

The accreditation period for VCE Further Mathematics has been extended and expires 31 December 2022.

# VCE Further Mathematics

## 2016–2022

### Written examinations 1 and 2 – End of year

#### Examination specifications

##### Overall conditions

There will be two end-of-year examinations for VCE Further Mathematics – examination 1 and examination 2.

The examinations will be sat at a time and date to be set annually by the Victorian Curriculum and Assessment Authority (VCAA). VCAA examination rules will apply. Details of these rules are published annually in the *VCE and VCAL Administrative Handbook*.

Both examinations will have 15 minutes reading time and 1 hour and 30 minutes writing time.

For both examinations, students are permitted to bring into the examination room an approved technology with numerical, graphical, symbolic, financial and statistical functionality, as specified in the *VCAA Bulletin* and the *VCE Exams Navigator*. One bound reference may be brought into the examination room. This may be a textbook (which may be annotated), a securely bound lecture pad, a permanently bound student-constructed set of notes without fold-outs or an exercise book. Specifications for the bound reference are published annually in the *VCE Exams Navigator*.

A formula sheet will be provided with both examinations.

The examinations will be marked by a panel appointed by the VCAA.

The examinations will each contribute 33 per cent to the study score.

##### Content

The *VCE Mathematics Study Design 2016–2022* ('Further Mathematics Units 3 and 4') is the document for the development of the examination. All outcomes in 'Further Mathematics Units 3 and 4' will be examined.

All content from the areas of study, and the key knowledge and skills that underpin the outcomes in Units 3 and 4, are examinable.

**Examination 1** will cover both Areas of study 1 and 2. The examination is designed to assess students' knowledge of mathematical concepts, models and techniques, and their ability to reason, interpret and apply this knowledge in a range of contexts.

**Examination 2** will cover both Areas of study 1 and 2. The examination is designed to assess students' ability to select and apply mathematical facts, concepts, models and techniques to solve extended application problems in a range of contexts.

## Format

### Examination 1

The examination will be in the form of a multiple-choice question book.

The examination will consist of two sections.

**Section A** will consist of 24 multiple-choice questions derived from the core component of the course. Of these 24 questions, 16 will be on data analysis and 8 will be on recursion and financial modelling. All questions will be compulsory. Section A will be worth a total of 24 marks.

**Section B** will consist of eight multiple-choice questions on each of the four modules in Unit 4. Students must answer questions on **two** modules. Section B will be worth a total of 16 marks.

The total marks for the examination will be 40.

A formula sheet will be provided with the examination. The formula sheet will be the same for examinations 1 and 2.

All answers are to be recorded on the answer sheet provided for multiple-choice questions.

### Examination 2

The examination will be in the form of a question and answer book.

The examination will consist of two sections.

**Section A** will consist of short-answer and extended-answer questions, including multi-stage questions of increasing complexity. Questions will be derived from the core component of the course. Of these, 24 marks will be allocated to data analysis and 12 marks will be allocated to recursion and financial modelling. All questions will be compulsory. Section A will be worth a total of 36 marks.

**Section B** will consist of short-answer and extended-answer questions, including multi-stage questions of increasing complexity. Questions will be derived from each of the four modules in Unit 4. Each module will contain questions that total 12 marks. Students must answer questions on **two** modules. Section B will be worth a total of 24 marks.

The total marks for the examination will be 60.

A formula sheet will be provided with the examination. The formula sheet will be the same for examinations 1 and 2.

Answers are to be recorded in the spaces provided in the question and answer book.

## Approved materials and equipment

The list below applies to both examinations 1 and 2:

- normal stationery requirements (pens, pencils, highlighters, erasers, sharpeners and rulers)
- an approved technology with numerical, graphical, symbolic, financial and statistical functionality
- one scientific calculator
- one bound reference

## Relevant references

The following publications should be referred to in relation to the VCE Further Mathematics examinations:

- *VCE Mathematics Study Design 2016–2022* ('Further Mathematics Units 3 and 4')
- *VCE Further Mathematics – Advice for teachers 2016–2022* (includes assessment advice)
- *VCE Exams Navigator*
- *VCAA Bulletin*

## Advice

During the 2016–2022 accreditation period for VCE Further Mathematics, examinations will be prepared according to the examination specifications above. Each examination will conform to these specifications and will test a representative sample of the key knowledge and skills from all outcomes in Units 3 and 4.

Students should use command/task words, other instructional information within questions and corresponding mark allocations to guide their responses.

Separate documents containing sample examinations have been published on the VCE Further Mathematics 'Examination specifications, past examinations and examination reports' page on the VCAA website.

The sample examinations provide an indication of the format of the examinations, and the types of questions teachers and students can expect until the current accreditation period is over.

Answers to multiple-choice questions are provided at the end of examination 1.

Answers to other questions are not provided.