

ENVIRONMENTAL SCIENCE

UNDERGRADUATE HANDBOOK

2017



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

SCIENCE

Welcome to the School of Environment

Environmental Science is one of the core subjects offered by the School of Environment at the University of Auckland.



As one of the leading schools* of its type in Australasia we offer a diverse range of teaching programmes and opportunities for undergraduate and postgraduate study. The School houses a vibrant community of more than 50 instructors and researchers. Collectively, this mix of interests creates a rich and stimulating teaching and research environment.

New Zealand and the South Pacific region offer an exciting environmental laboratory to examine a range of globally relevant research questions. Studying with us at Auckland provides the perfect gateway to access this unique natural laboratory.

Environmental Science is available as a second major to students studying the Bachelor of Science degree programme. Undergraduate studies in Environmental Science focus on real-world problems and the application of science to understanding environmental issues. Undergraduate Environmental Science is an excellent foundation for a wide range of careers ~~and~~ as well as postgraduate study. The School provides the opportunity to undertake postgraduate research across a range of topics alongside many of New Zealand's leading environmental scientists. We have an impressive array of field equipment and analytical facilities to support our research activities.

I am confident that you will find studying Environmental Science a satisfying and rewarding experience, and we look forward to working with you to meet your academic goals.

PROFESSOR PAUL KENCH
Head, School of Environment

**www.science.auckland.ac.nz/excellence*



▲ Omaha Beach. Photo by J. Fagan.

Undergraduate studies in Environmental Science

Environmental Science aims to understand the environment using input from a wide variety of science disciplines including biology, chemistry, physical geography, geology, physics and engineering in conjunction with social sciences like economics and human geography. This understanding can be applied to the assessment and solution of environmental problems caused by human activity. At undergraduate level, Environmental Science focuses on environmental effects of human activity and is dedicated to protecting and restoring natural heritage, minimising human impact and restoring environmental degradation.

The Environmental Science courses are designed to complement other science subjects and so can be taken individually – to follow your own interests. However, you may choose to take the combined programme in order to add Environmental Science as a second major to your BSc. The Environmental Science major is designed to be taken in conjunction with another Science subject major, like Biological Science, Chemistry, Earth Sciences, Geography, Mathematics or Physics.

What you will gain

Environmental Science offers diverse skills, techniques and knowledge. You will gain practical knowledge and will also develop critical understanding of theory and concepts. Some of the skills you will learn include:

- Conservation project management techniques
- Techniques used in policy and planning for sustainable development
- Computer modelling of environmental problems
- Understanding of human interactions with environmental systems and processes
- Scientific understanding of environmental problems

BSc major in Environmental Science

The Environmental Science major must be taken in conjunction with another major subject. You “take a BSc” by studying courses to suit the rules for both your chosen major as well as Environmental Science, along with other subjects of relevance or interest.

In your first year of University study, you should enrol in Stage I courses only. You should take a range of subjects but ensure that you include **ENVSCI 101** as well as the appropriate courses for your chosen major.

Complementary majors

While there are a number of options for complementary majors the following have been recommended by Environmental Science staff:

- Biological Sciences
- Chemistry
- Computer Science
- Earth Sciences
- Ecology
- Geography
- Physics
- Statistics

www.science.auckland.ac.nz/doublemajors



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Planning your majors

BSc				
Year 1	MAJOR 1XX	MAJOR 1XX		
	Select courses for First major subject			
Year 2	MAJOR 2XX	MAJOR 2XX	MAJOR 2XX	MAJOR 2XX
	Select courses for First major subject			
Year 3	MAJOR 3XX	MAJOR 3XX	MAJOR 3XX	MAJOR 3XX
	Select courses for First major subject			

1. Courses in a minimum of three subjects listed in the BSc Schedule.
2. At least 180 points (12 courses) must be above Stage 1.
3. Up to 30 points (2 courses) may be taken from outside the Faculty.
4. 30 points (2 courses) must be taken from the appropriate General Education Schedules for BSc students.
5. At least 75 points must be at Stage III, of which 60 points must be in the majoring subject.

3

The average number of years it takes to complete a Bachelor of Science degree



ENVSCI can only be taken as part of a double major



ENVSCI
101

STATS 101
or 108

GEN ED

Environmental Science may be included as a Second Major within the BSc degree. Students should select ENVSCI 101 and STATS 101 or 108 plus the appropriate courses to suit their First Major subject.

ENVSCI
201

ENVSCI
203

GEN ED

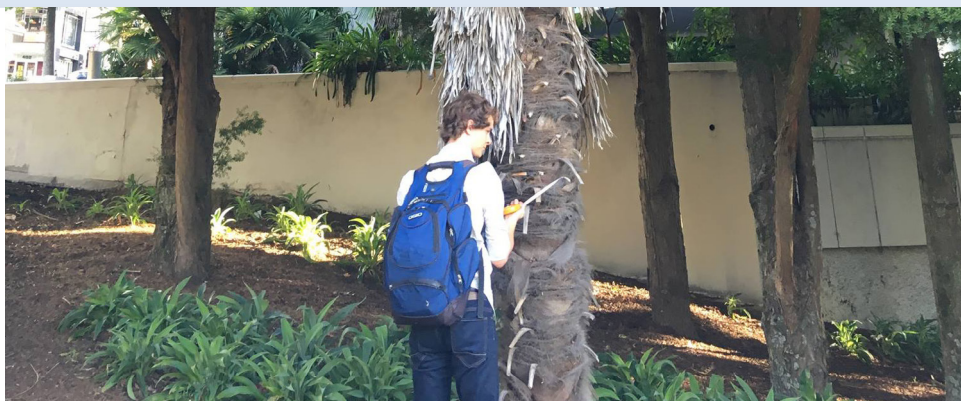
ENVSCI 201 and ENVSCI 203 are required.
Most Stage II courses are recommended preparation for Stage III courses and should be chosen carefully.

ENVSCI
301

ENVSCI
303

Additional
Stage III
Science

ENVSCI 301 and ENVSCI 303 are required, plus one additional Stage III Science course



▲ Photo from ENVSCI 201 study of urban trees.

To view regulations for majors, and course descriptions, see www.calendar.auckland.ac.nz

For more information about UG study in Environmental Sciences, visit www.science.auckland.ac.nz/environment-future-UG

Undergraduate Environmental Science courses

Course code	Course title	Semester
Stage I		
ENVSCI 101	Environment, Science and Management	2
Stage II		
ENVSCI 201	Natural and Human Environmental Systems	1
ENVSCI 203	Discovering Environmental Modelling	2
Stage III		
ENVSCI 301	Environmental Science and Decision Making	1
ENVSCI 303	Environmental Science, Risk and Society	2
Other complementary courses		
SCIGEN 101	Communicating for a Knowledge Society	1, 2
Note that SCIGEN 101 is a recommended option for students needing to satisfy the Academic English Language Requirement (AELR).		
SCIGEN 201	Innovating for a Knowledge Society	1
MARINE 202	Principles of Marine Science	1
SCIGEN 301	Engaging in a Knowledge Society	2

For course descriptions, go to www.science.auckland.ac.nz/environment-UG

▼ ENVSCI 101 beach cleanup. Photo by Rocky Bay group.



Careers in Environmental Science

The skills you will develop in our undergraduate and postgraduate programmes will equip you for many jobs in government, consultancy, environmental and community organisations, industry and education.

You will find our graduates in diverse jobs, ranging from local government field officers, through to teachers, lecturers, iwi liaison, environmental officers, laboratory technicians and environmental consultants. Generally, to have a challenging career in environmental science, you need a postgraduate qualification as well as your BSc. Employers in the sectors relevant to Environmental Science look for PGDipSci or MSc degrees. They find our graduates well prepared for the diverse challenges outside the University.

In recent years our graduates have been employed by the following New Zealand organisations:

Air New Zealand

City councils

Cawthron Institute

Carter Holt Harvey

Beca Carter

Department of Conservation

ERMA

Fernz Corporation

Glenbrook Steel Mill

Institute of Environmental Science and Research (ESR)

Institute of Geological and Nuclear Sciences (GNS)

Golder Assoc (environmental consultants)

Landcare Research

Meritec (consultants)

Ministry for the Environment

Mobil, New Zealand

National Institute of Water and Atmosphere (NIWA)

Pacific Steel

Pattle Delamore (consultants)

Regional councils

Sanford Fisheries

Scion

SERCO (consultancy)

UNESCO

AECOM (Environmental Consultants)

Watercare Services Ltd

World Wide Fund for Nature (WWF)



Nava Fedaeff studied a Bachelor of Science with a double major in Geography and Environmental Science and is now a Climate Scientist working at the National Institute of Water and Atmospheric Research (NIWA).

“I’ve always had an interest in science and the environment and I really enjoyed studying Geography and Science at High School.

“As a first year student, the ENVSCI101 paper cemented my passion for Environmental Science. This paper is relevant to all students at uni as environmental issues cross many disciplines.

“Being able to apply the knowledge we learn in lectures to lab sessions and fieldwork is instantly gratifying. Learning about the complexities of environmental issues and applying a multidisciplinary approach is a skill I continue to rely upon for my work at NIWA.”

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.



Science Centre, 23 Symonds Street.

Helpful information

Academic dates	www.auckland.ac.nz/dates
Academic Integrity Course	www.auckland.ac.nz/academic-integrity
Accommodation	www.accommodation.auckland.ac.nz
Buy coursebooks	www.science.auckland.ac.nz/resource-centre
Career Development and Employment Services	www.auckland.ac.nz/careers
Course advice and degree planning in Science	www.science.auckland.ac.nz/student-centre
General education	www.auckland.ac.nz/generaleducation
How to apply	www.apply.auckland.ac.nz
How to enrol	www.auckland.ac.nz/enrolment
International students	www.international.auckland.ac.nz
Māori and Pacific students	www.science.auckland.ac.nz/tuakana
Need help?	www.askauckland.ac.nz
Rainbow Science Network for LGBTI students	www.science.auckland.ac.nz/rainbowsience
Scholarships and awards	www.scholarships.auckland.ac.nz
Support for students	www.science.auckland.ac.nz/support

Applications close on December 8.

Questions about Environmental Science? Email environment@auckland.ac.nz



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