STUDY AREA

SCIENCE AND THE ENVIRONMENT

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

EMILEE HELPS PROTECT OUR PLANET

Currently studying a Bachelor of Science with a major in sustainable resource management, Emilee is working hard to make our planet a more environmentally sustainable place to live. Alongside her studies, Emilee is already contributing to the mitigation of plastic pollution as a Volunteer Coordinator for Take 3 for the Sea. Through her volunteer work and studies, Emilee hopes to reconnect people to the planet and inspire everyone to create change through simple actions.

Emilee
Bachelor of Science

SCIENCE AND THE ENVIRONMENT

There's no one type of scientist. Career opportunities are exciting and always evolving. You might work in a lab, discovering life-changing scientific breakthroughs. You could work in science education, sharing your passion and knowledge with the next generation. Maybe you see yourself using science to shape government policy – or something else entirely. A science degree gives you the flexibility to explore your interests and make an impact through the pathway that's right for you.

newcastle.edu.au/study/science-and-the-environment

TOP 200

in the world for Geography[1]

83.9%

employment rate for students four months after graduating[2]

ERA 5

rated well above world standard for Biochemistry and Cell Biology, Environmental Science and Management, Genetics, Microbiology, Physical Chemistry, Physiology, Plant Biology and Zoology[3]

DEGREE OPTIONS

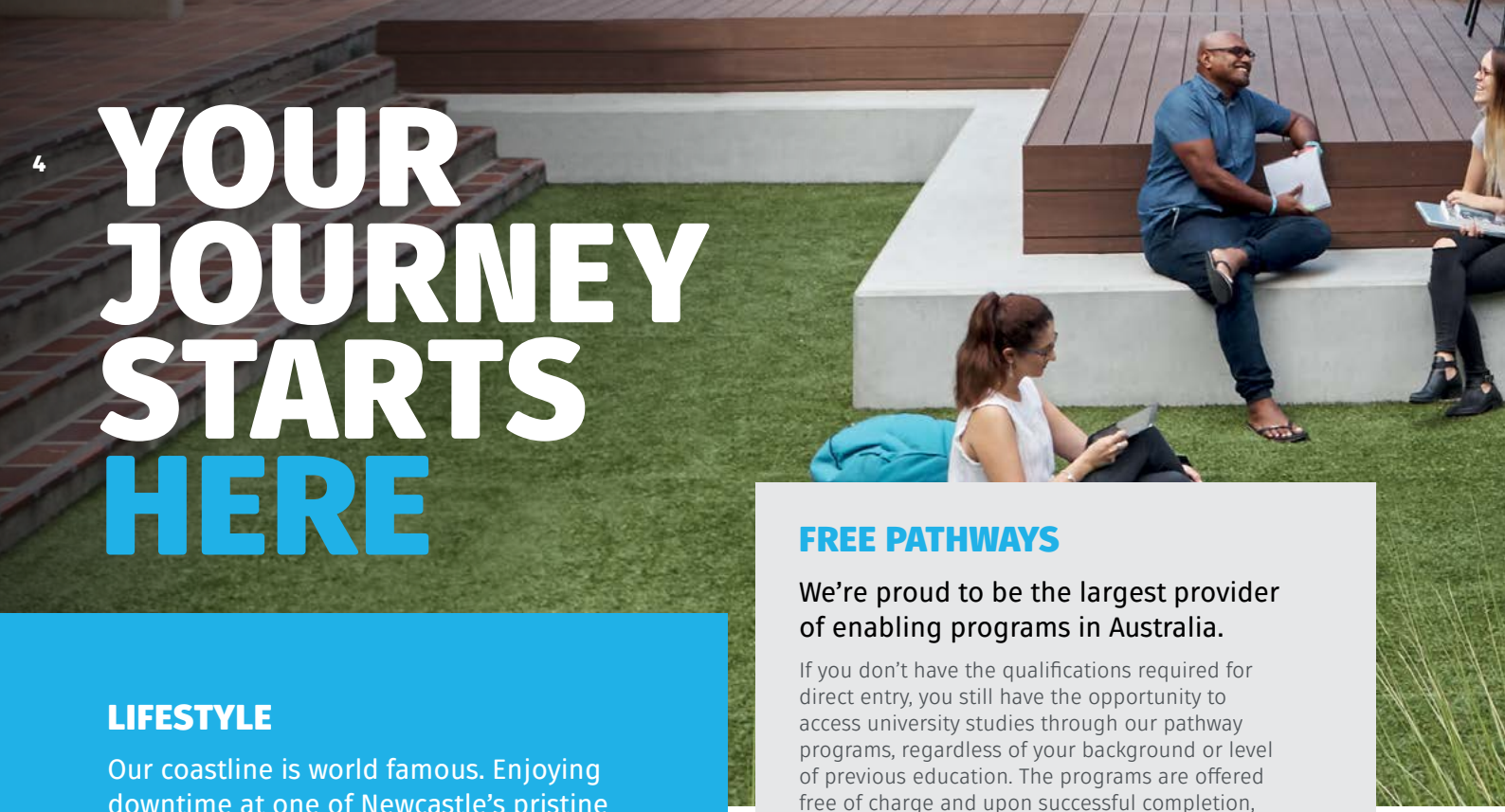
Bachelor of Biotechnology
Bachelor of Coastal and Marine Science
Bachelor of Environmental Science and Management
Bachelor of Science
Bachelor of Science (Advanced)

ALSO CONSIDER

Bachelor of Biomedical Science
Bachelor of Chemical Engineering (Honours)
Bachelor of Development Studies
Bachelor of Environmental Engineering (Honours)
Bachelor of Exercise and Sport Science
Bachelor of Food Science and Human Nutrition
Bachelor of Psychological Science

1 QS World University Rankings by Subject 2019
2 Graduate Outcomes Survey 2017-2019
3 Excellence in Research Australia 2018

YOUR JOURNEY STARTS HERE



LIFESTYLE

Our coastline is world famous. Enjoying downtime at one of Newcastle's pristine beaches and three coastal baths is made easy with long stretches of uncrowded sand, accessible public transport, and plenty of free parking. A creative hub, Newcastle is home to the bright ideas of countless innovators and entrepreneurs. Enjoy all that Newcastle has to offer – a dynamic art and music scene, chilled-out cafes, eclectic markets, microbreweries and small bars. The people are friendly, the beaches are picture perfect and the coffee culture is taken seriously.

CAMPUS LIFE

On campus, you have access to a wide range of cafes, food outlets and bars. The University is also home to over 150 clubs, societies and social groups – giving you the chance to regularly participate in fun activities.

Great health and fitness facilities await you at The Forum University (Callaghan) and Harbourside (Newcastle City). You'll find a 50m indoor heated swimming pool, fitness classes, state-of-the-art equipment, indoor courts and casual or structured social sport competitions all year. No matter which campus you study at, there's always something happening during the semester. There are plenty of events from Orientation Party to festivals and local gigs. You could attend study workshops, guest lectures or kick back and enjoy watching a movie by moonlight.

newcastle.edu.au/uonstudentliving

ACCOMMODATION

While the thought of moving away from your home town to study might seem daunting, we're here to make this transition as easy as possible. We offer students secure, affordable and comfortable accommodation while studying.

newcastle.edu.au/accommodation

FREE PATHWAYS

We're proud to be the largest provider of enabling programs in Australia.

If you don't have the qualifications required for direct entry, you still have the opportunity to access university studies through our pathway programs, regardless of your background or level of previous education. The programs are offered free of charge and upon successful completion, you're guaranteed entry to over 40 undergraduate degrees at the University of Newcastle.

- **Newstep**
  If you didn't complete Year 12, or missed the chance to get the marks needed for university entry, our Newstep program offers the perfect pathway between secondary schooling and university. Study on campus at Newcastle or the Central Coast.
- **Open Foundation**
  If you've never studied at university before and you're considering a degree qualification after time in the workforce or caring for family, or just looking to further your interests, our Open Foundation program can help make this happen.
- **Yapug - Aboriginal and Torres Strait Islander Students**
  Yapug is a pathway program providing Aboriginal and Torres Strait Islander people with skills for entry into undergraduate degrees, including a pathway into Medicine. Start your university experience in a culturally appropriate learning environment, supported by Indigenous peers and staff.

newcastle.edu.au/enabling

YEAR 12 SUBJECT SPOTLIGHT EARLY ENTRY PROGRAM

We believe that your ATAR doesn't define who you are – it is your unique passions, abilities and ambitions that matter. Our Year 12 Subject Spotlight program rewards you with an early offer for your hard work and strong results in individual subjects related to your degree. So, you can take some of the stress out of your final school exams, knowing your ATAR isn't all that matters.

There is no separate application for the program – simply apply through UAC to qualify You can find more information on subjects aligned to specific degrees online.

newcastle.edu.au/subject-spotlight

STUDY ABROAD

Are you keen to take your studies around the world?

When you study here, you'll have the chance to travel and get credit for your degree at the same time. There are opportunities for international experiences across every area of study, whether it's an overseas exchange program, study tour or work placement. Discover new cultures, try new food and make friends from all over the world. With more than 100 partner universities across all major continents, it really is the chance of a lifetime.

newcastle.edu.au/studyoverseas

CAREER-READY GRADUATES

Sometimes it's best to dive straight in. That's why exciting industry experience and Work Integrated Learning is at the core of all our degrees. Our strong partnerships with local and global organisations ensure everything you study is shaped by the real world and you graduate ready for a career in your field. Our Career Services Team are also on hand to help you out with everything from resumes and employment workshops to advice on your career goals.

THE MA & MORLEY SCHOLARSHIP PROGRAM

Anna hopes to combine her love of nature and science in her future career as a science communicator. She's an active school and community leader, with a passion for fostering the curiosity and creativity of young minds. Anna volunteers at the Newcastle Art Gallery and helps to promote science, technology, engineering and maths (STEM) in schools. Anna has been inspired by Sir David Attenborough's dedication to investigating and showcasing how human and environmental factors are impacting animal habitats around the world. Like Attenborough, Anna hopes to use her Bachelor of Science to highlight global issues and work to implement effective solutions to protect the environment.

Anna Popowicz
Newcastle, NSW
Bachelor of Science (Advanced)

SCHOLARSHIPS

You might be bursting with new ideas, passion and potential. But without support, attending university can sometimes seem impossible.

The University of Newcastle's scholarship programs have been designed to provide this support and give you the opportunity to develop your talent and explore your potential.

We have over 1,000 individual scholarships on offer including:

- scholarships for academic achievement
- support for individuals facing financial hardship and educational disadvantage
- support for Indigenous students
- opportunities to travel, perform, play sport, relocate, or gain global experience.

Visit the website to find a scholarship that fits for you

newcastle.edu.au/scholarships

SHAPING FUTURES SCHOLARSHIPS

The Shaping Futures Scholarship Fund provides support for students who are most in need – helping them to overcome disadvantage to pursue and maintain their achievements.

Scholarships are offered to academically gifted students facing educational disadvantage such as financial hardship, relocation from a regional or remote area, a long term or recurrent medical condition or illness, carer or sole parenting responsibilities, an asylum seeker recently completing a University of Newcastle enabling program, or a combination of these factors.

ABORIGINAL AND TORRES STRAIT ISLANDER SCHOLARSHIPS

The Aboriginal and Torres Strait Islander Scholarships were established through contributions from the University, industry donors, community organisations and the annual Reconciliation Scholarship Dinner Dance. These scholarships provide Australian Aboriginal and Torres Strait Islander students financial support to assist with completing their studies.

newcastle.edu.au/scholarships

BACHELOR OF

BIOTECHNOLOGY

newcastle.edu.au/degrees/bachelor-of-biotechnology

Imagine using living organisms to modify products for the better.

Like creating a new vaccine to save millions of lives. When you study a Bachelor of Biotechnology, you will help to develop technologies that improve our communities and the health of our planet. You might even be the researcher that develops a super crop that can survive harsh climates and feed the hungry. The products of biotechnology are all around us and you can be at the forefront of scientific development and discovery.

2020 SELECTION RANK

62.00 | Median 71.90

CAREER EXAMPLES

- Biochemist
- Biotechnologist
- Clinical Research Coordinator
- Geneticist
- Laboratory Analyst
- Microbiologist

REAL-WORLD EXPERIENCE

This degree features a 10-week full-time industrial placement. A feature of this degree is the separate courses focusing on laboratory skills, which provides students with a hands-on experience.

JOSEPH'S STORY

You might say Bachelor of Biotechnology (Honours) alumnus and current PhD Candidate in Biological Science Joseph has a growth mindset, in more ways than one. His passion for biology led him to study how plants might survive during climate change and population increases, in order to create food security in the face of potential environmental crises. His research earned him a seat at the UN Conference on Climate Change in Poland in 2018. On another project, Joseph worked with a team using plant seeds as filters to create clean drinking water in Kenya. After he completes his PhD, Joseph's ambition is to continue teaching and researching. With the world-class facilities and expertise available at the University of Newcastle, he'll work to ensure that our global food sources, and the next generation of students, are both able to flourish.

Joseph

PhD (Biology)

Bachelor of Biotechnology (Honours), 2015

BACHELOR OF

COASTAL AND MARINE SCIENCE

newcastle.edu.au/degrees/bachelor-of-coastal-and-marine-science

Are you a lover of the ocean? A passionate conservationist who wants to make sure our marine environment is sustained for years to come?

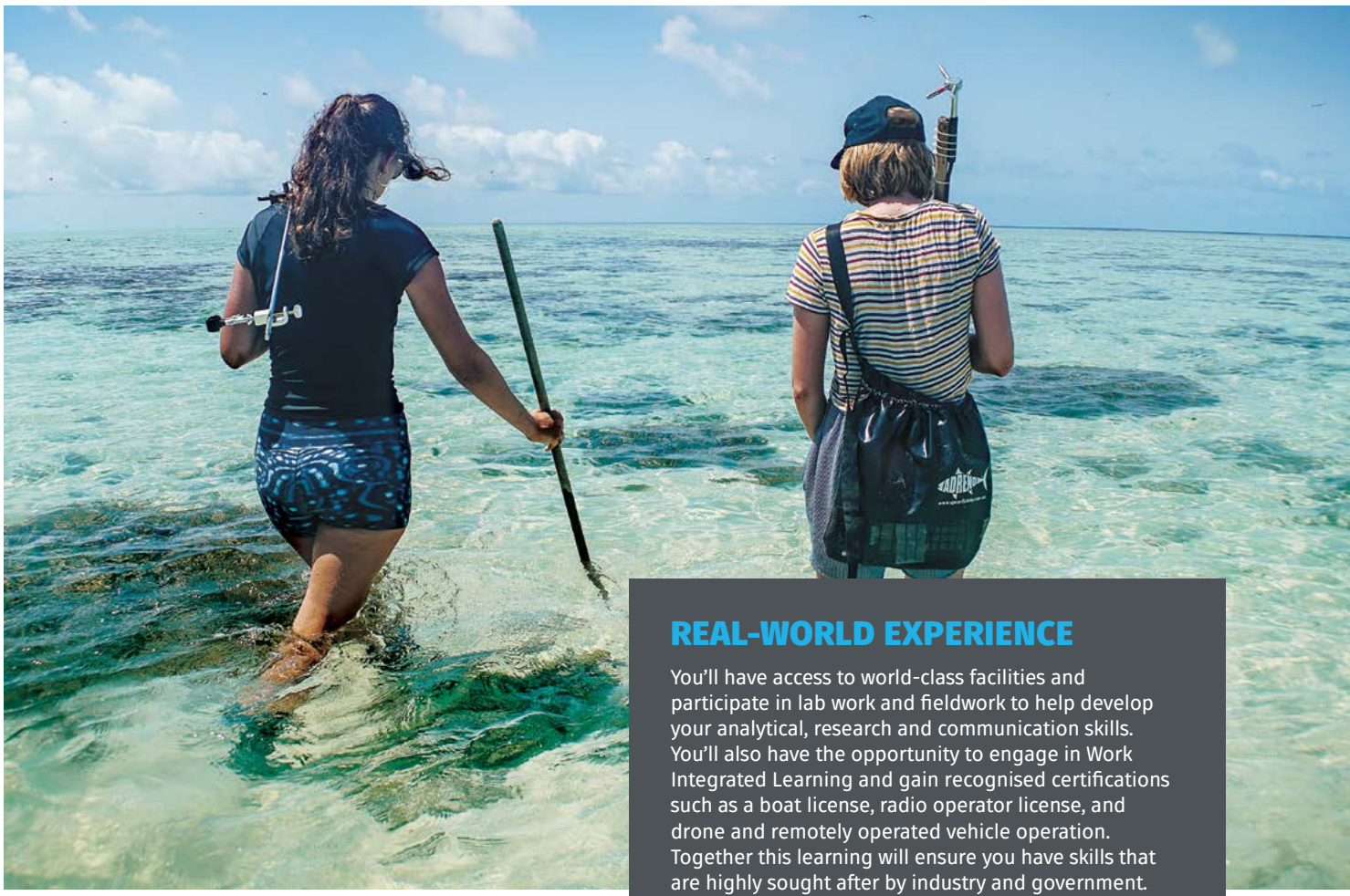
Australia is home to some of the most unique and diverse coastlines and marine ecosystems in the world and we need to make sure they remain protected. By understanding the conservation and management issues they face – such as climate change, pollution and overfishing – we can help find solutions to these problems. When you study a Bachelor of Coastal and Marine Science you'll be learning from experts in marine, coastal and ecological fields – giving you practical skills to make a difference in our world. Through professional pathways, students can tailor their program to meet their career aspirations.

2020 SELECTION RANK

62.00 | Median 75.60

CAREER EXAMPLES

- Animal Biologist
- Conservationist/Ecologist
- Fisheries Technician
- Marine Biologist
- Oceanographer
- Waterways and Coastal Officer



REAL-WORLD EXPERIENCE

You'll have access to world-class facilities and participate in lab work and fieldwork to help develop your analytical, research and communication skills. You'll also have the opportunity to engage in Work Integrated Learning and gain recognised certifications such as a boat license, radio operator license, and drone and remotely operated vehicle operation. Together this learning will ensure you have skills that are highly sought after by industry and government.

HANNAH'S STORY

Hannah has always wanted to save the world. Growing up, she was always interested in nature and knew an office job wasn't the right fit for her. She wanted to be outside and helping promote the importance of environmental conservation. This paved the way to her studying a Bachelor of Environmental Science and Management (Honours), majoring in marine science.

Throughout her studies, Hannah made a meaningful difference to the planet through exciting hands-on fieldwork in the local area and important coral reef research in Vanuatu.

For Hannah, working on the project in Vanuatu had a profound impact on her and further inspired her goal of ensuring everyone knows how important marine environments are, and how to manage and protect them.

Hannah

Bachelor of Environmental Science and Management (Honours), 2019

BACHELOR OF

ENVIRONMENTAL SCIENCE AND MANAGEMENT

newcastle.edu.au/degrees/bachelor-of-environmental-science-and-management

If you want to contribute to solving the environmental problems facing our society, and have a passion for sustainability, then the Bachelor of Environmental Science and Management is for you.

The University of Newcastle is centrally situated to give you hands-on experience in areas of vast environmental diversity, from terrestrial landscapes, to wetlands and coastal zones. We offer the perfect environment for you to gain an understanding of the critical issues placing a growing strain on the Earth's natural resources and develop tactics to combat them.

2020 SELECTION RANK

62.00 | Median 78.45

CAREER EXAMPLES

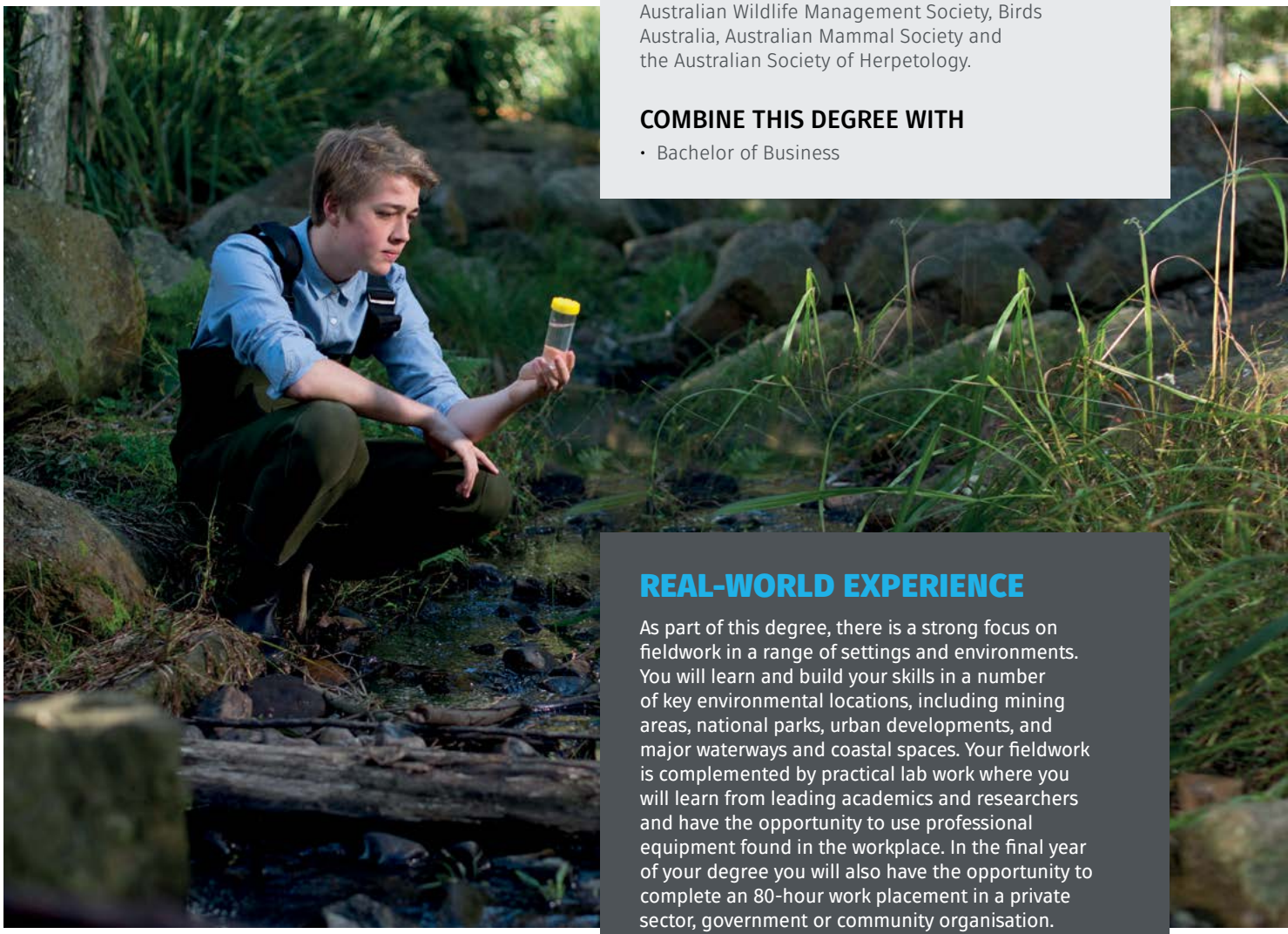
- Botanist/Plant Scientist
- Climatologist
- Coastal Management Officer
- Environmental Health/Sustainability Officer
- Marine Scientist
- Water Resource Management Specialist

PROFESSIONAL RECOGNITION

Depending on your area of study you can gain professional recognition with the Hunter Environmental Institute, Australian Ecology Society, Australian Wildlife Management Society, Birds Australia, Australian Mammal Society and the Australian Society of Herpetology.

COMBINE THIS DEGREE WITH

- Bachelor of Business



REAL-WORLD EXPERIENCE

As part of this degree, there is a strong focus on fieldwork in a range of settings and environments. You will learn and build your skills in a number of key environmental locations, including mining areas, national parks, urban developments, and major waterways and coastal spaces. Your fieldwork is complemented by practical lab work where you will learn from leading academics and researchers and have the opportunity to use professional equipment found in the workplace. In the final year of your degree you will also have the opportunity to complete an 80-hour work placement in a private sector, government or community organisation.

MAXWELL'S STORY

After graduating high school in 2016, Maxwell was unsure about what he wanted to pursue or where he wanted his career to go. He tried a few different things over the years but always came back to the idea of studying something to do with the environment.

Maybe it was his love of all things outdoors or his passion for sustainability, but finally in 2019 Maxwell made the decision to enrol in a Bachelor of Environmental Science and Management. And he couldn't be happier with his decision.

Now in his second year, Maxwell is eager to complement his classroom learning with practical fieldwork. He's already participated in wildlife management excursions and is looking forward to exploring environmental science on the global stage with overseas study and industry placement.

Maxwell
Bachelor of Environmental Science and Management

BACHELOR OF

SCIENCE

newcastle.edu.au/degrees/bachelor-of-science

The immense field of science is exciting and always evolving. It underpins areas such as technology, industry, business, agriculture, environment, research and development, health, and the information revolution.

The Bachelor of Science will provide you with a new way of learning and new path to discovery. Develop practical business and communication skills that will complement and enhance your science knowledge. The network you build and the communication skills you develop will make you a highly-skilled and employable science graduate who will contribute solutions to the scientific challenges we are facing.

REAL-WORLD EXPERIENCE

Students will have access to world-class facilities including our nanoscience and chemistry laboratories and mathematics grid room. Throughout your degree you'll participate in lab work to help develop your analytical, research and communication skills. From the first week of your degree you will be in the field, as we use the campus as our personal living laboratory. You will also take part in field trips, seminar presentations and workshops to enhance classroom theory and apply it to real-life situations.

2020 SELECTION RANK

62.00 | Median 74.60

CAREER EXAMPLES

- Climatologist
- Conservationist/Ecologist
- Geographer
- Marine Biologist
- Microbiologist
- Neuroscientist
- Oceanographer

PROFESSIONAL RECOGNITION

Graduates with a Physics major are eligible for accreditation through The Australian Institute of Physics (AIP).

Graduates with a Statistics major are eligible for accreditation on becoming a member of the Statistical Society of Australia.

Graduates who complete the accredited Geology major will meet the requirements for entry into the graduate category of the Australasian Institute of Minerals and Metallurgy.

COMBINE THIS DEGREE WITH

- Bachelor of Arts
- Bachelor of Chemical Engineering (Honours)
- Bachelor of Computer Systems Engineering (Honours)
- Bachelor of Electrical and Electronic Engineering (Honours)
- Bachelor of Environmental Engineering (Honours)
- Bachelor of Innovation and Entrepreneurship
- Bachelor of Laws (Honours)
- Bachelor of Mathematics
- Bachelor of Mechanical Engineering (Honours)
- Bachelor of Mechatronics Engineering (Honours)

TESS' STORY

Tess has always been interested in coming up with creative and logical approaches to help solve complex and intriguing problems. It was this inquisitive nature that led her to study a Bachelor of Mathematics and Bachelor of Science (Chemistry) at the University of Newcastle.

After completing the HSC, Tess was awarded the Faculty of Science High Achievers Scholarship which inspired her to pursue her passion for solving important global issues such as climate change.

For Tess, the global environmental and humanitarian crises that are occurring as a result of climate change require a transdisciplinary approach. And with a double degree in maths and science, Tess hopes to be able to contribute to the development of innovative strategies for climate action.

While the program offers Tess the opportunity to explore a variety of transferable skills, she ultimately plans to apply them to real world problems – like protecting the people and places affected by climate change.

Tess
Bachelor of Mathematics/Bachelor of Science (Chemistry)

BACHELOR OF

SCIENCE (ADVANCED)

newcastle.edu.au/degrees/bachelor-of-science-advanced

Gone are the days of the stereotypical scientist – in today's society, scientists need to work across research, industry and discipline boundaries to create solutions to the world's most complex issues.

You might work in a lab, discovering life-changing scientific breakthroughs, or use science to shape government policy. The Bachelor of Science (Advanced) will allow you to join a high achieving cohort and create your own academic adventure. Tailor your majors and professional pathways to achieve your career goals. You'll have access to specialised mentoring, exposure to the wider Faculty of Science community and opportunities to participate in Work Integrated Learning and industry engagement.

2020 SELECTION RANK

95.00 | Median 99.95

CAREER EXAMPLES

- Animal Biologist
- Botanist
- Chemist
- Geologist
- Mathematician
- Physicist
- Statistician

PROFESSIONAL RECOGNITION

Graduates with a Physics major are eligible for accreditation through The Australian Institute of Physics (AIP).

Graduates with a Statistics major are eligible for accreditation on becoming a member of the Statistical Society of Australia.

Graduates who complete the accredited Geology major will meet the requirements for entry into the graduate category of the Australasian Institute of Minerals and Metallurgy.

REAL-WORLD EXPERIENCE

Students will have access to world-class facilities including our nanoscience and chemistry laboratories. Throughout your degree you'll participate in lab work to help develop your analytical, research and communication skills. You will also take part in field trips, seminar presentations and workshops to enhance classroom theory and apply it to real-life situations.

CHALLENGING THE VIEW ON CLIMATE CHANGE

Dr Liam Phelan is passionate about sustainability and how we achieve it, and is driven to find solutions to significant global issues like climate change.

His research addresses climate change as a complex problem for both nature and humans and seeks to understand the interrelatedness of ecological and social systems, and how both adapt unpredictably to climate change.

As a critical researcher, Dr Phelan hopes to change the world for the better. And through his role as a lecturer in environmental and life sciences, he's doing just that. He's helping students understand the complex environmental sustainability issues today's society faces and is inspiring the next generation of scientists and researchers to challenge global perspectives on these issues.

Dr Liam Phelan
Senior Lecturer
School of Environmental and Life Sciences

RELATED DEGREES

You may also be interested in one of the following degrees that touch on the Science and the Environment study area.

BACHELOR OF
BIOMEDICAL SCIENCE

BACHELOR OF
CHEMICAL ENGINEERING (HONOURS)

BACHELOR OF
DEVELOPMENT STUDIES

BACHELOR OF
ENVIRONMENTAL ENGINEERING (HONOURS)

BACHELOR OF
EXERCISE AND SPORT SCIENCE

BACHELOR OF
FOOD SCIENCE AND HUMAN NUTRITION

BACHELOR OF
PSYCHOLOGICAL SCIENCE

For further information on these programs visit **newcastle.edu.au/study**

CONNECT WITH OUR GLOBAL ALUMNI NETWORK

#UONalumni

IF YOU'RE READY TO CHASE YOUR DREAMS AND THRIVE, NOW IS THE TIME.

For full information and to find out how to apply, visit **newcastle.edu.au/study**

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