THE UNIVERSITY OF MELBOURNE

CHEMISTRY

SCIENCE AT MELBOURNE

Chemists study matter and its changes, reactions and processes at the molecular level. We work with solar panels, smart materials, medicines, minerals, food, clean energy and the environment.

Make an impact in the sphere of health, environment, industry, agriculture, science, and technology with a major in Chemistry. Through chemistry, you can engage with the grand scientific challenges of our age – energy, water, climate and health.

Chemistry is a fundamental science and gives you the power to develop new molecules and materials for fighting disease, harvesting solar energy, storing clean fuels such as hydrogen and understanding molecular processes that occur in the atmosphere, environment and even outer space.

You will gain specialised laboratory skills and knowledge in the areas of molecular design and synthesis, analysis and spectroscopic identification of chemical species, quantum chemistry, molecular dynamics, chemical kinetics, and thermodynamics.

We live in a chemical world and majoring in chemistry allows you to understand the way our world works.

Which courses offer Chemistry?

Bachelor of Science

Breadth in another undergraduate degree

Plan A: Careers you can pursue with this major

Some of our recent graduates have found careers as research scientists in established and emerging industries. Specific examples are in chemical and materials industries, in drug design and synthesis as well as in the areas of renewable energy, manufacturing, mining and environmental science. Other career options include management, marketing, patent law, policy analysis and education.

Plan B: Graduate/professionally-oriented courses

Graduate degrees in the sciences and technology, including the Master of Biotechnology, Master of Management, Master of Food Science or Master of Environment.

Graduate degrees prepare you for a wide range of professions including engineering, law, medicine, optometry and other health sciences, and teaching.

Plan C: Research pathways with this major

An honours year or Master of Science (Chemistry) with a research project are pathways to research higher degrees in a wide array of areas aligned with the world-renowned research strengths of the School of Chemistry, including advanced materials, nanotechnology, drug design and medicinal chemistry, synthetic chemistry and environmental chemistry.

Sample course plan

BACHELOR OF SCIENCE (Chemistry)

These subjects are only examples and suggestions. Keep in mind that, depending on your interests, your course plan might look different from this one and that you will not need to choose your major until the end of second year.

Year 1	Chemistry 1	Physics 1	Biology of Cells and Organisms	Breadth or Elective
	Chemistry 2	Physics 2: Life Sciences and Environment	Genetics and the Evolution of Life	Breadth
Year 2	Chemistry: Reactions and Synthesis	Principles of Genetics	Biochemistry and Molecular Biology	Breadth
	Chemistry: Structure and Properties	Practical Chemistry 2	Pharmacology	Breadth
Year 3	Chemistry: Reactivity and Mechanism	Advanced Practical Chemistry	Functional Genomics and Bioinformatics	Breadth or Elective
	Analytical and Environmental Chemistry	Specialised Topics in Chemistry B	Cell Signalling and Neurochemistry	Breadth

Subjects leading to the major

Major subjects

Other science subjects to complement the major

Breadth

Major: All Bachelor of Science students must complete one major. A major comprises 50 points (four subjects) that build on first- and second-year study.

Breadth component: All Bachelor of Science students must take subjects from outside the sciences, technology and engineering systems areas of study. This is referred to as 'breadth' and more information can be found at breadth.unimelb.edu.au

Your breadth subject choices should total at least 50 points (four subjects) of your undergraduate degree. An additional component of 25 points (two subjects) is free to be taken as either core science, breadth, or a combination of the two. You may take no more than 37.5 points (three subjects) of breadth at first-year level.

For a complete overview of subjects available in the Sciences, visit the Course and Subject Handbook: handbook.unimelb.edu.au or the Bachelor of Science website: bsc.unimelb.edu.au