JOSEPH GROWS HOPE

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
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, or in science education – sharing your passion and knowledge with the next generation. Science can also play a significant role in solving the environmental challenges we continue to face. From coastal and marine conservation, to working with cells and living organisms, you can help improve the health of our communities and planet. 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

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 Natural History Illustration
Bachelor of Psychological Science

TOP 200
in the world for Geography¹

No. 1
IN NSW
for skill improvement (Science and Mathematics)²

ERA 5
well above world standard for Biochemistry and Cell Biology, Environmental Science and Management, Genetics, Microbiology, Physical Chemistry, Physiology, Plant Biology and Zoology³

¹ QS World University Rankings by Subject 2019
² Quality Indicators for Learning and Teaching 2018
³ Excellence in Research 2018
YOUR 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 can still have the opportunity to access university studies, regardless of your background or level of previous education, through our pathway programs. The programs are offered free of charge and upon successful completion, you’re guaranteed entry to selected undergraduate degrees at the University of Newcastle.

• **Newstep**
  If you were unable to complete Year 12 or missed the chance to get the marks needed for university entry, our Newstep program offers another pathway for you.

• **Open Foundation**
  If you are seeking a new career direction, considering attending university after time in the workforce or looking to further pursue your interests, our Open Foundation program can help make this happen. Study online, part-time or full-time.

• **Yapug - Aboriginal and/or Torres Strait Islander Students**
  Yapug is a pathway program designed to help Aboriginal and/or Torres Strait Islander people gain skills for entry into undergraduate degrees.

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

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, micro-breweries and small bars. The people are friendly, the beaches are picture perfect and the coffee culture is taken seriously.

callaghan has an on-campus gym – The Forum – which also features a secondary location just 500 metres from NeW Space. Facilities across both sites include a 50-metre indoor pool, cardio and strength training zones, rock climbing wall, cycle zone, group fitness classes and multi-purpose courts.

The new covered outdoor recreation area (CORA) at the Central Coast campus provides a great place for students to be active, social and engaged all year round.

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

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.

newcastle.edu.au/subject-spotlight

newcastle.edu.au/enabling

newcastle.edu.au/uonstudentliving

newcastle.edu.au/accommodation
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 spanning all major continents, it really is the chance of a lifetime.

newcastle.edu.au/studyoverseas

GRADUATE WORK READY
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.

SCHOLARSHIPS
Our University is home to many talented, enthusiastic and diverse students – just like you – and providing equity of access to higher education is fundamental to who we are. It doesn’t matter what your background is or what your circumstances are, we want to give everyone the chance to go to, and thrive, at university.

Our scholarship programs provide:
• scholarships for academic achievement
• support for individuals with financial hardship and educational disadvantage
• support for Indigenous students
• opportunities to travel, perform, play sport, relocate, or gain global experience.

newcastle.edu.au/scholarships

THE MA & MORLEY SCHOLARSHIP PROGRAM
Sophie believes communication and collaborative action are the way forward. Her passion for caring for the environment started early on. Helping out on her grandmother’s small-scale vineyard gave Sophie a deep connection to the land and working with volunteers during the harvest offered a strong sense of community. With the effects of climate change and habitat destruction increasing at an unprecedented rate, Sophie understands the need to take immediate global action. Motivated to lead the way, she is always looking at new ways to contribute to the change she would like to see. From working with communities in Vietnam to construct roads and buildings from recycled materials to working on bush regeneration projects, she works to bring people together to act on a common cause. On completing her Bachelor of Environmental Science and Management, Sophie hopes to work with others to create a world that is healthier, more sustainable and better for all.

Sophie
Bachelor of Environmental Science & Management
Ma & Morley Scholar

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/OR TORRES STRAIT ISLANDER SCHOLARSHIPS
The Aboriginal and/or 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/or Torres Strait Islander students financial support to assist with completing their studies.

newcastle.edu.au/scholarships
Imagine using living organisms to modify products for the better – like creating a new vaccine to save lives.

When you study a Bachelor of Biotechnology, you will help develop technologies that improve our communities and the health of our planet. You might be the researcher who invents 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.

**2019 SELECTION RANK**
64.05 | Median 70.95

**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 embedded courses focusing on laboratory skills which provides students with a hands-on experience.
PIONEERING FERTILITY RESEARCH DISCOVERIES

With one in six couples experiencing infertility across Australia, Dr Kate Redgrove is working to understand some of the reasons behind this statistic. Dr Redgrove has gone from being a student in the lecture theatre to a leader in the laboratory since completing her Bachelor of Biotechnology at the University of Newcastle.

The opportunity to undertake a 10-week laboratory placement with her undergraduate program was the real turning point for Dr Redgrove. This experience led her to pursue PhD studies, testing the waters in reproductive biology and as a result she is now pioneering new research discoveries linked to infertility.

Her research looks at the environmental effects long-term chlamydia infections can have on male reproductive health and how it can be linked to infertility. In association with HMRI and IVF Australia, it is hoped that Dr Redgrove’s research will develop better models and data needed to change the impact that the sexually transmitted infection has on infertility.

Dr Kate Redgrove
Lecturer
School of Environmental and Life Sciences
Is the ocean and coast part of your lifestyle? Are you wanting to learn about the marine environment?

The coastal and marine environment provides recreation, food, energy and other resources, and needs to be sustainably managed in the face of an uncertain future. Australia is home to some of the most unique and diverse coastlines and marine ecosystems in the world. By understanding the ecological, physical, conservation, societal and management issues they face – such as climate change, pollution, urbanisation and conflicting users – we can help find solutions to these problems.

When you study a Bachelor of Coastal and Marine Science you’ll learn from experts in marine, coastal and ecological fields – giving you practical skills to make a difference to our world.

2019 SELECTION RANK
N/A | Median N/A

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 sort 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 has already 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)
If you want to play a part in solving the environmental problems facing our society, and have a passion for sustainability, then this degree is for you.

You can target your studies to focus on Earth systems, ecosystems and biodiversity, marine science or sustainability. 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 setting for you to gain an understanding of the critical issues placing a growing strain on the Earth’s natural resources and develop strategies to combat them.

2019 SELECTION RANK
64.70 | Median 77.65

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.
JACK’S STORY

With a love for science and spending time in nature, alumnus Jack was thrilled to be able to combine two of his passions through his studies. After a few years of soul searching once he finished school, Jack enrolled in a Bachelor of Environmental Science and Management at the University of Newcastle and he couldn’t have been happier with his decision.

Jack immersed himself in the theoretical and practical components of his study – feeling most at home while out in the elements during fieldwork activities. A highlight for Jack was the opportunity to perform night surveys, observing and documenting all types of marsupials and reptiles. It was this experience that led him to volunteering with the University’s Amphibian Research Group, working on the endangered Green and Golden Bell Frog project.

The project, which first started in 2013 with the release of 5,000 tadpoles into a research habitat on Ash Island, now sees students like Jack document the progress and survival of the species. Jack hopes to put his skills to use in a career that will allow him to engage with the environment and play his part in supporting the future sustainability of the Earth.

Jack
Bachelor of Environmental Science, 2017
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 a new path to discovery. Develop practical business and communication skills that will complement and enhance your science knowledge – making you a highly-skilled and employable science graduate.

2019 SELECTION RANK
60.25 | Median 71.00

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 Mathematics
- Bachelor of Mechanical Engineering (Honours)
- Bachelor of Mechatronics Engineering (Honours)
- Bachelor of Laws (Honours)

REAL-WORLD EXPERIENCE
Access 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. You will also take part in field trips, seminar presentations and workshops to enhance classroom theory and apply it to real-world scenarios. You can combine a mix of specialisations to suit your study direction including biological science, chemistry, Earth science, environmental science, geography, mathematics and statistics, physics and psychology.
KARLIE’S STORY

For alumnus Karlie, sometimes a fresh perspective can come from age-old knowledge and thinking. It was her curiosity for the physical world and how the world’s position in the universe can help advance societies, that drew Karlie to a Bachelor of Science and Bachelor of Mathematics.

Karlie combined her passion for science communication and Indigenous knowledge about moon haloes to understand the role of the atmosphere in affecting how we see stars.

Her research is helping drive a renaissance in Indigenous astronomical knowledge that may help provide insight into storm predicting techniques. At the same time, she continues to educate people on how complex and relevant Indigenous knowledge is in modern research.

Karlie
Bachelor of Science/Bachelor of Mathematics, 2016
Gone are the days of a stereotypical scientist – in today’s society, there is no one type of scientist.

With evolving career opportunities, the Bachelor of Science (Advanced) will allow you to 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 additional opportunities to participate in work-integrated learning and industry engagement. Together, this comprehensive program will ensure you’re highly-skilled, graduating with extensive experience which will increase your employability.

2019 SELECTION RANK
N/A | Median N/A

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 and mathematics grid room. The program offers additional work-integrated learning and research-integrated learning, as you will apply your studies to complete a major transdisciplinary capstone project throughout your third year.
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
NATURAL HISTORY ILLUSTRATION

BACHELOR OF
PSYCHOLOGICAL SCIENCE

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

CONNECT WITH OUR GLOBAL ALUMNI NETWORK

Spanning 134 countries, the University of Newcastle’s global alumni network is making a positive difference to the world.

This diverse group of global professionals provide invaluable support for our students by sharing their time and expertise. Whether it’s through a mentoring program, industry experience or attending a networking event, you’ll be inspired and empowered by those who have blazed the trail before you. And, when you graduate, you too will join this outstanding group of over 143,000 alumni around the world. Because wherever you are, whatever you’re doing, you are always part of our global alumni community.

newcastle.edu.au/alumni

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

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