

Bachelor of Science (Medicinal Chemistry)

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The Bachelor of Science (Medicinal Chemistry) is a three-year degree which provides students with outstanding training opportunities in the modern techniques of chemical science applied to medicine. This includes specialised courses in drug discovery and design, using both rational, computer-aided and bioprospecting approaches. As well as a fundamental training in the chemical sciences, students study concepts needed to understand the effects of the diseased state on the human body and the role of drugs. Topics of study include physiology, pharmacology, cell biology. Recent graduates of the degree have readily found outstanding employment opportunities in the pharmaceutical and biomedical sectors in Australia and overseas.

Course Structure		cps	Session
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First Year

CHEM101	Chemistry 1A	6	1
CHEM102	Chemistry 1B	6	2
BIOL103	Molecules, Cells and Organisms	6	2
BMS101	Systemic Anatomy	6	1
BMS112	Human Physiology I: Principles and Systems	6	2
STAT252	Statistics for the Natural Sciences	6	2
<i>Plus two of the following:</i>			
BIOL104	Evolution, Biodiversity and Environment	6	1
BMS103	Human Growth, Nutrition and Exercise	6	1
MATH151	General Mathematics 1A (if required)	6	1,3
MATH141	Mathematics 1C Part 1	6	1
MATH187	Mathematics 1A Part 1	6	1
PHYS141	Fundamentals of Physics A	6	1
OR			
PHYS155	Introduction to Biomedical Physics	6	1

The Mathematics subject to study is dependent on the level of Maths already achieved by the individual student (HSC or equivalent).

Total for major at 100-level	48
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Second Year

CHEM211	Inorganic Chemistry II	6	1
CHEM212	Organic Chemistry II	6	1
CHEM213	Molecular Structure, Reactivity and Change	6	2
CHEM214	Analytical and Environmental Chemistry	6	2
BIOL213	Principles of Biochemistry	6	1
BIOL214	The Biochemistry of Energy and Metabolism	6	2
BIOL215	Introductory Genetics	6	2
BMS202	Human Physiology II: Control Mechanisms	6	1
Total for major at 200-level	48		

Third Year Core

CHEM320	Bioinformatics: From Genome to Structure	8	2
CHEM321	Organic Synthesis and Reactivity	8	2
CHEM330	Medicinal Chemistry	8	2
CHEM350	Principles of Pharmacology	8	1
CHEM364	Molecular Structure and Spectroscopy	8	1

Third Year Options

Plus one of the following:

CHEM314	Instrumental Analysis	8	1
CHEM340	Chemistry Laboratory Project	8	1,2,3
BIOL303	Biotechnology: Applied Cell and Molecular Biology	8	1
BIOL320	Molecular Cell Biology	8	1

Or other subjects approved by the Course Coordinator

Total for major at 300-level	48
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Honours

If the required academic standard is attained, the BSc (Medicinal Chemistry) student may transfer to the Bachelor of Medicinal Chemistry fourth Honours year. This consists of special coursework plus a research project. Refer to the BMedChem course information in Section 7.3.