



Science is around us in our everyday lives. In a fast changing world, the application of science and technology is crucial. By studying the sciences as breadth, you will be empowered to apply scientific thinking and data to issues that impact on the world.

## How breadth works

Whichever undergraduate degree you pursue, you must choose at least a quarter of your subjects from outside your major study discipline. This is known as *breadth*. Breadth subjects are divided into *sequences* and *clusters*:

- > A *sequence* is where your learning is incremental. Successful completion of the first year level subject (or sometimes subjects) is required before you advance to the second year and, subsequently, the third year subjects within that sequence.
- > A *cluster* is a group of similarly themed subjects that form a logical body of related knowledge when taken together. However, completion of one subject is not a requirement for the other subjects.

Most breadth subjects are worth 12.5 points, and over the three years of study you must accumulate at least 75 points (equivalent to six subjects).

## Breadth and the sciences

Whether or not you have previously studied sciences, science breadth can give you the opportunity to:

- > extend your science studies from secondary school
- > experience hands-on activities through fieldwork and lab pracs

- > develop transferable communication and leadership skills through group projects
- > explore new areas that you haven't encountered before
- > diversify your capabilities with skills such as advanced numeracy

You can explore your interest in climate change, life sciences (e.g. biomedical, animal and plant), mathematics and statistics and informatics. Additionally, you can study subjects in environmental science and biotechnology which integrate several areas of study.

## Examples of science breadth subjects

### 800-191 Introduction to Climate Change<sup>#</sup>

The issues around climate change are evolving rapidly, both politically and within the wider community. This subject, part of a sequence, provides an introduction to the major topics in climate change, including the scientific basis of the greenhouse effect, the history of Earth's climate, energy options, economics and public policy, the effect of climate change on food, water and health and national and international legal frameworks for the management of climate change. You will explore and debate the issues on a range of topics, with an emphasis on the international and global implications.

### 800- 101 Critical Thinking With Data#

Data-based evidence is found in the media, academic research and many aspects of everyday life. This subject teaches you to become a critical user of data-based evidence. Future journalists, political scientists, sociologists, lawyers, health professionals, psychologists, environmental scientists, business people, engineers, scientists and teachers will develop skills in identifying the strengths and weaknesses of arguments and reports based on quantitative evidence, and learn to evaluate reasoning that uses probabilistic ideas.

### 606-310 Field Botany#

All life on earth, including us, depends on plants for their continued existence. Field Botany is a field based summer subject that is centred around a 7-day excursion to the Bogong High Plains. Three days of laboratory classes are run prior to the excursion to develop knowledge and techniques we will be using in the field. Topics covered include:

- > quantitative methods (e.g. abundance, scale, species area relations and profile diagrams)
- > vegetation mapping (e.g. plant community classifications and limitation, vegetation constraints and mapping skills)
- > plant identification and the production of herbarium specimens.

### 600-151 Informatics 1: Practical Computing#

Informatics is about using computers to work with digital information—gathering, using, storing, retrieving, and visualising information and data. It's the study of tools and technologies to solve problems in all types of settings, such as finance and economics, journalism, biology, health, engineering and communication.

This subject introduces you to computational methods for analysing and visualising structured data. It covers fundamental programming constructs, algorithms and data structures, information visualisation, web-centric computing and an overview of the field of computing. Workshops and team projects will give you practical experience in

solving data-rich problems involving computers, people and the Web. Problems will be drawn from a diverse range of topics, e.g. climate change, finance, social networks, and language analysis.

### 800-100 Seeing: The Whole Picture

Eighty percent of the information that humans use to interpret the world and navigate their way through life arrives through our sense of vision. The broad concept of seeing and how seeing impacts upon our lives acts as a hub to bring together key ideas from scientific, artistic, historical, cultural and technological spheres.

This subject uses the topic of vision to help you appreciate that different disciplines have their own way of viewing the world and communicating their understanding of the world. Additionally it will encourage you to see the same things in different ways, or from different perspectives, and to develop an appreciation of the interface between those different viewpoints.

\*You are advised to check the handbook for confirmation of pre-requisites, subject codes and availability.

## Further information

For subject descriptions and information on breadth, please visit: [handbook.unimelb.edu.au](http://handbook.unimelb.edu.au)

You can also choose science breadth subjects from all departments within the Faculty of Science.

[www.science.unimelb.edu.au/departments](http://www.science.unimelb.edu.au/departments)

For science breadth offerings:

Science Student Centre

Faculty of Science

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F: +61 3 8344 5803

[www.ssc.science.unimelb.edu.au](http://www.ssc.science.unimelb.edu.au)

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