

Mathematics A

Subject guide 2008

This subject guide relates to courses developed from the Mathematics A Senior Syllabus 2008.

What is Mathematics A all about?

Mathematics A aims to provide the opportunity for you to develop mathematical skills that will be useful throughout your life. It will extend your mathematical skills beyond Year 10 level and will provide a basis for a wide range of educational and employment aspirations, including studies at university or TAFE, or employment pathways that do not require knowledge of calculus.

What will you learn?

The Mathematics A Senior Syllabus 2008 contains core and elective topics which relate to the mathematics used in personal and work situations. The core topics include:

- **Financial mathematics strand**
 - Managing money 1
 - Managing money 2
- **Applied geometry strand**
 - Elements of applied geometry
 - Linking two and three dimensions
- **Statistics and probability strand**
 - Data collection and presentation
 - Exploring and understanding data

Courses of study will also include two elective topics with schools choosing two topics from the following areas:

- **Elective area 1: Maps and compasses**
 - Either: Navigation or Land measurement.
- **Elective area 2: Operations research**
 - Either: Linear programming or Networks and queuing.
- **Elective area 3: Introduction to models for data**
- **Elective area 4: School-developed elective.**

How will you learn?

Learning experiences in Mathematics A include life-related applications of mathematics with real and simulated situations, use of instruments, and opportunities for modelling and problem solving. You will be involved in a variety of activities including those which require you to write, speak, listen or devise presentations in a variety of forms, to assist you to develop mathematical understanding.

How will you be assessed?

Assessment in Mathematics A gives you opportunities to demonstrate *Knowledge and procedures*, *Modelling and problem solving*, and *Communication and justification*.

In Mathematics A, assessment instruments include:

- supervised tests — within this category, tests are conducted under supervised conditions and commonly include tasks requiring quantitative and/or qualitative responses
- extended modelling and problem-solving tasks — within this category, you provide a response to a specific task or issue, which could be set in a context that highlights a real-life application of mathematics
- reports — within this category, assessment tasks are typically an extended response to a practical or investigative task, such as: an experiment in which a dataset is collected, analysed and modelled; a mathematical investigation; a field activity; or a project.

In Year 12, you will be expected to complete a minimum of five assessment instruments with at least two of these being an extended modelling and problem-solving task or report or similar.

Where can Mathematics A take you?

This subject contributes four credits towards the Queensland Certificate of Education (QCE). If you would like to learn more about this certificate, please visit the QCE page on the QCAA website www.qcaa.qld.edu.au.

Mathematics A is a recommended precursor to further study and training for professions and technical trades in a range of industries and employment areas including:

- manufacturing and processing
- building and construction
- hospitality and tourism
- administration and management
- education and training
- health services
- retail services
- mechanics and engineering.

For further information about future tertiary pathways, consult the QTAC Guide to Tertiary Courses www.qtac.edu.au.

How can parents/carers help?

Your parents/carers may help you by:

- discussing different views of current Mathematics A issues with you
- encouraging and helping you to find suitable websites, documentaries, books, journals and other resources
- encouraging you to take part in school-based activities, including field trips, and extracurricular activities

- offering their services as guest speakers if they are involved in this area of study or related industry
- encouraging safe and ethical behaviour
- contacting your school to establish communication with your teachers to help understand the work undertaken at senior level, and to become familiar with assessment requirements.

More information

If you would like more information, please email senior.syllabuses@qcaa.qld.edu.au. You can also visit the QCAA website www.qcaa.qld.edu.au and search for 'Mathematics A'.