



University of  
South Australia

## NEW Bachelor of Pharmaceutical Science

School of Pharmacy and Medical  
Sciences

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The NEW Bachelor of Pharmaceutical Science allows students to:

- work in the growing international pharmaceutical industry where there is a current shortage of pharmaceutical scientists
- specialise from 2<sup>nd</sup> year to focus on areas including drug development, clinical trials, manufacturing, sales and marketing, product management or drug regulation
- benefit from experienced staff, strong industry contacts, site visits and guest lecturers to strengthen future career opportunities within the pharmaceutical industry

Program code	IBPA	Prerequisites	Yes*
Location	City East	Assumed knowledge	Nil
Mode of delivery	Internal	Accepts Special Entry (STAT)	Yes
Program Length	3 years FT	TAFE credit available	Yes

\* The prerequisite for this program is either Stage 2 Chemistry, Biology or Physics.

### Program overview

The scientific disciplines that underpin the discovery, development, formulation, approval, evaluation, marketing and use of medicines form the basis of the Bachelor of Pharmaceutical Science. Australia's pharmaceutical industry is growing and the broadening job market requires graduates with a strong skill set in the pharmaceutical sciences. The degree also prepares graduates for further studies to become a Registered Pharmacist.

### What will I study?

The first year of the program provides a solid foundation in the basic sciences, preparing students for second and third year courses which will specifically cover pharmaceutical sciences in relation to the formulation and manufacture of pharmaceuticals, relevant biological sciences including physiology and pharmacology, and the processes of drug discovery and development through to eventual commercialisation. This program uniquely focuses on the development and manufacture of a wide range of pharmaceutical products such as injections, tablets, creams and ointments and a range of finished products.

In addition to the core courses, students will be able to choose electives allowing them to gain specialist knowledge leading to specific career paths such as research and development (e.g. drug discovery), manufacturing and pharmaceutical chemistry (including quality control), drug development (e.g. clinical trials), and professional or business roles (including sales, marketing, legal, regulatory, drug information).

There will be a focus on developing communication skills, and liaison with industry via the '*Pharmaceutical Industry Experience*' course which includes the completion of an industry project or placement within the student's area of interest.

**Information session - Careers in Health Sciences**  
Wednesday 5<sup>th</sup> September, 5.30pm, UniSA City East campus  
[www.unisa.edu.au/health/careers](http://www.unisa.edu.au/health/careers)

### What does it take?

The Bachelor of Pharmaceutical Science is a broad based degree that requires students to understand each stage of a drug's life, from its initial discovery right through to its eventual use within the general population. Therefore it is essential that the student has an interest in science as well as the ability to consider the varied commercial, marketing, and legal issues that apply to the pharmaceutical industry. Good written and verbal communication skills are a key part of this.

Throughout the degree there is an emphasis on the development of research skills. These include basic laboratory techniques, experimental design, data interpretation, and literature retrieval. This will require students with initiative, good problem solving skills and an analytical mind. A strong personal work ethic and the ability to work in teams are also important.

### Who will employ me?

Pharmaceutical science graduates will have the skills to work in a wide range of areas within the pharmaceutical industry, including drug discovery, formulation development and evaluation (pharmaceutics), quality control, clinical trials, manufacturing and sales.

With a broad understanding of how medicines can be used to improve the quality of human and animal life, graduates are also equipped with skills to take on professional roles in many areas. These include the marketing and sales of medicines for human or veterinary use, the evaluation of medicines by government regulatory agents, the identification and measurement of drugs by analytical laboratories, the conduct of clinical trials to test the efficacy of medicines in patients, and the interrogation of medicine usage and health outcome information to best inform health expenditure.

There is a shortage of pharmaceutical scientists both locally and internationally with employment available in a number of areas including hospitals, pharmaceutical companies, contract research organisations, regulatory agencies, and a growing number of research areas covering the use of medicines. The pharmaceutical sector is rapidly expanding at the national and international level.

### Program Structure

#### FIRST YEAR

<b>First Half (Study Period 1, 2 or 3)</b> Chemistry 100 * or Chemistry in Life 100 Biological Science 100 Health and Society Marketing Principles: Trading and Exchange (BUGE)	<b>Second Half (Study Period 4, 5 or 6)</b> Chemistry 101 * or Chemistry in Life 101 Biological Science 101 Pharmaceutical Industry Statistics and Research Methods (BUGE)
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#### SECOND YEAR

<b>First Half (Study Period 1, 2 or 3)</b> Pharmaceutical Science 1 Physiology N 200 Drug Discovery Elective	<b>Second Half (Study Period 4, 5 or 6)</b> Pharmaceutical Science 2 Pharmacokinetics and Biopharmaceutics P 201 Drug Development Elective
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#### THIRD YEAR

<b>First Half (Study Period 1, 2 or 3)</b> Pharmaceutical Science 3 Pharmacology 300 Pharmaceutical Commercialisation Elective	<b>Second Half (Study Period 4, 5 or 6)</b> Pharmaceutical Science 4 Pharmacology 301 Pharmaceutical Industry Experience Elective
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#### ELECTIVE OPTIONS

<b>Stream 1: Research &amp; Development/Manufacturing</b> Pharmaceutical Chemistry 1 Pharmaceutical Chemistry 2 Pharmaceutical Analysis 1 Pharmaceutical Analysis 2	<b>Stream 2: Biosciences</b> Introductory Biotechnology 201 Biochemistry P 200 Microbiology N 201 Pharmacokinetic-Pharmacodynamic Modelling Bioethics 301 Introductory Epidemiology
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<b>Stream 3: Business Principles</b> Market Analysis Accounting, Decisions and Accountability Marketing for Services or other approved elective
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*\*Students without the Year 12 chemistry prerequisites will be required to undertake Chemistry in Life 100 and 101 rather than Chemistry 100 and 101. Those with a prerequisite of chemistry will be given the option of selecting either set of courses.*