

Environmental Sciences



Undergraduate &
Postgraduate Courses
Domestic & International Students

Faculty of Science

UTS Science Vision

Our graduates are visionary scientists empowered to address global challenges and drive positive change. The building blocks to achieve this vision are founded on Connection, Expertise, Employability, and Research.

Connection

A strong bond between students and faculty is a cornerstone of our academic philosophy, ensuring that every student receives the guidance and mentorship they need to thrive in their academic journey.

We design learning environments that allow our students to engage more deeply with their professors and peers, facilitating meaningful discussions, collaborative projects, and hands-on experiences that go far beyond traditional lecture-style education. This dynamic approach to education empowers our students to explore their passions, develop critical thinking skills, and make lasting connections with their professors who are experts in their respective fields.

Employability

At UTS, we prioritise your employability and understand the importance of equipping you with a diverse range of skills that are highly sought after by employers. Our commitment to your professional success is evident in our comprehensive approach to skill development.

We believe that today's job market demands more than just academic knowledge, which is why our programs are designed to go beyond traditional classroom learning. We provide you with opportunities to cultivate practical and transferable skills that employers value greatly. Through internships you'll gain real-world experience that directly aligns with your chosen field of study.

Furthermore, our emphasis on teamwork, problem-solving, communication, and critical thinking ensures that you graduate not only with a degree but also with a skill set that makes you a highly competitive candidate in the job market.

Expertise

At UTS Science, we take immense pride in our exceptional academic teaching teams. Comprised of renowned experts and dedicated educators, our faculty members are at the forefront of their respective fields. Their wealth of knowledge, extensive research backgrounds, and passion for teaching create a dynamic and intellectually stimulating learning environment for our students.

Our teaching teams are here to inspire, mentor, and guide you on your educational journey, ensuring that you receive a world-class education that prepares you for success in your chosen field.

Research

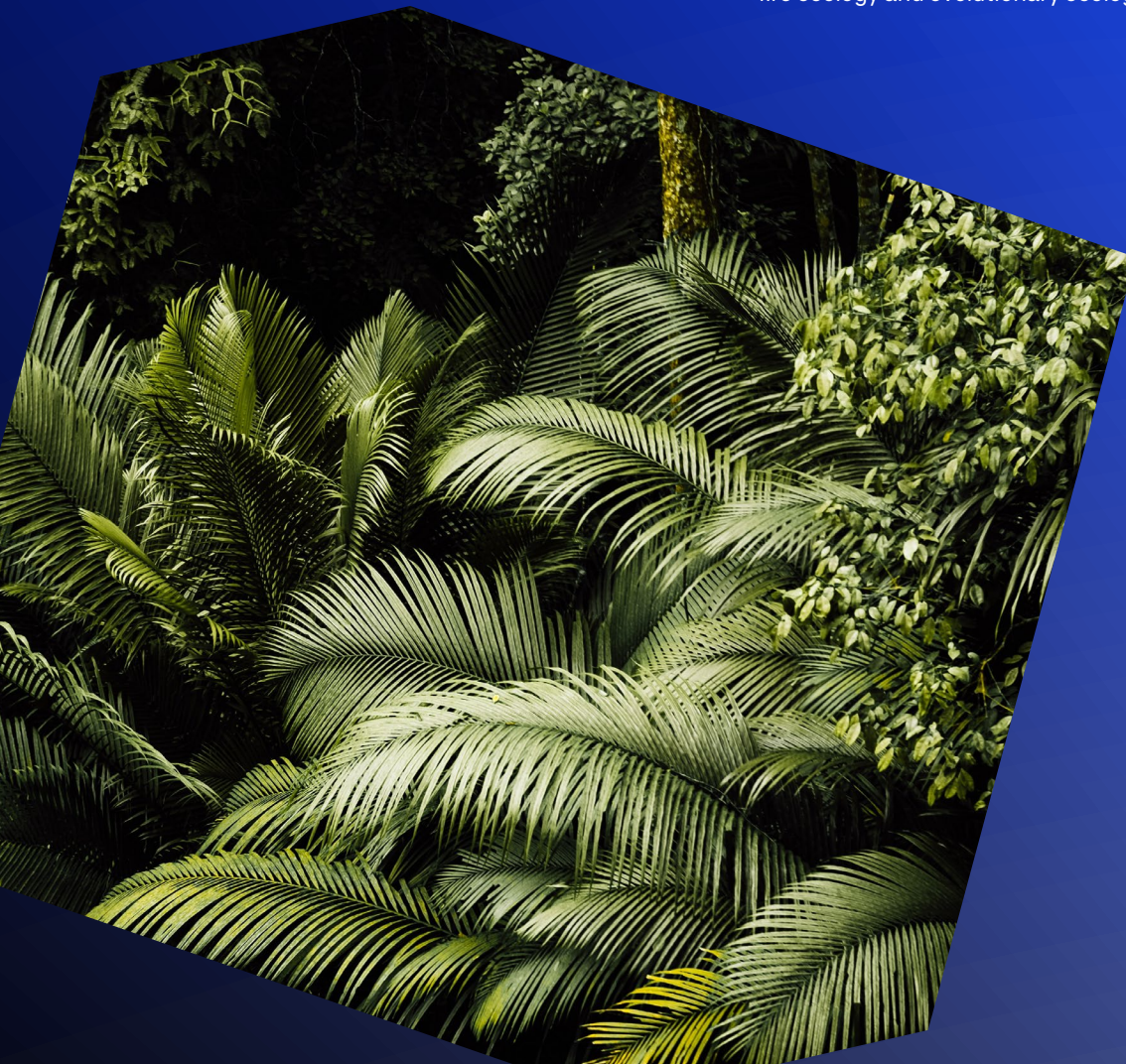
We offer unique opportunities for research engagement. As a student, you'll have the chance to collaborate closely with world-leading researchers in your chosen area of interest. Our faculty members are not only experts in their fields but also actively involved in groundbreaking research projects that push the boundaries of knowledge. This means you won't just be learning from the best; you'll be an integral part of the research process, contributing your unique insights and skills to projects that have the potential to shape the future.

Whether you're interested in cutting-edge scientific discoveries, innovative technological advancements, or pioneering solutions to global challenges, our research ecosystem provides the ideal platform for you to explore, learn, and grow into a visionary scientist.

Research Informed Teaching

Conservation and Restoration

The world is witnessing unprecedented rates of biodiversity loss and increasingly adverse anthropogenic impacts on ecosystem functioning. Our research targets the conservation of native biodiversity and the restoration of terrestrial ecosystems across natural and urban environments to halt biodiversity declines and to mitigate the impacts of human activities on ecosystem functioning. We work in temperate, arid, and tropical environments with research spanning the domains of conservation biology, wildlife ecology, remote sensing, phytoremediation, eco-physiology, biotechnology, fire ecology and evolutionary ecology.





Bachelor of Environmental Biology

Climate change is the singular issue of our time – today, the planet is facing its ultimate test. Become part of the solution with a degree that prepares students to protect and manage the critical species and ecosystems that hold the key to the future. Like most degrees of its kind, the UTS Bachelor of Environmental Biology combines theoretical and lab-based learning, but it's what happens outside the classroom that really sets it apart.

Course aims

Study where environmental biology happens

With this degree, students don't just sit in a classroom taking notes. Instead, the course content combines theoretical learning and lab-based pracs with 'muddy boots' fieldwork opportunities in locations such as the Blue Mountains, Manly Dam and Royal National Park. Engage with data collection, stream and lake assessments, and environmental survey activities, among others, and study alongside leading academics whose research is shaping the contemporary environmental science field.

Learn from the leaders in environmental science

Connect with hands-on environmental science internships on campus and beyond with a range of professional placement opportunities*. Elsewhere, benefit from extensive research and industry connections through co-designed curriculum, guest lectures and seminar series, and industry-relevant projects that bring students face to face with the critical challenges facing the planet today.

Indigenous Graduate Attribute

Environmental scientists need to work effectively with and for Aboriginal and Torres Strait Islander communities and organisations as part of their role protecting and managing species, landscapes, and ecosystems. Our degrees introduce students to indigenous Environmental Biology contexts and builds culturally competent graduates who can work collaboratively with and for Indigenous Australians.

Career outlook

An environmental science degree opens doors to a range of exciting career paths, extending well beyond the laboratory. Graduates can embark on scientific and research roles, or explore diverse professional opportunities in areas such as policy, education, and advocacy. Potential employers include environmental protection and management organisations, environmental and sustainability consulting firms, government agencies, educational institutions, tourism bodies, as well as universities and research institutes.

Course features

Scientist's toolkit

Complete a series of common core subjects that underpin all undergraduate UTS Science degrees. Data, Design and Decisions and Scientific Perspectives for Global Issues are designed to equip students with a toolkit of technical and workplace skills, preparing them to thrive both at and after uni.

Practical experience

The extensive fieldwork program challenges students to test their skills in a variety of aquatic and terrestrial environments, while professional internship offerings can help kickstart their career with placements in leading university, government, and industry labs.

Environmental science subjects

Combine the study of general science subjects with specialist environmental subjects spanning aquatic and terrestrial ecosystems, plant physiology, biodiversity conservation, wildlife management and environmental protection, among others. Students also build highly practical skills in areas like urban resilience, geographic information systems and remote sensing, preparing them to take hands-on action towards a more sustainable world.



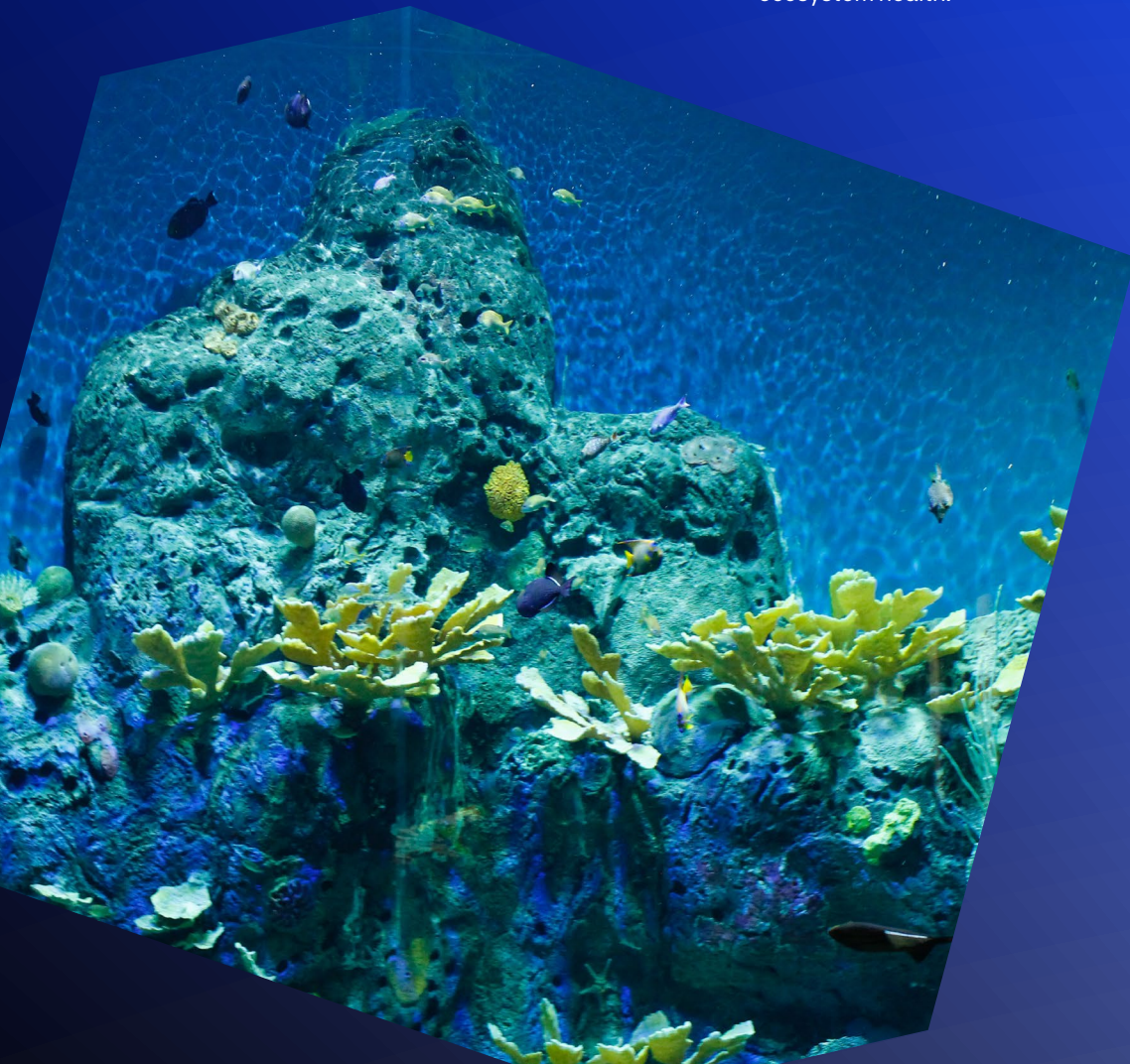
Find out more about your course and your subjects

handbook.uts.edu.au/courses/c10223.html

Research Informed Teaching

Aquatic Ecosystem Health

Our research addresses the environmental impacts of climate change and other anthropogenic stressors on marine, estuarine and freshwater ecosystems. We are particularly interested in the consequences of these impacts for ecosystem functioning, human health and sustainability. We work in tropical to polar habitats to ameliorate the impacts of human activities on the ecology of aquatic plant and animal communities; to manage cyanobacterial and other algal blooms through ecological and evolutionary lenses; and to monitor water quality and environmental flows for improved ecosystem health.





Bachelor of Marine Biology and Climate Change

On a warming planet, the health of the planet's oceans is more critical than ever. The uniquely hands-on UTS Bachelor of Marine Biology and Climate Change is the only degree of its kind in the Sydney region. It responds to Australia's ongoing investment in the future of the Blue Economy by producing graduates who can shape the future of our vital marine ecosystems.

Taught through the lens of climate change, course content spans the study of marine and aquatic environments delivered as a combination of theory, lab, and fieldwork experiences.

Course aims

Learn from the leaders in marine science

Course content is designed and delivered by industry experts and academics in the School of Life Sciences and the acclaimed Climate Change Cluster (C3), one of Australia's leading marine ecosystems research centres. The small course size means students have plenty of interaction with educators whose commitment to industry engagement gains access to a range of work-inspired learning opportunities. These include internships with UTS Science research laboratories and external marine science organisations.

Study where marine biology happens

Beyond the classroom, undertake an extensive series of fieldwork trips. Explore intertidal systems, seagrass meadows and coral reefs at locations including the Sydney Institute of Marine Science, Careel Bay, Sydney Harbour and the Central Coast in NSW and Heron Island on the Great Barrier Reef. Or, study overseas with the UTS Global Exchange program.

Indigenous Graduate Attribute

Environmental scientists need to work effectively with and for Aboriginal and Torres Strait Islander communities and organisations as part of their role protecting and managing species, landscapes, and ecosystems. Our degrees introduce students to indigenous Environmental Biology contexts and builds culturally competent graduates who can work collaboratively with and for Indigenous Australians.

Careers and beyond

In the United Nations Decade of the Ocean, marine biology has evolved beyond a purely scientific discipline and emerged as a highly sought-after skill set applicable across a diverse spectrum of industries. Graduates possess both the technical and professional competencies to drive scientific innovation not only within various marine science roles but also within sectors interconnected with Australia's coastal ecosystems.

Bachelor of Marine Biology and Climate Change

Course features

Scientist's toolkit

Complete a series of common core subjects that underpin all undergraduate UTS Science degrees. Data, Design and Decisions and Scientific Perspectives for Global Issues are designed to equip students with a toolkit of technical and workplace skills, preparing them to thrive both at and after uni.

Marine biology subjects

Explore the fundamental elements of marine biology, including coral reefs, ocean systems, fish biology, and aquatic ecosystems. Investigate ecological interactions using cutting-edge technologies and traditional and analytical methods and learn to assess and respond to the impacts of climate change on these life-sustaining environments.

Professional choice block

Develop a broader skillset with the new professional choice block – choose from electives in policy, law, tourism and business and prepare for careers beyond the traditional marine sciences domain.

Internships

Students studying this course have an opportunity to undertake an internship subject and receive academic credit for their placement off campus (an external business or research institute) or on campus (UTS research institutes or departments), in a capacity relevant to their academic studies.



Find out more about your
course and your subjects

[handbook.uts.edu.au/courses/
c10228.html](http://handbook.uts.edu.au/courses/c10228.html)



Bachelor of Molecular Biotechnology

Harness the power of cellular and molecular processes with biotechnology courses that stand out from the pack. Explore medical or environmental biotech (or both), get hands-on with transformational technologies and upskill in the business of biotechnology with a range of professional electives.

Course aims

Learn from the leaders in biotechnology

Course content is shaped by research from the acclaimed UTS Climate Change Cluster (C3); the Australian Institute for Microbiology & Infection (AIMI); the School of Life Sciences; and the Deep Green Biotech Hub, a UTS-partnered collaboration that specialises in algal biotechnology and innovation. As well as studying industry-aligned curriculum, students gain access to guest lectures, mentoring and more through UTS's extensive industry connections.

Study in purpose-built facilities

UTS is known for its commitment to practice-based teaching and the integration of new technologies into course design and development. Students learn in the world-class Hive Superlab and UTS Science Superlab, two tech-driven learning environments that support simultaneous teaching of multiple classes in a single collaborative space. They also have the opportunity to visit the UTS Biologics Innovation Facility, a purpose-built good manufacturing process (GMP) bioprocessing facility where biotechnology comes to life.

Major options

Environmental biotechnology

This major prepares students to harness biological technologies and methods to address pressing environmental issues, including pollution mitigation, environmental remediation, renewable energy generation, biosecurity, and biomass production. Through a combination of hard science and specialist environmental subjects, graduates emerge ready to contribute to products and processes that preserve and care for our planet.

Graduates with these in-demand skills can pursue diverse roles, including research associate, consultant, field scientist, microbiologist, conservation officer, environment officer, or biotechnologist. They can find opportunities across various industries, including government agencies and biosecurity, as well as involvement in policy design, development, and oversight for government and regulatory bodies.

Bachelor of Molecular Biotechnology

Course features

Scientist's toolkit

Complete a series of common core subjects that underpin all undergraduate UTS Science degrees. Data, Design and Decisions and Scientific Perspectives for Global Issues are designed to equip students with a toolkit of technical and workplace skills, preparing them to thrive both at and after uni.

Cross-disciplinary expertise

UTS Science curriculum goes beyond scientific and technical skills development. With subjects in biobusiness and intellectual property commercialisation, students also explore the commercial and ethical impacts of biotechnology in the world beyond the lab.

Free electives

Students can customise the degree to suit their personal or career aspirations. Enrol in an international exchange, pursue a professional internship, or tailor the degree with a choice of subjects from any UTS faculty.

Internships

Students studying this course have an opportunity to undertake internship subjects and receive academic credit for their placement off campus (an external business or research institute) or on campus (UTS research institutes or departments), in a capacity relevant to their academic studies.



Find out more about your course and your subjects

handbook.uts.edu.au/courses/c10172.html



Bachelor of Science

This flagship degree has been designed with flexibility in mind: with eight majors to choose from and extensive elective blocks on offer, students can build a degree that's uniquely theirs.

Course aims

Our learning approach

Our emphasis on experiential learning ensures that students acquire knowledge through active engagement, effectively applying scientific theory to real-world scenarios. This hands-on approach extends beyond the classroom, as students gain valuable practical insights through a range of professional experiences, including internships, field trips, and global exchange opportunities, breathing life into their education.

Employability skills

Science is about more than just what happens in the lab. UTS science students pair the study of hard science with the development of crucial professional skills – inquiry, reflection, innovation and communication – that prepare them for a diverse and thriving career.

Indigenous Graduate Attribute

Environmental scientists need to work effectively with and for Aboriginal and Torres Strait Islander communities and organisations as part of their role protecting and managing species, landscapes, and ecosystems. The development of professional capabilities is scaffolded throughout the course and focuses on ethical communication and engagement practices.

Major options

Environmental Sciences

This major combines terrestrial, marine and urban biology subjects, equipping students with a broad skill set that prepares them to respond to pressing environmental challenges. Course content combines theoretical learning and lab-based pracs with extensive fieldwork opportunities in locations such as the Blue Mountains, Manly Dam and Royal National Park. Students develop a strong focus on ecosystem preservation, with subjects that emphasise urban resilience, Australian wildlife conservation, environmental protection and management, and molecular biology – an emerging priority area in environmental conservation.



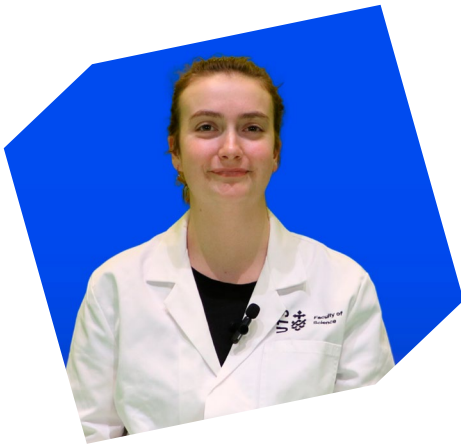
Find out more about your course and your subjects

handbook.uts.edu.au/courses/c10242.html

Careers in the Field of Environmental Science

Environmental science offers a broad spectrum of career opportunities for well-qualified professionals. Graduates in this field can explore diverse roles such as scientific officers, research scientists, education officers, environmental consultants, environmental officers, park managers, policy officers, science communicators, or science educators.

These roles are available within organisations dedicated to environmental protection, management, or planning, as well as in universities, research institutes, tourism and ecotourism entities, wildlife conservation facilities, government agencies, sustainability consulting firms, and educational institutions, among other options



Emma
Environmental Science

“I have always been passionate about conservation, sustainability, and science so environmental science is the perfect course for me.

I choose to study environmental science at UTS because of the great facilities and the opportunity to undertake four internships as part of my degree.”



Lauren
Marine Biology

“Growing up I was always in nature and have always loved the ocean. When it came time to choose a course, I wanted to do something that would allow me to work on my feet, outdoors and in an area that was interesting to me. Marine biology at UTS was the perfect course.

Highlights of my course have been the Heron Island Field trip and my internship at Sea Life.”



Whether you want to deepen your knowledge, explore research pathways in your chosen field, or further specialise, postgraduate studies provide you with a unique opportunity to develop your employability skills and accelerate your career.



Master of Science major

Environmental consultancy and conservation

The future is in your hands. Become an environmental expert with advanced skills in ecology, species conservation, site assessment and natural resource management. Our Environmental Consultancy and Conservation studies are delivered as a major within the Master of Science program.

Cielito
Environmental Consultancy
and Conservation



Environmental consultancy and conservation

This major is a launchpad into leadership for professionals in the environmental sector. This program is designed to support and upskill students from diverse pathways, from established environmental professionals to passionate newcomers looking to develop the skills and expertise needed to make a difference in Australian and global environments.

“Studying the environmental consultancy and conservation major enabled me to specialise in the emerging field of conservation and sustainability.”

“The combination of theory and practical experience helped me to better understand how high-level management skills can prepare me for business roles in environmental conservation and sustainability.”

“I was able to work full time while I studied. The professors understood the balance between my workload and study commitments. It helped to have a professional role directly linked to the field of my study.”

“I believe this major will help my long term goal to work in an organisation that aims to create a sustainable future. I currently work in waste management, specifically around compliance and legislation. My postgraduate studies have given me the knowledge and skills required to succeed in my role.”



Find out more about your
course and your subjects

[handbook.uts.edu.au/
directory/maj05004.html](http://handbook.uts.edu.au/directory/maj05004.html)



Master of Science major

Sustainability and Leadership

Study online and develop the skills needed to evaluate clean energy technologies, drive innovation and provide solutions for complex problems around sustainability. You'll enhance the necessary leadership skills to make informed decisions and enabling teams to initiate change.

Sustainable energy

Our clean energy future is just over the horizon. To get there, we'll need to be powered by the best.

As we move towards a sustainable future, we need the best talent to power us forward. We require specialists who can use innovative solutions to solve complex problems in clean energy transition. We need experts who understand the economic, social and community impacts to implement innovation successfully. And we need leaders who can bridge the gap between science and action, influencing policy and empowering people to make meaningful change.

Empower yourself with the skills and knowledge necessary to lead change and innovation in the face of global energy challenges through the UTS Online Master of Sustainable Energy. This program not only future-proofs your career but also contributes to the well-being of our planet.

Sustainable Leadership

Embrace the sustainable revolution. We possess the power of science, data, technology, and consumer demand.

Now, more than ever, we need visionary leaders who can guide us. We need strategic trailblazers who can inspire and motivate others to join the quest for sustainable transformation and empower them to act through policy and best practices.

Empower people across industries to take meaningful action on climate change.



Find out more about your course and your subjects

studyonline.uts.edu.au/online-courses/master-sustainable-energy



Find out more about your course and your subjects

studyuts.online/ppc/master-sustainable-leadership

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