

Bachelor of Science

includes:

Bachelor of Science

The Bachelor of Science is a general science course with current majors in analytical chemistry, conservation biology, mathematics, microbiology and immunology, physics, plant science and spatial science. It provides students with an appreciation of the interdisciplinary nature of much of modern scientific investigation, and produces highly employable graduates.

The course includes the following awards:

Bachelor of Science *BSc*

Course Study Modes and Locations

Bachelor of Science (5420SC)

Distance Education - Wagga Wagga

On Campus - Wagga Wagga

Availability is subject to change, please verify prior to enrolment.

Normal course duration

Bachelor of Science

Full-time 3.0 years (6.0 sessions)

Part-time 6.0 years (12.0 sessions)

Normal course duration is the effective period of time taken to complete a course when studied Full-time (Full-time Equivalent: FTE). Students are advised to consult the Enrolment Pattern for the actual length of study. Not all courses are offered in Full-time mode.

Admission criteria

[CSU Admission Policy](#)

Standard CSU and UAC admission criteria apply.

- Note: Assumed knowledge for all majors is NSW HSC or equivalent 2 Units of any mathematics course. Additional assumed knowledge for individual majors is as follows:
- Chemistry major: 2 unit Chemistry
- Mathematics major: Any 2 unit science course
- Spatial Science major: Any 2 unit science course
- Biology major: Any 2 unit science course
- Microbiology major: Any 2 unit science course

Successful applicants who believe they do not have an appropriate high school chemistry background are encouraged to undertake the chemistry subject offered in the University's STUDY LINK supplementary program prior to commencing study in the course.

Credit

[CSU Credit Policy](#)

Credits as assessed on a case-by-case basis.

Graduation requirements

To graduate students must satisfactorily complete 192 points.

Course Structure

The course comprises a set of core subjects, a major, a minor, and a number of electives:

- The core subjects are common to all combinations of majors and minors. There are six core subjects composed of four set subjects (STA201 [STA308](#) [SCI101](#) and SCI201) and two additional breadth core subjects to be chosen outside the major and minor disciplines from [BIO100](#) [CHM108](#) [MTH105](#) [GEO164](#) [PSC102](#) [PHY107](#) and MCR101. These subjects will broaden the basic scientific knowledge of graduates and therefore cannot align with the disciplines studied in their major or minor. They can however be a component of a second minor.
- The major must contain a minimum of 64 points (the equivalent of eight standard subjects) with at least 48 points at Level 2 or higher and at least 24 points at Level 3 or higher; restrictions to majors: the Analytical Chemistry major requires a minimum of 96 credit points (including 16 credit points in Mathematics, i.e., [MTH101](#) and MTH102). See Courses Director, Program Leader or designated course administrator for details.
- The minor must contain a minimum of 32 points (the equivalent of four standard subjects) with at least 16 points at Level 2 or higher;

•The major and minor areas of studies must align with the majors and minors described in this document. Students can only replace a subject suggested in a major or minor described in this document upon approval by the Courses Director, Program Leader or designated course administrator in order to retain the integrity of the disciplines. In exceptional cases, a student may be allowed to design a major and/or minor that is not described in this document. This major or minor must satisfy the rules defined in this document, the nature of the discipline must be clearly identified, and design of the major or minor must be approved by the Courses Director, Program Leader or designated course administrator before studies are undertaken.

•Electives - at least 50% of the electives must be completed at Level 2 or above. An elective is any subject offered by the University (subject to any pre-requisites being met). Electives may be chosen from several disciplines or used to complete a second minor or used to complete a double major (in which case the electives are chosen in the same discipline as the minor and complete the minor with the subjects required to make up the major as listed in this document).

Majors

The majors offered at CSU include Analytical Chemistry, Conservation Biology, Mathematics, Microbiology and Immunology, Physics, Plant Science and Spatial Science.

Minors

The minors offered at CSU include Biology, Chemistry, Immunology, Information Technology, Mathematics, Microbiology, Physics, Spatial Science and Statistics.

Analytical Chemistry Major (this Major is accredited by the Royal Australian Chemical Institute)

[MTH101](#) Computer Aided Mathematics 1 with Applications

[MTH102](#) Computer Aided Mathematics 2 with Applications

[CHM104](#) Chemistry 1A

[CHM107](#) Chemistry 1B

[CHM213](#) Analytical Chemistry

[CHM214](#) Physical Chemistry

[CHM215](#) Inorganic Chemistry

[CHM216](#) Organic Chemistry

[CHM321](#) Laboratory Management Issues

[CHM323](#) Instrumental Analysis 1

[CHM324](#) Instrumental Analysis 2

[CHM335](#) Analytical Chemistry Industry Experience

Conservation Biology Major

[BIO100](#) Concepts of Biology

[BIO112](#) Principles of Ecology

[BIO203](#) Animal Diversity

[HRT202](#) Plant Taxonomy and Systematics
[BIO262](#) Vegetation Ecology
[BIO416](#) Conservation Biology
[BIO323](#) River and Floodplain Ecology
[BIO328](#) Restoration Ecology

Mathematics Major

[MTH101](#) Computer Aided Mathematics 1
[MTH102](#) Computer Aided Mathematics 2
[MTH218](#) Multivariable Calculus
[MTH219](#) Linear Algebra
[MTH220](#) Ordinary Differential Equations
[MTH328](#) Complex Analysis
[MTH307](#) Mathematical Modelling
[MTH418](#) Topics in Calculus

Suggested electives

[MTH203](#) Numerical Methods
[MTH309](#) Principles of Operations Research

Microbiology and Immunology Major

[MCR101](#) Introduction to Microbiology
[BMS240](#) Human Molecular Genetics
[BMS241](#) Molecular Cell Biology
[BMS215](#) Microbial Biotechnology
[BMS308](#) Immunology
[BMS315](#) Medical Microbiology
[BMS338](#) Clinical Bacteriology
[BMS344](#) Molecular Immunology

Physics Major

[PHY101](#) Mechanics and Thermal Physics
[PHY102](#) Electricity and Waves
[PHY215](#) Scientific Instrumentation (Electronics)
[PHY216](#) Modern Physics
[PHY299](#) Introduction to Astronomy
[PHY301](#) Astrophysics
[PHY302](#) Quantum Mechanics
[PHY304](#) Relativity and Cosmology

Plant Science Major

[CHM108](#) Chemistry Fundamentals
[PSC102](#) Botany
[MCR101](#) Introduction to Microbiology

[AGS203](#) Agricultural Biotechnology
[PSC215](#) Plant Physiology
[HRT202](#) Plant Taxonomy and Systematics
[HRT301](#) Plant Propagation
[PSC371](#) Plant Pathology
[AGR501](#) Special Topics 1

Suggested electives

[PSC104](#) Soil Science
[BIO262](#) Vegetation Ecology

Spatial Science Major

[SCI103](#) Communicating Environmental Data
[SPA215](#) Principles of GIS
[SPA217](#) Remote Sensing of the Environment
[SPA308](#) GIS Applications
[SPA405](#) Image Analysis
[SPA412](#) Integrated Remote Sensing and GIS
[SPA414](#) Critical Review of GIS and Geocomputation
[SPA313](#) Advanced GIS Applications and Modelling

Suggested electives

[SPA503](#) GIS Algorithms
[SPA512](#) Cartography and Data Visualisation

Biology Minor

[BIO100](#) Concepts of Biology
[BIO112](#) Principles of Ecology
[BIO203](#) Animal Diversity
[HRT202](#) Plant Taxonomy and Systematics

Chemistry Minor

[CHM104](#) Chemistry 1A
[CHM107](#) Chemistry 1B
[CHM213](#) Analytical Chemistry
[CHM215](#) Inorganic Chemistry OR [CHM216](#) Organic Chemistry

Immunology Minor

[BMS240](#) Human Molecular Genetics
[BMS241](#) Molecular Cell Biology
[BMS308](#) Immunology
[BMS344](#) Molecular Immunology

Information Technology Minor

[ITC106](#) Programming Principles
[ITC161](#) Computer Systems
[ITC211](#) Systems Analysis
[ITC212](#) Internet Technologies

Mathematics Minor

[MTH101](#) Computer Aided Mathematics 1
[MTH102](#) Computer Aided Mathematics 2
[MTH218](#) Multivariable Calculus
[MTH219](#) Linear Algebra

Microbiology Minor

[MCR101](#) Introductory Microbiology
[BMS215](#) Microbial Biotechnology
[BMS338](#) Clinical Bacteriology
[BMS315](#) Medical Microbiology

Physics Minor

[PHY101](#) Mechanical and Thermal Physics
[PHY102](#) Electricity and Waves
[PHY215](#) Scientific Instrumentation (Electronics) OR [PHY299](#) Introduction to Astronomy
[PHY216](#) Modern Physics

Spatial Science Minor

[SCI103](#) Communicating Environmental Data
[SPA215](#) Principles of GIS
[SPA217](#) Remote Sensing of the Environment
[SPA308](#) GIS Applications

Statistics Minor

[STA201](#) Scientific Statistics
[STA308](#) Experimental Design and Analysis
[STA347](#) Multivariate Statistical Analysis
[STA427](#) General Linear Models

Enrolment Pattern

Because of the flexibility of the course requirements (i.e., major/minor/breadth core combinations), there is no single enrolment pattern. Enrolment patterns should be requested from the Courses Director, Program Leader or designated course administrator.

Workplace learning

Please note that the following subjects may contain a Workplace Learning component.

CHM335 Analytical Chemistry Industry Experience

Residential School

Please note that the following subjects may have a residential school component.

BCM210 Foundations and Techniques in Biochemistry

BIO100 Concepts of Biology

BIO203 Animal Diversity

BIO262 Vegetation Ecology

BMS241 Molecular Cell Biology

BMS308 Immunology

BMS338 Clinical Bacteriology

CHM104 Chemistry 1A

CHM107 Chemistry 1B

CHM108 Chemical Fundamentals

CHM213 Analytical Chemistry

CHM214 Physical Chemistry

CHM215 Inorganic Chemistry

CHM216 Organic Chemistry

CHM321 Laboratory Management Issues

CHM323 Instrumental Analysis 1

CHM324 Instrumental Analysis 2

FDS202 Food Microbiology

HRT202 Plant Taxonomy and Systematics

HRT301 Plant Propagation

MCR101 Introduction to Microbiology

PHY101 Mechanics and Thermal Physics

PHY102 Electricity and Waves

PHY215 Scientific Instrumentation (Electronics)

PHY216 Modern Physics

PHY299 Introduction to Astronomy

PSC102 Botany

PSC208 Plant Metabolism

PSC215 Plant Physiology

PSC371 Plant Pathology

Enrolled students can find further information about CSU residential schools via the [About Residential School](#) page.

Accreditation

Chemistry major graduates are qualified for membership of the Royal Australian Chemical Institute.

Contact

Current Students

For any enquiries about subject selection or course structure you will need to contact your Course Director. You can find the name and contact details for your Course Director in your offer letter or contact your School office.

Prospective Students

For further information about Charles Sturt University, or this course offering, please contact info.csu on 1800 334 733 (free call within Australia) or [enquire online](#).

The information contained in the 2017 CSU Handbook was accurate at the date of publication: May 2017. The University reserves the right to vary the information at any time without notice.

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