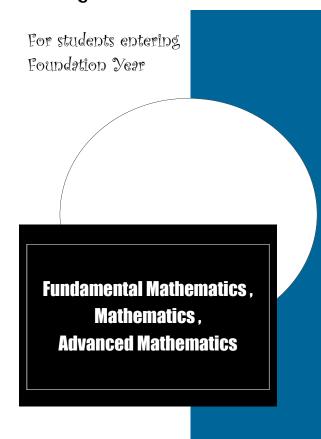
### Subject Information



Monash University
Foundation Year
Programme

### What is Fundamental Mathematics?

Fundamental Mathematics has been designed to cater for students to develop strong numeracy skills across areas of mathematics that have links to tertiary studies with a "business" focus or to studies where strength in numeracy opens up a range of opportunities.

Students may choose to study either Fundamental Mathematics or Mathematics, but not both.

Please check university course requirements before making your decision.

Fundamental Mathematics consists of two units: Unit 1: Pattern in Number and Unit 2: Contexts for Mathematics

#### Unit 1: Pattern in Number

Study Areas covered are:

- Linear & Non-linear Algebra and Applications
- Sequences and Series
- Business Mathematics

#### Unit 2: Contexts for Mathematics

Study Areas covered are:

- Univariate Statistics
- Bivariate Statistics & Time Series
- Linear Programming

An approved graphics calculator is compulsory for this course.

#### How is the subject assessed?

- Internal Assessment Tasks

   topic tests and assignments (total of 60% of grade)
- Class, homework, and online engagement/ participation (10%)
- Final Examination (external) (30% of grade)

### What is Mathematics?

Mathematics has been designed to cater for a wide range of student needs and is a prerequisite for most University courses. The subject will provide students with a broad range of mathematical knowledge and skills which will prepare students for a variety of University courses.

Those students who wish to undertake tertiary courses involving a significant amount of Mathematics should take Advanced Mathematics in conjunction with Mathematics

Mathematics consists of two units: Unit 1: Functions and Derivatives and Unit 2: Integration, Probability and Statistics

#### Prerequisite:

Year 11 Mathematics or equivalent is preferred.

#### Unit 1: Functions and Derivatives

Study Areas covered are:

- Power functions & their graphs
- Exponential, Logarithmic and Circular Functions
- Techniques & Applications of Derivatives

#### Unit 2: Integration, Probability and Statistics

Study Areas covered are:

- Integration
- Probability and Probability Distributions
- Statistics

An approved graphics calculator is compulsory for this course.

#### How is the subject assessed?

As for Fundamental Mathematics.

## What is Advanced Mathematics?

Advanced Mathematics is designed to extend, both in depth and breadth, the mathematical studies undertaken in Mathematics. It is designed for students who wish to take University courses that have a high mathematical content, or which use a considerable amount of mathematical reasoning.

Advanced Mathematics consists of two units: Unit 1: Essential Concepts and Unit 2: Calculus with Applications

#### Prerequisite:

It is assumed students studying Advanced Mathematics will be concurrently studying, or will have completed Mathematics. Hence, all prerequisite knowledge for Mathematics is assumed for Advanced Mathematics.

Successful completion of Unit 1 is a prerequisite for attempting Unit 2.

#### Unit 1: Essential Concepts

Study Areas covered are:

- Vectors and Matrices
- Trigonometry and Complex Numbers
- Techniques & Applications of Differentiation

#### Unit 2: Calculus with Applications

Study Areas covered are:

- Techniques and Applications of Integration
- Derivatives and Differential Equations
- Kinematics and Vector Calculus

#### How is the subject assessed?

As for Fundamental Mathematics.

#### Find out more about where MUFY

#### Mathematics courses can take you!

The following Monash University courses do not require any Mathematics

#### Art, Design and Architecture

Architectural Design, Caulfield

Communication Design, Caulfield

Fine Art, Caulfield

Industrial Design, Caulfield

Interior Architecture, Caulfield

#### Arts

Arts, Clayton or Caulfield

Arts (Social Science), Malaysia

Communication, Malaysia

Journalism, Caulfield

Music, Clayton

#### Law

Laws, Clayton

### Monash University courses that *require* Fundamental Mathematics (Mathematics is also *accepted* for these courses)

#### **Business and Economics**

Business, Caulfield

Business (Accounting), Caulfield

Business (Banking and Finance), Caulfield

Business (Law), , Caulfield

Business (Marketing), Caulfield

International Business, City

#### Education

Bachelor of Education (Early Years and

Primary, Primary and Secondary), Berwick

#### Information Technology

Business Information Systems, Clayton

Informatics and Computation Advanced, Clayton

### Monash University courses that *require* Mathematics (Fundamental Mathematics is not accepted for these courses)

#### **Business and Economics**

Commerce, Clayton & Malaysia

Commerce (Accounting and Finance), Clayton

Economics, Clayton

#### Medicine

Biomedical Science, Clayton

Pharmaceutical Science, Parkville

Pharmacy, Parkville

Nursing, Clayton and Peninsula

#### Science

Computer Science, Clayton

Science (e.g. Astrophysics, Mathematics, Biochemistry, Physics etc.), Clayton

# Monash University courses for which Advanced Mathematics is *recommended* (Advanced Mathematics is not required for any university courses)

#### Science

Science (e.g. Astrophysics, Biochemistry, Physics etc.), Clayton

Science Advanced - Research, Clayton

Science Advanced – Global Challenges, Clayton

#### Engineering

Aerospace Engineering, Clayton

For more information, speak to any of the MUFY Mathematics teachers at Monash College