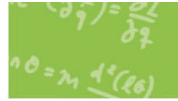




Mathematics

The language of science



Science and the scientific method are our best ways of understanding how the world works, but two things keep popping up – *numbers* and *patterns*.

The obvious tool to analyse numbers and patterns is mathematics, so it is fair to say that mathematics is '*The language of science*'.

Why study mathematics, statistics or computational science?

To complement your science studies and continue your career in science you must have suitable mathematical training. Mathematics, statistics and computational science will help you to:

- think logically and clearly, and apply a range of problem-solving strategies
- use data and other quantitative information effectively
- model, analyse and improve systems
- appreciate the beauty and perfection in nature and the sciences
- obtain employment at a good starting salary

Studying mathematics supports your studies in science and will assist you in *any* career. Improving your mathematics skills during your course, even just a couple of units, will help you keep ahead. Or consider taking a minor or major in mathematics as a strong foundation for an interesting and challenging career.

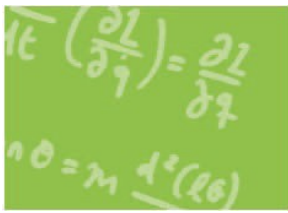
After completing a major in mathematics you might find yourself working in banking, finance, insurance, consulting, at the Australian Bureau of Statistics or the Bureau of Meteorology. Alternatively, you could work in primary, secondary or tertiary education, or pursue a research career in an organisation such as CSIRO or DSTG. Look at careers.amsi.org.au for further careers information and inspiration.

The School of Mathematical Sciences and the Faculty of Information Technology offer a variety of units, minors and majors designed to meet the diverse needs of students. A brief description of the level-one units, and how to choose appropriate ones, is provided overleaf.

Mathematics
is the basis of
most of *modern*
science and
engineering



Enrolment overview for Level one



Details of unit prerequisites and minors and majors in mathematics and computational science can be found in the University Handbook at handbook.monash.edu/search?q=MATHS
handbook.monash.edu/search?q=COMPUSC
 or contact us at enquiries@maths.monash.edu.au

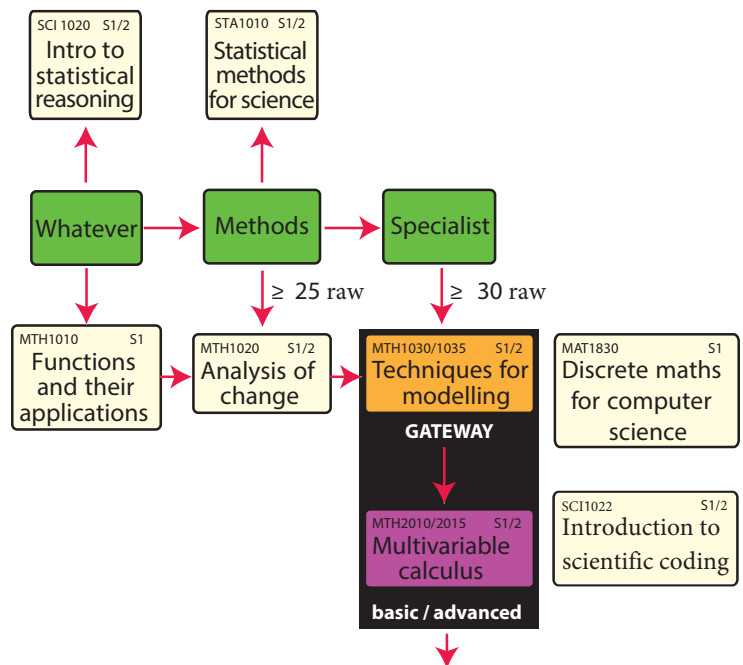
All science students must complete at least one mathematics or statistics unit from MTH1020, MTH1030, MTH1035, SCI1020, SCI1022 or STA1010, so choose one that supports your studies and then take other suitable units to help gain an edge.

If you have not completed VCE Mathematical Methods units 3/4 ask us about taking MTH1010 to help build up your knowledge and skills in mathematics, and to increase your flexibility in being able to choose other units.

For information about completing a first-year sequence, a minor, major or extended major offered in one of the areas of mathematics and computational science, ask us or see the University Handbook.

SCI1020 and STA1010

These statistics units will support your studies in the life and environmental sciences, or psychology. Which you choose depends on your VCE studies. Alternatively, you could broaden your skills by combining one or both of them with MTH1010, MTH1020 or MTH1030.



MAT1830

This specialist mathematics unit covers elementary number theory, recurrence relations, graph theory, logic and proof. It is a requirement for a major in computational science, and is recommended if you have an interest in mathematics.

SCI1022

This unit teaches the fundamental principles of the writing and development of scientific computing code (R, Python, Matlab, Mathematica). It is strongly recommended for all science students.

MTH1010, MTH1020, MTH1030 and MTH2010

This is a chain of mostly calculus-based units, and where you start will depend on your VCE studies and results.

Take at least one unit to enhance your skills and knowledge, or if you plan to complete a minor or major in mathematics you will step through these units from semester to semester. MTH1030 must be completed if you wish to undertake a minor or major in mathematics.

Depending on your VCE results, you may be able to take MTH1030 in first semester, which provides greater flexibility in unit choices as you progress through your course.

MTH1035 and MTH2015

These are advanced alternatives to MTH1030 and MTH2010, and have stronger prerequisite requirements (see the University Handbook). They are recommended if you are interested in understanding that material at a higher level of mathematical rigour, and have a proven record of high achievement in mathematics. MTH1035 is offered in first semester and MTH2015 in second semester. To enrol in either please complete the online enrolment amendment form (see Monash Connect forms).

Note: There are strict prerequisite requirements for all mathematics units. When planning your unit selection, please check the University Handbook to ensure that you meet the prerequisites, and are able to proceed to the appropriate higher-level units.