia on gene expression in the brains of Triplefins (Tripterygiidae). I'm really interested in animal physiology; aquatic organisms are an interesting group to study because they vary so widely in taxonomy and metabolic strategies. The ocean in particular has so many differing habitats that species can withstand which is fascinating to me."*

*"Marine science is a constantly changing and improving field and there is so much out there to still discover."*

*Alicia Hellens is studying toward a Master of Science majoring in Marine Science after completing a Postgraduate Diploma in Marine Science.*



# Helpful information

Academic dates	<a href="http://www.auckland.ac.nz/dates">www.auckland.ac.nz/dates</a>
Accommodation	<a href="http://www.accommodation.auckland.ac.nz">www.accommodation.auckland.ac.nz</a>
Apply for postgraduate study	<a href="http://www.auckland.ac.nz/applynow">www.auckland.ac.nz/applynow</a>
Career Development and Employment Services	<a href="http://www.cdes.auckland.ac.nz">www.cdes.auckland.ac.nz</a>
Childcare	<a href="http://www.auckland.ac.nz/childcare">www.auckland.ac.nz/childcare</a>
Degree planning and course advice	<a href="http://www.science.auckland.ac.nz/student-centre">www.science.auckland.ac.nz/student-centre</a>
Disability Services	<a href="http://www.disability.auckland.ac.nz">www.disability.auckland.ac.nz</a>
How to enrol	<a href="http://www.auckland.ac.nz/enrolment">www.auckland.ac.nz/enrolment</a>
Information for postgraduate students	<a href="http://www.postgraduate.ac.nz">www.postgraduate.ac.nz</a>
International students	<a href="http://www.international.auckland.ac.nz">www.international.auckland.ac.nz</a>
Libraries and Learning Services	<a href="http://www.library.auckland.ac.nz">www.library.auckland.ac.nz</a>
Māori and Pacific students	<a href="http://www.science.auckland.ac.nz/tuakana">www.science.auckland.ac.nz/tuakana</a>
Need help?	<a href="http://www.askauckland.ac.nz">www.askauckland.ac.nz</a>
Postgraduate Students' Association	<a href="http://www.pgsa.org.nz">www.pgsa.org.nz</a>
Rainbow Science Network for LGBTI students	<a href="http://www.science.auckland.ac.nz/rainbowsience">www.science.auckland.ac.nz/rainbowsience</a>
Scholarships, awards and fees	<a href="http://www.scholarships.auckland.ac.nz">www.scholarships.auckland.ac.nz</a> <a href="http://www.auckland.ac.nz/fees">www.auckland.ac.nz/fees</a> <a href="http://www.auckland.ac.nz/studentloansandallowances">www.auckland.ac.nz/studentloansandallowances</a>
Support for Science students	<a href="http://www.science.auckland.ac.nz/support">www.science.auckland.ac.nz/support</a>

***Email [pgscience@auckland.ac.nz](mailto:pgscience@auckland.ac.nz) for any enquiries.***



## Connect with us

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[www.facebook.com/science.uoa](https://www.facebook.com/science.uoa)

