



BACHELOR OF SCIENCE

> **Why study CSU's Bachelor of Science?**

Charles Sturt University (CSU) offers a flexible Bachelor of Science with seven majors, nine minors and electives to mix and match in order to shape your course towards your personalised career plan.

The strength of our Bachelor of Science lies in its flexibility. While allowing you to tailor the course to meet your goals, it also gives you the opportunity to study subjects across a range of science disciplines to determine where your passions lie before selecting a major and minor.

We provide flexible study options, including on campus or online study, with small specialised classes and great access to academic staff. You'll have access to laboratory classes, state-of-the-art facilities and cutting-edge instrumentation. On campus students will undertake weekly to fortnightly lab classes, and online students will complete lab classes during condensed three or four-day on campus residential schools.

Our small class sizes provide a great opportunity for you to get insights into career options through direct access to your lecturers and the possibility of gaining additional hands-on experience by contributing to research projects towards the end of your degree. This could include ad-hoc laboratory work or research centre scholarships. As well as gaining more hands-on experience in your major field of study, the research experience is a great introduction to further studies through CSU's Honours and postgraduate programs.

You'll also have the opportunity to complete some of our Bachelor of Science studies abroad through CSU Global, which may include studying subjects at overseas Institutions, completing work experience or undertaking a study tour.

For more information, visit: www.csu.edu.au/csuglobal

Some reasons for studying Science at CSU:

CSU's Bachelor of Science allows you to mix and match majors, minors and electives to tailor the course to your needs.

We offer state-of-the-art facilities and hands-on learning opportunities to provide real experience in your chosen discipline.

Flexible study options mean you can study a lab-based course online with only a few weeks on campus during residential schools.



THE BACHELOR OF SCIENCE OFFERS MAJORS IN:



Analytical Chemistry

The Analytical Chemistry major specialises in instrumental investigation and analysis, with an emphasis on understanding how analytical equipment functions. You will learn the fundamentals of inorganic, organic and physical chemistry and how respective analytical techniques can be applied to environmental management, food processing, pharmaceutical development, forensic science, mining, and a variety of other areas.

You'll gain hands-on experience throughout laboratory classes in the state-of-the-art National Life Sciences Hub and apply your skills and knowledge through an industry or research work placement in their final year.

The Analytical Chemistry major is accredited by the Royal Australian Chemical Institute (RACI).



Conservation Biology

The Conservation Biology major produces graduates with integrated knowledge of biological sciences, ecology and natural resource management in order to develop strategies for the conservation of species, their habitats and ecosystems.

Studies in biology and ecology in first-year lead to second-year studies that provide you with an understanding of plant and animal function and diversity. Third-year subjects focus on conservation biology, river and floodplain ecology, and ecosystem restoration.

If you are interested in the conservation and management of biodiversity and in mitigating threatened species loss, the Conservation Biology major is for you.



Mathematics

The Mathematics major focuses on topics in calculus, linear algebra and applied mathematics. You'll learn fundamental techniques essential to a variety of discipline areas such as physics, chemistry, biology, finance and engineering - utilising modern computer-algebra software to aid their learning and implement mathematical models.

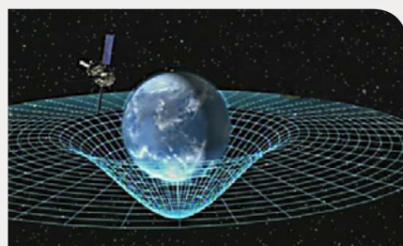
If you're planning to enter teaching, the major includes discipline content for secondary mathematics.



Microbiology and Immunology

The Microbiology and Immunology major focuses on microbes including bacteria, viruses, fungi and parasites. This major explores the importance of micro-organisms to the environment, industries such as food and wine, as well as their impact on human and animal health. You will learn about the interaction of the host immune system with micro-organisms and immune system pathologies.

You'll also have the opportunity to develop key laboratory skills in the National Life Sciences Hub which are essential if you're considering a career in microbiology, food and wine industry or biotechnology.



Physics

The Physics major specialises in theoretical astrophysics and quantum physics. Subjects in second year include Modern Physics, Electronics and An Introduction to Astronomy. Third-year subjects include Astrophysics, Quantum Mechanics and Relativity and Cosmology.

There are many opportunities for careers in physics. Graduate and postgraduate students interested in astrophysics could work at government institutions, such as CSIRO, that manage the extensive involvement of Australia in astronomy. In quantum physics, careers are available in areas such as quantum computing, digital technology, solid-state physics, lasers, semiconductors, optoelectronics and solar cell physics.



Plant Science

Plants underpin life on earth. From absorbing carbon dioxide, generating oxygen, providing food, medicines and materials to enriching our planet with ecosystems of startling beauty and diversity.

You will study broad aspects of plant biology, from the fascinating fundamentals of flowering plants to plant diseases, physiology and biotechnology. Careers making use of plant science are many and varied, including: research in industry or universities, plant breeding, molecular biology, cropping, agronomy, nursery production, horticulture, aquaculture, marine science, environmental management, botanical gardens and herbaria management, landscape gardening, forestry, parks and wildlife services, patent law, teaching and science communication.



Spatial Science

The Spatial Science major provides knowledge and skills in Geographical Information Systems (GIS) and Remote Sensing (RS), enabling you to make critical decisions about the physical and built environment. You'll undertake technical tasks such as land mapping, satellite and aerial photographic image processing, remote sensing, land and resource management and spatial data analysis.

Graduates in spatial science use their skills to help resolve environmental (lands, forests and water) and social (health, crime, development) problems. Graduates are employed by a range of government agencies, businesses, and companies involved in spatial science, in roles relating to surveying, remote sensing, GIS analysis, laser scanning or hydrographic surveying.



THE BACHELOR OF SCIENCE OFFERS MINORS IN:

- > Biology
- > Chemistry
- > Immunology
- > Information Technology
- > Mathematics
- > Microbiology
- > Physics
- > Spatial Science
- > Statistics



Information Technology

The Information Technology minor will provide you with key skills in the area of computer programming, networking, web page design, and designing a computer program from a set of specifications. These skills will complement any major you choose by giving you the digital literacy skills needed to solve complex problems that require the use of computational power.



Statistics

The Statistics minor provides a good opportunity for you to develop the necessary statistical capabilities for your chosen area of science. You'll learn modern statistical concepts, approaches and practices in addition to the use of software for real-world applications. The applied skills in analysis of data, evaluation and reporting of scientific results will equip you to communicate information appropriately.



The Bachelor of Science at CSU offered great flexibility which suited me as I wasn't sure what I wanted to do. I began in plant science then branched out into biology, ecology and earth sciences.

At the time, I was beginning a family and couldn't commit to on campus study – my studies had to fit around my routine with children, work, and family.

The Bachelor of Science has given me a strong theoretical background to my understanding of plants and the environment, and a positive direction for further study.

I found the academic staff to be friendly, approachable, professional, and in many cases to have gone well beyond my expectations in their willingness to help students succeed.

Celia Connor
Bachelor of Science



About CSU

CSU is a national university focusing on excellence in education for the professions, strategic and applied research, and flexible delivery of learning and teaching. We work in close association with industry, professions and government to ensure our courses meet and support industry needs, resulting in high graduate employment levels and starting salaries. We attract more than 38,000 students from Australia and around the world and are well-known for our innovative approach to education, offering practical, hands-on courses, supported online to provide our students with accessible, world class education.

visit
www.csu.edu.au

What will I learn?

CSU's Bachelor of Science comprises a set of core subjects enabling you to develop a broad knowledge in science, scientific communication, statistics and experimental design. You can combine your major and minor of interest with electives in disciplines other than those offered within the Bachelor of Science, or can use electives to complete a double major, or a major and a double minor.

Further studies

Our Bachelor of Science is a great springboard to Honours and PhD programs offered at CSU. Research Centre scholarships are available to students towards the end of the course, allowing you to work on a project lead by one of your lecturers.

The course also provides a pathway to becoming a Secondary Science teacher, with further study. You can complete the science subjects required for teaching accreditation, and may even get a head start on a teaching degree.

Studying online

CSU is one of the most experienced providers of online education in Australia. Our innovative course delivery uses the latest technology to connect you with your teachers, learning materials and fellow students. You will have access to our comprehensive communication system, online forums, wikis, blogs, podcasts and library resources.

Studying online provides real study flexibility, allowing you the freedom to choose when and where you complete your degree. With the flexibility of CSU's online learning and research tools, you can study your own way, in your own time

Scholarships

Scholarships are available to on campus full-time Bachelor of Science – Analytical Chemistry major students and provide up to \$5,000 for a year (subject to satisfactory progress). Once awarded, the scholarship money is yours to spend in the way that assists you most.

To be considered for these scholarships you must demonstrate academic merit, financial hardship and be from a rural or regional area.

For more information on our scholarships please visit:

www.csu.edu.au/scholarships

For more information or to apply, visit:

www.csu.edu.au/courses/bachelor-of-science



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The Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS) Provider Number for Charles Sturt University is 00005F.
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