

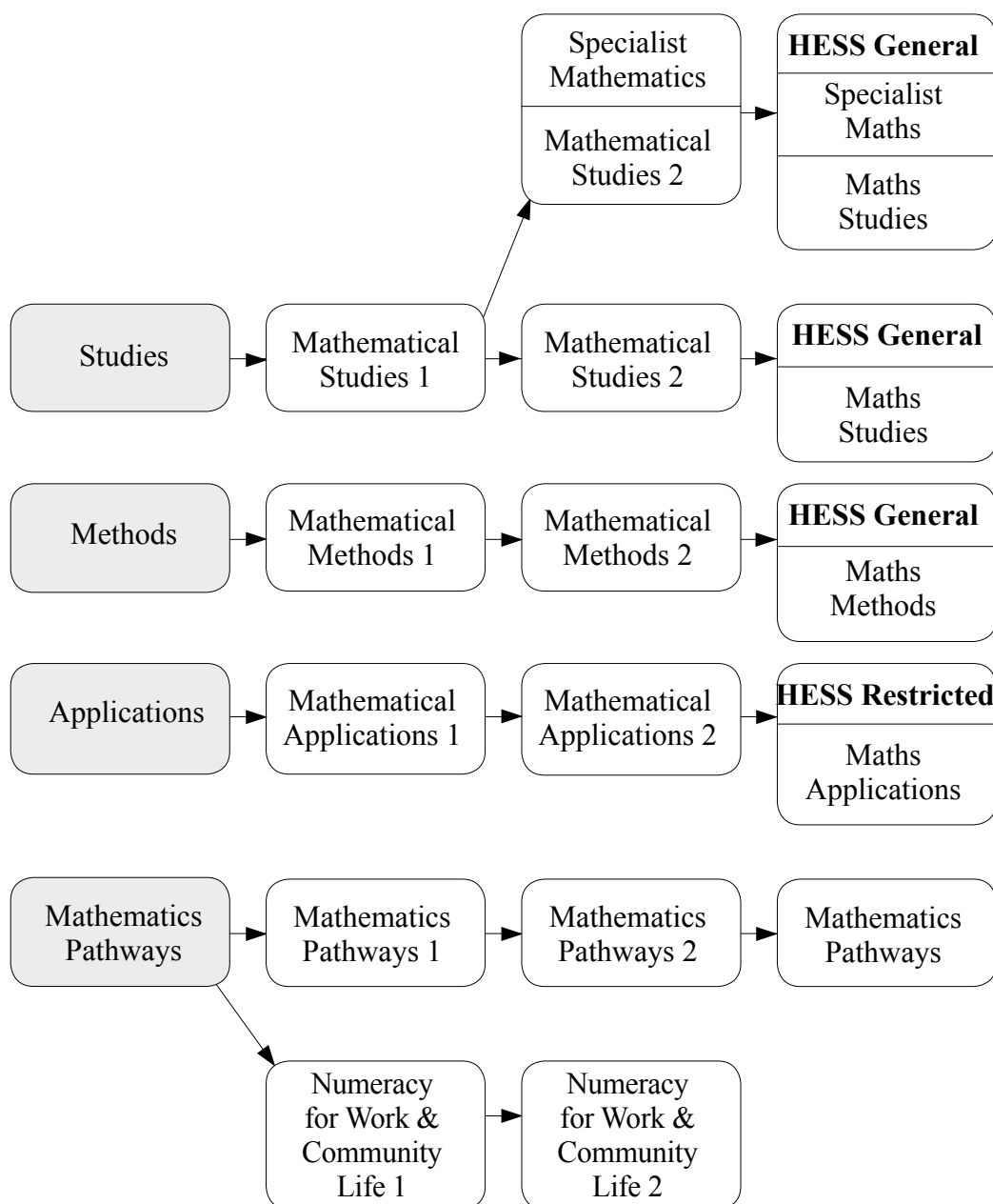
Mathematics

YEAR 10
Level

STAGE 1
Semester 1

STAGE 1
Semester 2

STAGE 2




At the end of a semester, students may choose a different pathway. (See below). **This is a general guide only for Stage 2 – check with Career Advice Centre.**

Specialist Maths (HESS General) leads to tertiary studies in the fields of mathematical sciences, engineering, computer science, physical sciences, surveying and other mathematically related fields.

Mathematical Studies (HESS General) is for students wishing to enter areas in architecture, economics, finance and biological, environmental, geological or agricultural science.

Mathematical Methods (HESS General) is for students wishing to study accounting, management, computer studies, health sciences, business, commerce, psychology or the social sciences.

Mathematical Applications (HESS Restricted) leads to post compulsory courses in the areas of building and construction, engineering trades, aquaculture, agriculture, retail, office management, visual arts, engineering trades, small business, tourism and hospitality, nursing and paramedical areas.



Casuarina Senior College aims to provide an outstanding education and quality outcomes for all students through the provision of rich learning experiences and a varied curriculum designed to maximise student engagement.

Students are able to access all subjects without incurring tuition costs. A number of subjects also offer extended learning experiences which are optional and for which the College Council will seek the reimbursement of associated costs from parents of participating students. Examples include additional materials, excursions, etc. Indicative reimbursement costs for subjects containing extra-curricula activities are identified throughout the handbook by an asterisk (*).

For further information please contact the College on 8920 1211.

mathematics stage 2

Code

22209

SACE Code

2MAP2

Category

HESS Restricted

Prerequisite

Satisfactory
Achievement in
Pre Mathematical
Applications.

Mathematical Applications

Subject Description

This is a general education subject leading to post compulsory courses in the areas of building and construction, engineering trades, aquaculture, agriculture, retail, office management, visual arts, small business, tourism and hospitality, nursing and para-medical services. The emphasis is on applying mathematics in practical situations using technology. After studying this subject students should be non-technical users of mathematics and users of technology.

Content

There are two strands available:

Applied Mathematics

Applied Geometry
Statistics and Working with Data
Matrices
Investments and Loans

Business Mathematics

Mathematics and Small Business
Statistics and Working with Data
Share Investments
Investments and Loans

Assessment

- Skills and Application Tasks – 30%
- Portfolio (Directed Investigations/Projects) – 40%
- Examination – 30%

Group

2

Subject Length

Full Year

Code

22210

SACE Code

2MME2

Category

HESS General

Prerequisite

Satisfactory
Achievement in
Pre Mathematical
Methods.

Mathematical Methods

Subject Description

This subject is a pathway into university courses where **mathematical knowledge is assumed**. Students who wish to enter courses in accounting, management, computer science, health sciences, business, commerce and psychology should study this subject.

The **unifying idea** is “**planning**” – summarising the past to gain insight into the future. Students examine the past and present; interact with their findings and develop an understanding of the relevance of mathematics in planning for the future. After studying this subject students should be **users of technology**.

Content

- *Statistics* – deciding from Data
- *Algebraic Models from Data* – working from observations
- *Calculus* – describing change
- *Linear Programming and Matrices* – managing resources

Assessment

- Skills and Application Tasks – 35%
- Portfolio (Directed Investigations/Projects) – 15%
- Examination – 50%

Group

2

Subject Length

Full Year

mathematics stage 2

Code

22211

SACE Code

2MSU2

Category

HESS General

Prerequisite

Satisfactory
Achievement in
Pre Mathematical
Studies.

Mathematical Studies

Subject Description

This subject is a pathway into university courses where **mathematical knowledge is a prerequisite**. Students who wish to enter architecture, economics and biological, environmental, geological, and agricultural science should study this subject.

The **unifying idea** is “**utility**” – giving students the tools to engage with the world around them in a mathematical way to describe and explain. After studying this subject students should be **mathematically aware users of technology** to study, model and interpret social, biological and physical phenomena.

Content

Three topics:

- *Working with Statistics* – utilising observation and deciding from data.
- *Working with Functions and Graphs using Calculus* – utilising functions for describing change
- *Working with Linear Equations and Matrices* – utilising linearity and matrices to solve problems

Assessment

- Skills and Application Tasks – 35%
- Portfolio – 15%
- Examination – 50%

Group	Subject Length
2	Full Year

mathematics stage 2

Code

22212

SACE Code

2MSL2

Category

HESS General

Prerequisite

Satisfactory
Achievement in Pre
Specialist Maths.

Specialist Mathematics

Subject Description

To be taken in conjunction with Mathematical Studies.

This subject is a pathway into university courses where a **high level of mathematical knowledge is essential**. Students gain from studying Specialist Mathematics the insight, understanding, knowledge and skills to follow pathways that will lead them to become designers and makers of technology. Students who wish to enter courses in mathematical sciences, engineering, computer science, physical sciences and surveying should study this subject. Students envisaging careers in other related fields including economics and commerce will benefit from studying this subject.

The **unifying idea** in this subject is “**motion**”:

- mathematical descriptions of changes with time
- a geometrical focus
- makes much use of electronic technology, purposeful interplay of numerical, graphical and algebraic modes.

Students doing this course should be the future creators of technology.

Content

Five topics:

- Trigonometric Preliminaries
- Polynomials and Complex Numbers
- Vectors and Geometry
- Calculus
- Differential Equations

Assessment

- Skills and Application Tasks – 40%
- Directed Investigation Tasks – 10%
- Examination – 50%

Group	Subject Length
2	Full Year