



# Senior Subject Guide

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# Introduction

Students and their parents/caregivers need to give careful consideration to the information in the following pages to guide senior subject selections. This Senior Subject Guide is an excellent resource for providing details of each subject offered in Years 11 and 12 at Aviation High School, the requirements for achieving the Queensland Certificate of Education (QCE) and guidance for post school options.

When choosing subjects, it is important for students to consider:

- Academic strengths and weaknesses
- Subjects that the individual student has found enjoyable, interesting and personally rewarding
- Possible career pathways – seek the Guidance Officer’s advice and QTAC resources
- Future university or TAFE course prerequisites
- Other training/employment needs.

Staffing and resource constraints oblige us to remove those courses which are not sufficiently supported by student selection. All students affected will then be asked to reselect from those courses that are offered. Please note that the school limits the size of classes, therefore a change of subject may not be possible if a class is full.

If students or parents/caregivers have any questions in relation to the information contained in this Senior Subject Guide or the subject selection process, please see the Deputy Principal, Guidance Officer and Senior Schooling Head of Department or discuss options with your current class teachers and Heads of Department.

# Senior Education Profile

Students in Queensland are issued with a Senior Education Profile (SEP) upon completion of senior studies. This profile may include a:

- statement of results
- Queensland Certificate of Education (QCE)
- Queensland Certificate of Individual Achievement (QCIA).

For more information about the SEP see: [www.qcaa.qld.edu.au/senior/certificates-qualifications/sep](http://www.qcaa.qld.edu.au/senior/certificates-qualifications/sep).

## Statement of Results

Students are issued with a statement of results in the December following the completion of a QCAA-developed course of study. A new statement of results is issued to students after each QCAA-developed course of study is completed.

A full record of study will be issued, along with the QCE qualification, in the first December or July after the student meets the requirements for a QCE.

## Queensland Certificate of Education (QCE)

Students may be eligible for a Queensland Certificate of Education (QCE) at the end of their senior schooling. Students who do not meet the QCE requirements can continue to work towards the certificate post-secondary schooling. The QCAA awards a QCE in the following July or December, once a student becomes eligible. Learning accounts are closed after nine years; however, a student may apply to the QCAA to have the account reopened and all credit continued.

## Queensland Certificate of Individual Achievement (QCIA)

The Queensland Certificate of Individual Achievement (QCIA) reports the learning achievements of eligible students who complete an individual learning program. At the end of the senior phase of learning, eligible students achieve a QCIA. These students have the option of continuing to work towards a QCE post-secondary schooling.

# SET Plans and Subject Selection

Some of the most important decisions students make at school are those relating to subject selections. These decisions are important since they may directly affect your success at school and how you feel about school. Senior subject selections are also an important part of career planning, particularly if tertiary study becomes integral to your career.

As an overall strategy, it is suggested that you choose subjects which:

- You enjoy
- You have demonstrated, or feel confident of achieving, some success in
- Will help you to develop skills, knowledge and attitudes useful throughout life
- Help you to achieve your chosen career goals (if such goals have been formulated) or to keep your career options open should you be unsure of your post-school direction. (Please be assured that being uncertain of one's career direction at this age is quite normal.)
- A guide – 2 subjects that are prerequisites, 2 subjects that you are good at and 2 subjects that you really enjoy.

Following are some more specific guidelines and a brief glossary of key terms intended to support your decision-making processes.

## Investigate Occupational Pathways

Choosing your subjects will be easier if you have identified a few preferred occupations and researched the various pathways available for entry to those occupations. If entry to your preferred occupation requires specific post-school training or completion of a tertiary qualification, make sure that any subject prerequisites for such training or tertiary courses are included amongst your senior subject selections. Where subject prerequisites are flexible, use common sense to select senior subjects where the content covered and/or skills developed are likely to provide a relevant foundation for your future training or tertiary study.

The self-reflection and career exploration processes underpinning the development of your Senior Education and Training (SET) Plan – is a major focus of the Year 10 Wellbeing program. This will help you to select and structure senior learning options to reflect your interests and ambitions as well as meet tertiary entry requirements and vocational goals.

## Check Tertiary Admission Policies

Students must be guided at all times by the information contained in the official QTAC information on Tertiary Prerequisites.

In addition, you should also familiarise yourself with the admission policies of each tertiary institution offering courses of interest to you. Selection of applicants for tertiary courses can involve complex admission rules and such rules often vary between institutions and change over time.

## Check Tertiary Admission Policies

While some of you may currently feel sure of your future career, it is very common for students to change their minds over the last two years of senior schooling. Given the pace of change in the employment sector and the unpredictability of life in general, it is also a wise strategy to have multiple career options ready to implement. In essence, there are many benefits to be gained from keeping your options open. Choosing a balance of subjects across a variety of disciplines can serve many positive purposes. You are being asked to select subjects that you enjoy, which will give you the greatest chance of achieving academic success, and which will allow you flexibility of options post school.

## Step by Step Guide to SET Planning

A quick step by step guide:

1. Be guided at all times by the information contained in the QTAC booklet 'Tertiary Prerequisites'. If you have a career path in mind – be aware of the prerequisites, assumed knowledge and recommended subjects. If you are unsure of a future career path – choose subjects that will keep several career options open.
2. Read the outlines for each subject carefully – it is important to select subjects based on interest and ability as well as prerequisites needs.
3. Each subject at Aviation High School has stated prerequisites. Please read this carefully. Exceptions can be made but only at the discretion of the Head of Department.
4. Seek advice from the Guidance Officer, if necessary.
5. Complete SET Planning interview.
6. Complete the Subject Selection form.
7. For subject changes, see Senior Schooling HOD or the Deputy Principal.
8. Complete the Application for Subject Change form.

## University Pre-Requisites

It is vital that University Course Pre-requisites are checked prior to choosing subjects. A detailed list can be located at: <https://www.qtac.edu.au/atar-my-path/my-path>. Please note – My Path only works using Google Chrome.

# Who Do I See for Subject Information?

## Senior Schooling Head of Department

- General subject advice and direction as to who to see for specific information
- Advice on vocational courses, school-based apprenticeships or traineeships
- Advice on subject changes.

## Heads of Department

- Advice on the different subjects within their faculty
- Advice on subject changes.

## Subject Teacher

- Advice on individual capabilities within the specific subject.

## Guidance Officer

- Learning difficulties
- Advice on university courses and alternate pathways
- Advice on subject changes.

## Deputy Principal

- Subject choices and alterations
- Timetables
- Advice on subject changes
- VPR, Distance Education and External Examinations.

# Attendance and Participation

The policy of the school is that students must attend and fully participate in classes. Failure to do so may result in cancellation of enrolment.

What action is to be taken following absence from lessons?

- Obtain documentary evidence to cover the absence. This might include a note from a parent/caregiver and medical certificate, hospital record or any other formal documentation available from a recognised authority.
- Student absences over three days must be covered by a medical certificate.
- Students who are late to school without an explanation from their parent/caregiver will be required to attend a 30 minute detention after school on the following day.

Should your absence from school result in missed or late assessment you must:

- Contact the subject Head of Department **immediately** you return to school
- Complete a **Request to Complete Delayed Assessment** form for each assessment item missed. Copies of this form are available at C Block Reception. Must attach documentary evidence.

Failure to attend scheduled lessons for a subject may affect enrolment in the subject.

This could have implications for eligibility to obtain required certificates, and/or tertiary entrance, and/or Centrelink.

## Youth Allowance Implications

This school does not grant, pay or arrange Youth Allowance benefits. The arrangement is between the student and Centrelink.

Generally, students will need to participate as full time students. The Principal of the school determines the number of subjects which will constitute a full time workload for each student.

Each term, Centrelink makes checks with the school about:

- Student enrolment and attendance
- Student participation in class/assessment activities.

NB: Penalties apply for students who have more than five unapproved absences in a term and/or are not working to a standard required by Aviation High School.

Student should contact Centrelink to arrange Youth Allowance benefits and ensure that they satisfy all Centrelink rules pertaining to these benefits.



# Senior subjects

The QCAA develops four types of senior subject syllabuses — General, Applied, Senior External Examinations and Short Courses. Results in General and Applied subjects contribute to the award of a QCE and may contribute to an Australian Tertiary Admission Rank (ATAR) calculation, although no more than one result in an Applied subject can be used in the calculation of a student's ATAR.

Extension subjects are extensions of the related General subjects and are studied either concurrently with, or after, Units 3 and 4 of the General course.

Typically, it is expected that most students will complete these courses across Years 11 and 12. All subjects build on the P–10 Australian Curriculum.

## General syllabuses

General subjects are suited to students who are interested in pathways beyond senior secondary schooling that lead primarily to tertiary studies and to pathways for vocational education and training and work. General subjects include Extension subjects.

## Applied syllabuses

Applied subjects are suited to students who are primarily interested in pathways beyond senior secondary schooling that lead to vocational education and training or work.

## Senior External Examination

The Senior External Examination consists of individual subject examinations provided across Queensland in October and November each year by the QCAA.

## Short Courses

Short Courses are developed to meet a specific curriculum need and are suited to students who are interested in pathways beyond senior secondary schooling that lead to vocational education and training and establish a basis for further education and employment. They are informed by, and articulate closely with, the requirements of the Australian Core Skills Framework (ACSF). A grade of C in Short Courses aligns with the requirements for ACSF Level 3.

For more information about the ACSF see: <https://www.education.gov.au/australian-core-skills-framework>.

## Underpinning factors

All senior syllabuses are underpinned by:

- literacy — the set of knowledge and skills about language and texts essential for understanding and conveying content
- numeracy — the knowledge, skills, behaviours and dispositions that students need to use mathematics in a wide range of situations, to recognise and understand the role of mathematics in the world, and to develop the dispositions and capacities to use mathematical knowledge and skills purposefully.

## General syllabuses and Short Courses

In addition to literacy and numeracy, General syllabuses and Short Courses are underpinned by:

- 21st century skills — the attributes and skills students need to prepare them for higher education, work and engagement in a complex and rapidly changing world. These include critical thinking, creative thinking, communication, collaboration and teamwork, personal and social skills, and information & communication technologies (ICT) skills.

## Applied syllabuses

In addition to literacy and numeracy, Applied syllabuses are underpinned by:

- applied learning — the acquisition and application of knowledge, understanding and skills in real-world or lifelike contexts
- community connections — the awareness and understanding of life beyond school through authentic, real-world interactions by connecting classroom experience with the world outside the classroom
- core skills for work — the set of knowledge, understanding and non-technical skills that underpin successful participation in work.

## Vocational education and training (VET)

Students can access VET programs through the school if it:

- is a registered training organisation (RTO)
- has a third-party arrangement with an external provider who is an RTO
- offers opportunities for students to undertake school-based apprenticeships or traineeships.

## Australian Tertiary Admission Rank (ATAR) eligibility

The calculation of an Australian Tertiary Admission Rank (ATAR) will be based on a student's:

- best five General subject results or
- best results in a combination of four General subject results plus an Applied subject result or a Certificate III or higher VET qualification.

The Queensland Tertiary Admissions Centre (QTAC) has responsibility for ATAR calculations.

## English requirement

Eligibility for an ATAR will require satisfactory completion of a QCAA English subject.

Satisfactory completion will require students to attain a result that is equivalent to a Sound Level of Achievement in one of five subjects — English, Essential English, Literature, English and Literature Extension or English as an Additional Language.

While students must meet this standard to be eligible to receive an ATAR, it is not mandatory for a student's English result to be included in the calculation of their ATAR.

# General syllabuses

## Structure

The syllabus structure consists of a course overview and assessment.

### General syllabuses course overview

General syllabuses are developmental four-unit courses of study.

Units 1 and 2 provide foundational learning, allowing students to experience all syllabus objectives and begin engaging with the course subject matter. It is intended that Units 1 and 2 are studied as a pair. Assessment in Units 1 and 2 provides students with feedback on their progress in a course of study and contributes to the award of a QCE.

Students should complete Units 1 and 2 before starting Units 3 and 4.

Units 3 and 4 consolidate student learning. Assessment in Units 3 and 4 is summative and student results contribute to the award of a QCE and to ATAR calculations.

### Extension syllabuses course overview

Extension subjects are extensions of the related General subjects and include external assessment. Extension subjects are studied either concurrently with, or after, Units 3 and 4 of the General course of study.

Extension syllabuses are courses of study that consist of two units (Units 3 and 4). Subject matter, learning experiences and assessment increase in complexity across the two units as students develop greater independence as learners.

The results from Units 3 and 4 contribute to the award of a QCE and to ATAR calculations.

## Assessment

### Units 1 and 2 assessments

Schools decide the sequence, scope and scale of assessments for Units 1 and 2. These assessments should reflect the local context. Teachers determine the assessment program, tasks and marking guides that are used to assess student performance for Units 1 and 2.

Units 1 and 2 assessment outcomes provide feedback to students on their progress in the course of study. Schools should develop at least *two* but no more than *four* assessments for Units 1 and 2. At least *one* assessment must be completed for *each* unit.

Schools report satisfactory completion of Units 1 and 2 to the QCAA, and may choose to report levels of achievement to students and parents/carers using grades, descriptive statements or other indicators.

### Units 3 and 4 assessments

Students complete a total of *four* summative assessments — three internal and one external — that count towards the overall subject result in each General subject.

Schools develop *three* internal assessments for each senior subject to reflect the requirements described in Units 3 and 4 of each General syllabus.

The three summative internal assessments need to be endorsed by the QCAA before they are used in schools. Students' results in these assessments are externally confirmed by QCAA assessors. These confirmed results from internal assessment are combined with a single result from an external assessment, which is developed and marked by the QCAA. The external assessment result for a subject contributes to a determined percentage of a students' overall subject result. For most subjects this is 25%; for Mathematics and Science subjects it is 50%.

### **Instrument-specific marking guides**

Each syllabus provides instrument-specific marking guides (ISMGs) for summative internal assessments.

The ISMGs describe the characteristics evident in student responses and align with the identified assessment objectives. Assessment objectives are drawn from the unit objectives and are contextualised for the requirements of the assessment instrument.

Schools cannot change or modify an ISMG for use with summative internal assessment.

As part of quality teaching and learning, schools should discuss ISMGs with students to help them understand the requirements of an assessment task.

### **External assessment**

External assessment is summative and adds valuable evidence of achievement to a student's profile. External assessment is:

- common to all schools
- administered under the same conditions at the same time and on the same day
- developed and marked by the QCAA according to a commonly applied marking scheme.

The external assessment contributes a determined percentage (see specific subject guides — assessment) to the student's overall subject result and is not privileged over summative internal assessment.

# Applied syllabuses

## Structure

The syllabus structure consists of a course overview and assessment.

### Applied syllabuses course overview

Applied syllabuses are developmental four-unit courses of study.

Units 1 and 2 of the course are designed to allow students to begin their engagement with the course content, i.e. the knowledge, understanding and skills of the subject. Course content, learning experiences and assessment increase in complexity across the four units as students develop greater independence as learners.

Units 3 and 4 consolidate student learning. Results from assessment in Applied subjects contribute to the award of a QCE and results from Units 3 and 4 may contribute as a single input to ATAR calculation.

A course of study for Applied syllabuses includes core topics and elective areas for study.

## Assessment

Applied syllabuses use *four* summative internal assessments from Units 3 and 4 to determine a student's exit result.

Schools should develop at least *two* but no more than *four* internal assessments for Units 1 and 2 and these assessments should provide students with opportunities to become familiar with the summative internal assessment techniques to be used for Units 3 and 4.

Applied syllabuses do not use external assessment.

### Instrument-specific standards matrixes

For each assessment instrument, schools develop an instrument-specific standards matrix by selecting the syllabus standards descriptors relevant to the task and the dimension/s being assessed. The matrix is shared with students and used as a tool for making judgments about the quality of students' responses to the instrument. Schools develop assessments to allow students to demonstrate the range of standards.

### Essential English and Essential Mathematics — Common internal assessment

Students complete a total of *four* summative internal assessments in Units 3 and 4 that count toward their overall subject result. Schools develop *three* of the summative internal assessments for each senior subject and the other summative assessment is a common internal assessment (CIA) developed by the QCAA.

The CIA for Essential English and Essential Mathematics is based on the learning described in Unit 3 of the respective syllabus. The CIA is:

- developed by the QCAA
- common to all schools
- delivered to schools by the QCAA
- administered flexibly in Unit 3
- administered under supervised conditions
- marked by the school according to a common marking scheme developed by the QCAA.

The CIA is not privileged over the other summative internal assessment.

### **Summative internal assessment — instrument-specific standards**

The Essential English and Essential Mathematics syllabuses provide instrument-specific standards for the three summative internal assessments in Units 3 and 4.

The instrument-specific standards describe the characteristics evident in student responses and align with the identified assessment objectives. Assessment objectives are drawn from the unit objectives and are contextualised for the requirements of the assessment instrument.

## **Senior External Examinations**

### **Senior External Examinations course overview**

A Senior External Examination syllabus sets out the aims, objectives, learning experiences and assessment requirements for each of these subjects.

Results are based solely on students' demonstrated achievement in examinations. Work undertaken before an examination is not assessed.

The Senior External Examination is for:

- low candidature subjects not otherwise offered as a General subject in Queensland
- students in their final year of senior schooling who are unable to access particular subjects at their school
- adult students (people of any age not enrolled at a Queensland secondary school)
  - to meet tertiary entrance or employment requirements
  - for personal interest.

Senior External Examination results may contribute credit to the award of a QCE and contribute to ATAR calculations.

For more information about the Senior External Examination, see:

[www.qcaa.qld.edu.au/senior/see](http://www.qcaa.qld.edu.au/senior/see).

## **Assessment**

The Senior External Examination consists of individual subject examinations that are held once each year in Term 4. Important dates and the examination timetable are published in the Senior Education Profile (SEP) calendar, available at: <https://www.qcaa.qld.edu.au/senior/sep-calendar>.

Results are based solely on students' demonstrated achievement in the examinations. Work undertaken before an examination is not assessed. Results are reported as a mark and grade of A–E. For more information about results, see the QCE and QCIA policy and procedures handbook, Section 10.

# QCAA senior syllabuses/subjects proposed for offer

	<b>General</b>	<b>Applied</b>
<b>Mathematics</b>	General Mathematics Mathematical Methods Specialist Mathematics	Essential Mathematics
<b>English</b>	English	Essential English
<b>Humanities</b>	Business Geography Legal Studies Modern History Philosophy & Reason	
<b>Technologies</b>	Aerospace Systems Design Food & Nutrition	Industrial Technology Skills
<b>Health and Physical Education</b>	Physical Education	Sport & Recreation
<b>Science</b>	Biology Chemistry Physics	
<b>The Arts</b>	Visual Art	Drama in Practice Visual Art in Practice
<b>VET</b>		Certificate II in Hospitality

# Mathematics

## General Mathematics – General senior subject

General

General Mathematics' major domains are Number and algebra, Measurement and geometry, Statistics, and Networks and matrices, building on the content of the P–10 Australian Curriculum.

General Mathematics is designed for students who want to extend their mathematical skills beyond Year 10 but whose future studies or employment pathways do not require calculus.

Students build on and develop key mathematical ideas, including rates and percentages, concepts from financial mathematics, linear and non-linear expressions, sequences, the use of matrices and networks to model and solve authentic problems, the use of trigonometry to find solutions to practical problems, and the exploration of real-world phenomena in statistics.

Students engage in a practical approach that equips learners for their needs as future citizens. They learn to ask appropriate questions, map out pathways, reason about complex solutions, set up models and communicate in different forms. They experience the relevance of mathematics to their daily lives, communities and cultural backgrounds. They develop the ability to understand, analyse and take action regarding social issues in their world.

### Pathways

A course of study in General Mathematics can establish a basis for further education and employment in the fields of business, commerce, education, finance, IT, social science and the arts.

### Objectives

By the conclusion of the course of study, students will:

- select, recall and use facts, rules, definitions and procedures drawn from Number and algebra, Measurement and geometry, Statistics, and Networks and matrices
- comprehend mathematical concepts and techniques drawn from Number and algebra, Measurement and geometry, Statistics, and Networks and matrices
- communicate using mathematical, statistical and everyday language and conventions
- evaluate the reasonableness of solutions
- justify procedures and decisions by explaining mathematical reasoning
- solve problems by applying mathematical concepts and techniques drawn from Number and algebra, Measurement and geometry, Statistics, and Networks and matrices.



## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Money, measurement and relations</b> <ul style="list-style-type: none"> <li>• Consumer arithmetic</li> <li>• Shape and measurement</li> <li>• Linear equations and their graphs</li> </ul>	<b>Applied trigonometry, algebra, matrices and univariate data</b> <ul style="list-style-type: none"> <li>• Applications of trigonometry</li> <li>• Algebra and matrices</li> <li>• Univariate data analysis</li> </ul>	<b>Bivariate data, sequences and change, and Earth geometry</b> <ul style="list-style-type: none"> <li>• Bivariate data analysis</li> <li>• Time series analysis</li> <li>• Growth and decay in sequences</li> <li>• Earth geometry and time zones</li> </ul>	<b>Investing and networking</b> <ul style="list-style-type: none"> <li>• Loans, investments and annuities</li> <li>• Graphs and networks</li> <li>• Networks and decision mathematics</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Problem-solving and modelling task	20%	Summative internal assessment 3 (IA3): • Examination	15%
Summative internal assessment 2 (IA2): • Examination	15%		
Summative external assessment (EA): 50% • Examination			

# Mathematical Methods -

## General senior subject

General

Mathematical Methods' major domains are Algebra, Functions, relations and their graphs, Calculus and Statistics.

Mathematical Methods enables students to see the connections between mathematics and other areas of the curriculum and apply their mathematical skills to real-world problems, becoming critical thinkers, innovators and problem-solvers.

Students learn topics that are developed systematically, with increasing levels of sophistication, complexity and connection, and build on algebra, functions and their graphs, and probability from the P-10 Australian Curriculum. Calculus is essential for developing an understanding of the physical world. The domain Statistics is used to describe and analyse phenomena involving uncertainty and variation. Both are the basis for developing effective models of the world and solving complex and abstract mathematical problems.

Students develop the ability to translate written, numerical, algebraic, symbolic and graphical information from one representation to another. They make complex use of factual knowledge to successfully formulate, represent and solve mathematical problems.

## Pathways

A course of study in Mathematical Methods can establish a basis for further education and employment in the fields of natural and physical sciences (especially physics and chemistry), mathematics and science education, medical and health sciences (including human biology, biomedical science, nanoscience and forensics), engineering (including chemical, civil, electrical and mechanical engineering, avionics, communications and mining), computer science (including electronics and software design), psychology and business.

## Objectives

By the conclusion of the course of study, students will:

- select, recall and use facts, rules, definitions and procedures drawn from Algebra, Functions, relations and their graphs, Calculus and Statistics
- comprehend mathematical concepts and techniques drawn from Algebra, Functions, relations and their graphs, Calculus and Statistics
- communicate using mathematical, statistical and everyday language and conventions
- evaluate the reasonableness of solutions
- justify procedures and decisions by explaining mathematical reasoning
- solve problems by applying mathematical concepts and techniques drawn from Algebra, Functions, relations and their graphs, Calculus and Statistics.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Algebra, statistics and functions</b> <ul style="list-style-type: none"> <li>• Arithmetic and geometric sequences and series 1</li> <li>• Functions and graphs</li> <li>• Counting and probability</li> <li>• Exponential functions 1</li> <li>• Arithmetic and geometric sequences</li> </ul>	<b>Calculus and further functions</b> <ul style="list-style-type: none"> <li>• Exponential functions 2</li> <li>• The logarithmic function 1</li> <li>• Trigonometric functions 1</li> <li>• Introduction to differential calculus</li> <li>• Further differentiation and applications 1</li> <li>• Discrete random variables 1</li> </ul>	<b>Further calculus</b> <ul style="list-style-type: none"> <li>• The logarithmic function 2</li> <li>• Further differentiation and applications 2</li> <li>• Integrals</li> </ul>	<b>Further functions and statistics</b> <ul style="list-style-type: none"> <li>• Further differentiation and applications 3</li> <li>• Trigonometric functions 2</li> <li>• Discrete random variables 2</li> <li>• Continuous random variables and the normal distribution</li> <li>• Interval estimates for proportions</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Problem-solving and modelling task	20%	Summative internal assessment 3 (IA3): • Examination	15%
Summative internal assessment 2 (IA2): • Examination	15%		
Summative external assessment (EA): 50% • Examination			

# Specialist Mathematics -

## General senior subject

General

Specialist Mathematics' major domains are Vectors and matrices, Real and complex numbers, Trigonometry, Statistics and Calculus.

Specialist Mathematics is designed for students who develop confidence in their mathematical knowledge and ability, and gain a positive view of themselves as mathematics learners. They will gain an appreciation of the true nature of mathematics, its beauty and its power.

Students learn topics that are developed systematically, with increasing levels of sophistication, complexity and connection, building on functions, calculus, statistics from Mathematical Methods, while vectors, complex numbers and matrices are introduced. Functions and calculus are essential for creating models of the physical world. Statistics are used to describe and analyse phenomena involving probability, uncertainty and variation. Matrices, complex numbers and vectors are essential tools for explaining abstract or complex relationships that occur in scientific and technological endeavours.

Student learning experiences range from practising essential mathematical routines to developing procedural fluency, through to investigating scenarios, modelling the real world, solving problems and explaining reasoning.

## Pathways

A course of study in Specialist Mathematics can establish a basis for further education and employment in the fields of science, all branches of mathematics and statistics, computer science, medicine, engineering, finance and economics.

## Objectives

By the conclusion of the course of study, students will:

- select, recall and use facts, rules, definitions and procedures drawn from Vectors and matrices, Real and complex numbers, Trigonometry, Statistics and Calculus
- comprehend mathematical concepts and techniques drawn from Vectors and matrices, Real and complex numbers, Trigonometry, Statistics and Calculus
- communicate using mathematical, statistical and everyday language and conventions
- evaluate the reasonableness of solutions
- justify procedures and decisions, and prove propositions by explaining mathematical reasoning
- solve problems by applying mathematical concepts and techniques drawn from Vectors and matrices, Real and complex numbers, Trigonometry, Statistics and Calculus.

## Structure

Specialist Mathematics is to be undertaken in conjunction with, or on completion of, Mathematical Methods.

Unit 1	Unit 2	Unit 3	Unit 4
<b>Combinatorics, vectors and proof</b> <ul style="list-style-type: none"> <li>• Combinatorics</li> <li>• Vectors in the plane</li> <li>• Introduction to proof</li> </ul>	<b>Complex numbers, trigonometry, functions and matrices</b> <ul style="list-style-type: none"> <li>• Complex numbers 1</li> <li>• Trigonometry and functions</li> <li>• Matrices</li> </ul>	<b>Mathematical induction, and further vectors, matrices and complex numbers</b> <ul style="list-style-type: none"> <li>• Proof by mathematical induction</li> <li>• Vectors and matrices</li> <li>• Complex numbers 2</li> </ul>	<b>Further statistical and calculus inference</b> <ul style="list-style-type: none"> <li>• Integration and applications of integration</li> <li>• Rates of change and differential equations</li> <li>• Statistical inference</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Problem-solving and modelling task	20%	Summative internal assessment 3 (IA3): • Examination	15%
Summative internal assessment 2 (IA2): • Examination	15%		
Summative external assessment (EA): 50% • Examination			

# Essential Mathematics

## Applied senior subject

Applied

Essential Mathematics' major domains are Number, Data, Location and time, Measurement and Finance.

Essential Mathematics benefits students because they develop skills that go beyond the traditional ideas of numeracy.

Students develop their conceptual understanding when they undertake tasks that require them to connect mathematical concepts, operations and relations. They learn to recognise definitions, rules and facts from everyday mathematics and data, and to calculate using appropriate mathematical processes.

Students interpret and use mathematics to make informed predictions and decisions about personal and financial priorities. This is achieved through an emphasis on estimation, problem-solving and reasoning, which develops students into thinking citizens.

## Pathways

A course of study in Essential Mathematics can establish a basis for further education and employment in the fields of trade, industry, business and community services. Students learn within a practical context

related to general employment and successful participation in society, drawing on the mathematics used by various professional and industry groups.

## Objectives

By the conclusion of the course of study, students will:

- select, recall and use facts, rules, definitions and procedures drawn from Number, Data, Location and time, Measurement and Finance
- comprehend mathematical concepts and techniques drawn from Number, Data, Location and time, Measurement and Finance
- communicate using mathematical, statistical and everyday language and conventions
- evaluate the reasonableness of solutions
- justify procedures and decisions by explaining mathematical reasoning
- solve problems by applying mathematical concepts and techniques drawn from Number, Data, Location and time, Measurement and Finance.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Number, data and graphs</b> <ul style="list-style-type: none"><li>• Fundamental topic: Calculations</li><li>• Number</li><li>• Representing data</li><li>• Graphs</li></ul>	<b>Money, travel and data</b> <ul style="list-style-type: none"><li>• Fundamental topic: Calculations</li><li>• Managing money</li><li>• Time and motion</li><li>• Data collection</li></ul>	<b>Measurement, scales and data</b> <ul style="list-style-type: none"><li>• Fundamental topic: Calculations</li><li>• Measurement</li><li>• Scales, plans and models</li><li>• Summarising and comparing data</li></ul>	<b>Graphs, chance and loans</b> <ul style="list-style-type: none"><li>• Fundamental topic: Calculations</li><li>• Bivariate graphs</li><li>• Probability and relative frequencies</li><li>• Loans and compound interest</li></ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. Schools develop three summative internal assessments and the common internal assessment (CIA) is developed by the QCAA.

### Summative assessments

Unit 3	Unit 4
Summative internal assessment 1 (IA1): <ul style="list-style-type: none"><li>• Problem-solving and modelling task</li></ul>	Summative internal assessment 3 (IA3): <ul style="list-style-type: none"><li>• Problem-solving and modelling task</li></ul>
Summative internal assessment 2 (IA2): <ul style="list-style-type: none"><li>• Common internal assessment (CIA)</li></ul>	Summative internal assessment (IA4): <ul style="list-style-type: none"><li>• Examination</li></ul>

# English

## English - General senior subject

General

English focuses on the study of both literary texts and non-literary texts, developing students as independent, innovative and creative learners and thinkers who appreciate the aesthetic use of language, analyse perspectives and evidence, and challenge ideas and interpretations through the analysis and creation of varied texts.

Students are offered opportunities to interpret and create texts for personal, cultural, social and aesthetic purposes. They learn how language varies according to context, purpose and audience, content, modes and mediums, and how to use it appropriately and effectively for a variety of purposes. Students have opportunities to engage with diverse texts to help them develop a sense of themselves, their world and their place in it.

Students communicate effectively in Standard Australian English for the purposes of responding to and creating texts. They make choices about generic structures, language, textual features and technologies for participating actively in literary analysis and the creation of texts in a range of modes, mediums and forms, for a variety of purposes and audiences. They explore how literary and non-literary texts shape perceptions of the world, and consider ways in which texts may reflect or challenge social and cultural ways of thinking and influence audiences.

### Pathways

A course of study in English promotes open-mindedness, imagination, critical awareness and intellectual flexibility — skills that

prepare students for local and global citizenship, and for lifelong learning across a wide range of contexts.

### Objectives

By the conclusion of the course of study, students will:

- use patterns and conventions of genres to achieve particular purposes in cultural contexts and social situations
- establish and maintain roles of the writer/speaker/signer/designer and relationships with audiences
- create and analyse perspectives and representations of concepts, identities, times and places
- make use of and analyse the ways cultural assumptions, attitudes, values and beliefs underpin texts and invite audiences to take up positions
- use aesthetic features and stylistic devices to achieve purposes and analyse their effects in texts
- select and synthesise subject matter to support perspectives
- organise and sequence subject matter to achieve particular purposes
- use cohesive devices to emphasise ideas and connect parts of texts
- make language choices for particular purposes and contexts
- use grammar and language structures for particular purposes
- use mode-appropriate features to achieve particular purposes.



## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Perspectives and texts</b> <ul style="list-style-type: none"> <li>Examining and creating perspectives in texts</li> <li>Responding to a variety of non-literary and literary texts</li> <li>Creating responses for public audiences and persuasive texts</li> </ul>	<b>Texts and culture</b> <ul style="list-style-type: none"> <li>Examining and shaping representations of culture in texts</li> <li>Responding to literary and non-literary texts, including a focus on Australian texts</li> <li>Creating imaginative and analytical texts</li> </ul>	<b>Textual connections</b> <ul style="list-style-type: none"> <li>Exploring connections between texts</li> <li>Examining different perspectives of the same issue in texts and shaping own perspectives</li> <li>Creating responses for public audiences and persuasive texts</li> </ul>	<b>Close study of literary texts</b> <ul style="list-style-type: none"> <li>Engaging with literary texts from diverse times and places</li> <li>Responding to literary texts creatively and critically</li> <li>Creating imaginative and analytical texts</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): <ul style="list-style-type: none"> <li>Extended response — written response for a public audience</li> </ul>	25%	Summative internal assessment 3 (IA3): <ul style="list-style-type: none"> <li>Extended response — imaginative written response</li> </ul>	25%
Summative internal assessment 2 (IA2): <ul style="list-style-type: none"> <li>Extended response — persuasive spoken response</li> </ul>	25%	Summative external assessment (EA): <ul style="list-style-type: none"> <li>Examination — analytical written response</li> </ul>	25%

Essential English develops and refines students' understanding of language, literature and literacy to enable them to interact confidently and effectively with others in everyday, community and social contexts. Students recognise language and texts as relevant in their lives now and in the future and learn to understand, accept or challenge the values and attitudes in these texts.

Students engage with language and texts to foster skills to communicate confidently and effectively in Standard Australian English in a variety of contemporary contexts and social situations, including everyday, social, community, further education and work-related contexts. They choose generic structures, language, language features and technologies to best convey meaning. They develop skills to read for meaning and purpose, and to use, critique and appreciate a range of contemporary literary and non-literary texts.

Students use language effectively to produce texts for a variety of purposes and audiences and engage creative and imaginative thinking to explore their own world and the worlds of others. They actively and critically interact with a range of texts, developing an awareness of how the language they engage with positions them and others.

## Pathways

A course of study in Essential English promotes open-mindedness, imagination, critical awareness and intellectual flexibility — skills that prepare students for local and global citizenship, and for lifelong learning across a wide range of contexts.

## Objectives

By the conclusion of the course of study, students will:

- use patterns and conventions of genres to achieve particular purposes in cultural contexts and social situations
- use appropriate roles and relationships with audiences
- construct and explain representations of identities, places, events and concepts
- make use of and explain the ways cultural assumptions, attitudes, values and beliefs underpin texts and influence meaning
- explain how language features and text structures shape meaning and invite particular responses
- select and use subject matter to support perspectives
- sequence subject matter and use mode-appropriate cohesive devices to construct coherent texts
- make mode-appropriate language choices according to register informed by purpose, audience and context
- use language features to achieve particular purposes across modes.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Language that works</b> <ul style="list-style-type: none"> <li>• Responding to a variety of texts used in and developed for a work context</li> <li>• Creating multimodal and written texts</li> </ul>	<b>Texts and human experiences</b> <ul style="list-style-type: none"> <li>• Responding to reflective and nonfiction texts that explore human experiences</li> <li>• Creating spoken and written texts</li> </ul>	<b>Language that influences</b> <ul style="list-style-type: none"> <li>• Creating and shaping perspectives on community, local and global issues in texts</li> <li>• Responding to texts that seek to influence audiences</li> </ul>	<b>Representations and popular culture texts</b> <ul style="list-style-type: none"> <li>• Responding to popular culture texts</li> <li>• Creating representations of Australian identities, places, events and concepts</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. Schools develop three summative internal assessments and the common internal assessment (CIA) is developed by the QCAA.

### Summative assessments

Unit 3	Unit 4
Summative internal assessment 1 (IA1): <ul style="list-style-type: none"> <li>• Extended response — spoken/signed response</li> </ul>	Summative internal assessment 3 (IA3): <ul style="list-style-type: none"> <li>• Extended response — Multimodal response</li> </ul>
Summative internal assessment 2 (IA2): <ul style="list-style-type: none"> <li>• Common internal assessment (CIA)</li> </ul>	Summative internal assessment (IA4): <ul style="list-style-type: none"> <li>• Extended response — Written response</li> </ul>

# Humanities

## Business - General senior subject

General

Business provides opportunities for students to develop business knowledge and skills to contribute meaningfully to society, the workforce and the marketplace and prepares them as potential employees, employers, leaders, managers and entrepreneurs.

Students investigate the business life cycle, develop skills in examining business data and information and learn business concepts, theories, processes and strategies relevant to leadership, management and entrepreneurship. They investigate the influence of, and implications for, strategic development in the functional areas of finance, human resources, marketing and operations.

Students use a variety of technological, communication and analytical tools to comprehend, analyse, interpret and synthesise business data and information. They engage with the dynamic business world (in both national and global contexts), the changing workforce and emerging digital technologies.

### Pathways

A course of study in Business can establish a basis for further education and employment in the fields of business management, business development, entrepreneurship, business analytics, economics, business law, accounting and finance, international business, marketing, human resources management and business information systems.

### Objectives

By the conclusion of the course of study, students will:

- describe business environments and situations
- explain business concepts, strategies and processes
- select and analyse business data and information
- interpret business relationships, patterns and trends to draw conclusions
- evaluate business practices and strategies to make decisions and propose recommendations
- create responses that communicate meaning to suit purpose and audience.

### Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Business creation</b> <ul style="list-style-type: none"><li>• Fundamentals of business</li><li>• Creation of business ideas</li></ul>	<b>Business growth</b> <ul style="list-style-type: none"><li>• Establishment of a business</li><li>• Entering markets</li></ul>	<b>Business diversification</b> <ul style="list-style-type: none"><li>• Competitive markets</li><li>• Strategic development</li></ul>	<b>Business evolution</b> <ul style="list-style-type: none"><li>• Repositioning a business</li><li>• Transformation of a business</li></ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Examination — combination response	25%	Summative internal assessment 3 (IA3): • Extended response — feasibility report	25%
Summative internal assessment 2 (IA2): • Investigation — business report	25%	Summative external assessment (EA): • Examination — combination response	25%

Geography focuses on the significance of 'place' and 'space' in understanding our world. Students engage in a range of learning experiences that develop their geographical skills and thinking through the exploration of geographical challenges and their effects on people, places and the environment.

Students investigate places in Australia and across the globe to observe and measure spatial, environmental, economic, political, social and cultural factors. They interpret global concerns and challenges including responding to risk in hazard zones, planning sustainable places, managing land cover transformations and planning for population change. They develop an understanding of the complexities involved in sustainable planning and management practices.

Students observe, gather, organise, analyse and present data and information across a range of scales. They engage in real-world applications of geographical skills and thinking, including the collection and representation of data.

## Pathways

A course of study in Geography can establish a basis for further education and employment in the fields of urban and environmental design, planning and management; biological and environmental science; conservation and land management; emergency response and hazard management; oceanography, surveying, global security, economics, business, law, engineering, architecture, information technology, and science.

## Objectives

By the conclusion of the course of study, students will:

- explain geographical processes
- comprehend geographic patterns
- analyse geographical data and information
- apply geographical understanding
- synthesise information from the analysis to propose action
- communicate geographical understanding.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<p><b>Responding to risk and vulnerability in hazard zones</b></p> <ul style="list-style-type: none"> <li>• Natural hazard zones</li> <li>• Ecological hazard zones</li> </ul>	<p><b>Planning sustainable places</b></p> <ul style="list-style-type: none"> <li>• Responding to challenges facing a place in Australia</li> <li>• Managing the challenges facing a megacity</li> </ul>	<p><b>Responding to land cover transformations</b></p> <ul style="list-style-type: none"> <li>• Land cover transformations and climate change</li> <li>• Responding to local land cover transformations</li> </ul>	<p><b>Managing population change</b></p> <ul style="list-style-type: none"> <li>• Population challenges in Australia</li> <li>• Global population change</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Examination — combination response	25%	Summative internal assessment 3 (IA3): • Investigation — data report	25%
Summative internal assessment 2 (IA2): • Investigation — field report	25%	Summative external assessment (EA): • Examination — combination response	25%

# Legal Studies -

## General senior subject

General

Legal Studies focuses on the interaction between society and the discipline of law and explores the role and development of law in response to current issues. Students study the legal system and how it regulates activities and aims to protect the rights of individuals, while balancing these with obligations and responsibilities.

Students study the foundations of law, the criminal justice process and the civil justice system. They critically examine issues of governance, explore contemporary issues of law reform and change, and consider Australian and international human rights issues.

Students develop skills of inquiry, critical thinking, problem-solving and reasoning to make informed and ethical decisions and recommendations. They identify and describe legal issues, explore information and data, analyse, evaluate to make decisions or propose recommendations, and create responses that convey legal meaning. They question, explore and discuss tensions between changing social values, justice and equitable outcomes.

## Pathways

A course of study in Legal Studies can establish a basis for further education and employment in the fields of law, law enforcement, criminology, justice studies and politics. The knowledge, skills and attitudes students gain are transferable to all discipline areas and post-schooling tertiary pathways. The research and analytical skills this course develops are universally valued in business, health, science and engineering industries.

## Objectives

By the conclusion of the course of study, students will:

- comprehend legal concepts, principles and processes
- select legal information from sources
- analyse legal issues
- evaluate legal situations
- create responses that communicate meaning.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Beyond reasonable doubt</b> <ul style="list-style-type: none"> <li>• Legal foundations</li> <li>• Criminal investigation process</li> <li>• Criminal trial process</li> <li>• Punishment and sentencing</li> </ul>	<b>Balance of probabilities</b> <ul style="list-style-type: none"> <li>• Civil law foundations</li> <li>• Contractual obligations</li> <li>• Negligence and the duty of care</li> </ul>	<b>Law, governance and change</b> <ul style="list-style-type: none"> <li>• Governance in Australia</li> <li>• Law reform within a dynamic society</li> </ul>	<b>Human rights in legal contexts</b> <ul style="list-style-type: none"> <li>• Human rights</li> <li>• The effectiveness of international law</li> <li>• Human rights in Australian contexts</li> </ul>



## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): <ul style="list-style-type: none"><li>• Examination — combination response</li></ul>	25%	Summative internal assessment 3 (IA3): <ul style="list-style-type: none"><li>• Investigation — argumentative essay</li></ul>	25%
Summative internal assessment 2 (IA2): <ul style="list-style-type: none"><li>• Investigation — inquiry report</li></ul>	25%	Summative external assessment (EA): <ul style="list-style-type: none"><li>• Examination — combination response</li></ul>	25%

# Modern History

## General senior subject

General

Modern History provides opportunities for students to gain historical knowledge and understanding about some of the main forces that have contributed to the development of the Modern World and to think historically and form a historical consciousness in relation to these same forces.

Modern History enables students to empathise with others and make meaningful connections between the past, present and possible futures.

Students learn that the past is contestable and tentative. Through inquiry into ideas, movements, national experiences and international experiences they discover how the past consists of various perspectives and interpretations.

Students gain a range of transferable skills that will help them become empathetic and critically-literate citizens who are equipped to embrace a multicultural, pluralistic, inclusive, democratic, compassionate and sustainable future.

## Pathways

A course of study in Modern History can establish a basis for further education and employment in the fields of history, education, psychology, sociology, law, business, economics, politics, journalism, the media, writing, academia and strategic analysis.

## Objectives

By the conclusion of the course of study, students will:

- comprehend terms, issues and concepts
- devise historical questions and conduct research
- analyse historical sources and evidence
- synthesise information from historical sources and evidence
- evaluate historical interpretations
- create responses that communicate meaning.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<p><b>Ideas in the modern world</b></p> <ul style="list-style-type: none"> <li>• Australian Frontier Wars, 1788–1930s</li> <li>• Age of Enlightenment, 1750s–1789</li> <li>• Industrial Revolution, 1760s–1890s</li> <li>• American Revolution, 1763–1783</li> <li>• French Revolution, 1789–1799</li> <li>• Age of Imperialism, 1848–1914</li> </ul>	<p><b>Movements in the modern world</b></p> <ul style="list-style-type: none"> <li>• Australian Indigenous rights movement since 1967</li> <li>• Independence movement in India, 1857–1947</li> <li>• Workers' movement since the 1860s</li> <li>• Women's movement since 1893</li> <li>• May Fourth Movement in China, 1919</li> </ul>	<p><b>National experiences in the modern world</b></p> <ul style="list-style-type: none"> <li>• Australia, 1914–1949</li> <li>• England, 1707–1837</li> <li>• France, 1799–1815</li> <li>• New Zealand, 1841–1934</li> <li>• Germany, 1914–1945</li> <li>• United States of America, 1917–1945</li> <li>• Soviet Union, 1920s–1945</li> <li>• Japan, 1931–1967</li> <li>• China, 1931–1976</li> </ul>	<p><b>International experiences in the modern world</b></p> <ul style="list-style-type: none"> <li>• Australian engagement with Asia since 1945</li> <li>• Search for collective peace and security since 1815</li> <li>• Trade and commerce between nations since 1833</li> <li>• Mass migrations since 1848</li> <li>• Information Age since 1936</li> <li>• Genocides and ethnic cleansings since 1941</li> <li>• Nuclear Age since 1945</li> </ul>

Unit 1	Unit 2	Unit 3	Unit 4
<ul style="list-style-type: none"> <li>• Meiji Restoration, 1868–1912</li> </ul>	<ul style="list-style-type: none"> <li>• Independence movement in Algeria, 1945–1962</li> </ul>	<ul style="list-style-type: none"> <li>• Indonesia, 1942–1975</li> <li>• India, 1947–1974</li> <li>• Israel, 1948–1993</li> </ul>	<ul style="list-style-type: none"> <li>• Cold War, 1945–1991</li> </ul>
<ul style="list-style-type: none"> <li>• Boxer Rebellion, 1900–1901</li> <li>• Russian Revolution, 1905–1920s</li> <li>• Xinhai Revolution, 1911–1912</li> <li>• Iranian Revolution, 1977–1979</li> <li>• Arab Spring since 2010</li> <li>• Alternative topic for Unit 1</li> </ul>	<ul style="list-style-type: none"> <li>• Independence movement in Vietnam, 1945–1975</li> <li>• Anti-apartheid movement in South Africa, 1948–1991</li> <li>• African-American civil rights movement, 1954–1968</li> <li>• Environmental movement since the 1960s</li> <li>• LGBTIQ civil rights movement since 1969</li> <li>• Pro-democracy movement in Myanmar (Burma) since 1988</li> <li>• Alternative topic for Unit 2</li> </ul>	<ul style="list-style-type: none"> <li>• South Korea, 1948–1972</li> </ul>	<ul style="list-style-type: none"> <li>• Struggle for peace in the Middle East since 1948</li> <li>• Cultural globalisation since 1956</li> <li>• Space exploration since 1957</li> <li>• Rights and recognition of First Peoples since 1982</li> <li>• Terrorism, anti-terrorism and counter-terrorism since 1984</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Examination — essay in response to historical sources	25%	Summative internal assessment 3 (IA3): • Investigation — historical essay based on research	25%
Summative internal assessment 2 (IA2): • Independent source investigation	25%	Summative external assessment (EA): • Examination — short responses to historical sources	25%

# Philosophy & Reason

## General senior subject

General

Philosophy & Reason provides opportunities for students to investigate philosophical ideas that have shaped and continue to influence contemporary society, including what it means to be human, how we understand the role of reason in our individual and collective lives and how we think about and care for each other and the world around us. Students recognise the relevance of various philosophies to different political, ethical, religious and scientific positions.

Students learn to understand and use reasoning to examine and analyse classical and contemporary ideas and issues, make rational arguments, espouse viewpoints and engage in informed discourse. They analyse arguments from a variety of sources and contexts, formalise arguments and choose appropriate techniques of reasoning to solve problems.

Students develop skills essential to informed participation in the 21st century, such as analysis, evaluation and justification, and an appreciation of the values of inquiry such as precision, accuracy, clarity and credibility. and collaboration and communication.

## Pathways

A course of study in Philosophy & Reason can establish a basis for further education and employment in the fields of business, communication, ethics, journalism, law, politics, professional writing, psychology, science research and teaching.

## Objectives

By the conclusion of the course of study, students will:

- define and use terminology
- explain concepts, methods, principles and theories
- interpret and analyse arguments, ideas and information
- organise and synthesise ideas and information to construct arguments
- evaluate claims and arguments inherent in theories, views and ideas
- create responses that communicate meaning to suit purpose.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Fundamentals of reason</b> The learning consists of the fundamental concept, skills, knowledge and understanding of the discipline of philosophy. There are no discrete units in this topic.	<b>Reason in philosophy</b> <ul style="list-style-type: none"><li>• Philosophy of religion</li><li>• Philosophy of science</li><li>• Philosophy of mind.</li></ul>	<b>Moral philosophy and schools of thought</b> <ul style="list-style-type: none"><li>• Moral philosophy</li><li>• Philosophical schools of thought</li></ul>	<b>Social and political philosophy</b> <ul style="list-style-type: none"><li>• Rights</li><li>• Political philosophy</li></ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): <ul style="list-style-type: none"><li>• Examination — extended response</li></ul>	25%	Summative internal assessment 3 (IA3): <ul style="list-style-type: none"><li>• Extended response — analytical essay</li></ul>	25%
Summative internal assessment 2 (IA2): <ul style="list-style-type: none"><li>• Extended response — analytical essay</li></ul>	25%	Summative external assessment (EA): <ul style="list-style-type: none"><li>• Examination — extended response</li></ul>	25%

# Technologies

## Aerospace Systems - General senior subject

General

Aerospace Systems provides opportunities for students to learn about the fundamentals, history and future of the aerospace industry. They gain knowledge of aeronautics, aerospace operations, human factors, safety management and systems thinking that enable them to solve real-world aerospace problems using the problem-solving process in Aerospace Systems.

Students learn to understand and interpret the relationships between and within connected systems and their component parts. They identify patterns in problematic aerospace systems situations and propose solutions.

Students develop and use skills that include analysis, decision-making, justification, recognition, comprehension and evaluation to develop solutions to aerospace problem situations. Students become self-directed learners and develop beneficial collaboration and management skills as they solve aerospace systems problems.

### Pathways

A course of study in Aerospace Systems can establish a basis for further education and employment in the fields of aviation management, flying streams, engineering and aerospace technical disciplines. The study of Aerospace Systems will also benefit students wishing to pursue post-school pathways in diploma and advanced diploma courses in the technical and paraprofessional areas of customer relationship management, workplace health and safety, engineering, human resource management, systems analysis and technology-related areas.

### Objectives

By the conclusion of the course of study, students will:

- recognise and describe aerospace systems problems, knowledge, concepts and principles
- symbolise and explain ideas, solutions and relationships
- analyse problems and information
- determine solution success criteria for aerospace problems
- synthesise information and ideas to propose possible solutions
- generate solutions to provide data to assess the feasibility of proposals
- evaluate and refine ideas and solutions to make justified recommendations
- make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Introduction to aerospace systems and structures</b> <ul style="list-style-type: none"> <li>• Solving aerospace problems</li> <li>• The evolving aerospace industry</li> <li>• Introduction to aerodynamics</li> <li>• Introduction to aircraft systems</li> <li>• Introduction to aviation weather systems</li> </ul>	<b>Emerging aerospace technologies</b> <ul style="list-style-type: none"> <li>• Operational assets</li> <li>• Operational environments</li> <li>• Operational control systems</li> <li>• Future applications</li> </ul>	<b>Aerospace operational systems</b> <ul style="list-style-type: none"> <li>• International and national operational and safety systems</li> <li>• Airspace management</li> <li>• Safety management systems</li> <li>• Operational accident and incident investigation processes</li> <li>• Airport and airline operation systems</li> </ul>	<b>Aircraft performance systems and human factors</b> <ul style="list-style-type: none"> <li>• Aircraft performance</li> <li>• Aircraft navigation</li> <li>• Advanced navigation and radio communication technologies</li> <li>• Human performance and limitations</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Project — folio	25%	Summative internal assessment 3 (IA3): • Project — folio	25%
Summative internal assessment 2 (IA2): • Examination	25%	Summative external assessment (EA): • Examination	25%

Design focuses on the application of design thinking to envisage creative products, services and environments in response to human needs, wants and opportunities. Designing is a complex and sophisticated form of problem-solving that uses divergent and convergent thinking strategies that can be practised and improved. Designers are separated from the constraints of production processes to allow them to appreciate and exploit new innovative ideas.

Students learn how design has influenced the economic, social and cultural environment in which they live. They understand the agency of humans in conceiving and imagining possible futures through design. Collaboration, teamwork and communication are crucial skills needed to work in design teams and liaise with stakeholders. They learn the value of creativity and build resilience as they experience iterative design processes, where the best ideas may be the result of trial and error and a willingness to take risks and experiment with alternatives.

Students learn about and experience design through exploring needs, wants and opportunities; developing ideas and design concepts; using drawing and low-fidelity prototyping skills; and evaluating ideas and design concepts. They communicate design proposals to suit different audiences.

## Pathways

A course of study in Design can establish a basis for further education and employment in the fields of architecture, digital media design, fashion design, graphic design, industrial design, interior design and landscape architecture.

## Objectives

By the conclusion of the course of study, students will:

- describe design problems and design criteria
- represent ideas, design concepts and design information using drawing and low-fidelity prototyping
- analyse needs, wants and opportunities using data
- devise ideas in response to design problems
- synthesise ideas and design information to propose design concepts
- evaluate ideas and design concepts to make refinements
- make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Design in practice</b> <ul style="list-style-type: none"> <li>• Experiencing design</li> <li>• Design process</li> <li>• Design styles</li> </ul>	<b>Commercial design</b> <ul style="list-style-type: none"> <li>• Explore — client needs and wants</li> <li>• Develop — collaborative design</li> </ul>	<b>Human-centred design</b> <ul style="list-style-type: none"> <li>• Designing with empathy</li> </ul>	<b>Sustainable design</b> <ul style="list-style-type: none"> <li>• Explore — sustainable design opportunities</li> <li>• Develop — redesign</li> </ul>



## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): <ul style="list-style-type: none"><li>• Examination — design challenge</li></ul>	15%	Summative internal assessment 3 (IA3): <ul style="list-style-type: none"><li>• Project</li></ul>	25%
Summative internal assessment 2 (IA2): <ul style="list-style-type: none"><li>• Project</li></ul>	35%	Summative external assessment (EA): <ul style="list-style-type: none"><li>• Examination — design challenge</li></ul>	25%

Food & Nutrition is the study of food in the context of food science, nutrition and food technologies, considering overarching concepts of waste management, sustainability and food protection.

Students explore the chemical and functional properties of nutrients to create food solutions that maintain the beneficial nutritive values. This knowledge is fundamental for continued development of a safe and sustainable food system that can produce high quality, nutritious solutions with an extended shelf life. Their studies of the food system include the sectors of production, processing, distribution, consumption, research and development.

Students actively engage in a food and nutrition problem-solving process to create food solutions that contribute positively to preferred personal, social, ethical, economic, environmental, legal, sustainable and technological futures.

### Pathways

A course of study in Food & Nutrition can establish a basis for further education and employment in the fields of science, technology, engineering and health.

### Objectives

By the conclusion of the course of study, students will:

- recognise and describe food and nutrition facts and principles
- explain food and nutrition ideas and problems
- analyse problems, information and data
- determine solution requirements and criteria
- synthesise information and data to develop ideas for solutions
- generate solutions to provide data to determine the feasibility of the solution
- evaluate and refine ideas and solutions to make justified recommendations for enhancement
- make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

### Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Food science of vitamins, minerals and protein</b> <ul style="list-style-type: none"> <li>• Introduction to the food system</li> <li>• Vitamins and minerals</li> <li>• Protein</li> <li>• Developing food solutions</li> </ul>	<b>Food drivers and emerging trends</b> <ul style="list-style-type: none"> <li>• Consumer food drivers</li> <li>• Sensory profiling</li> <li>• Labelling and food safety</li> <li>• Food formulation for consumer markets</li> </ul>	<b>Food science of carbohydrate and fat</b> <ul style="list-style-type: none"> <li>• The food system</li> <li>• Carbohydrate</li> <li>• Fat</li> <li>• Developing food solutions</li> </ul>	<b>Food solution development for nutrition consumer markets</b> <ul style="list-style-type: none"> <li>• Formulation and reformulation for nutrition consumer markets</li> <li>• Food development process</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Examination	20%	Summative internal assessment 3 (IA3): • Project — folio	30%
Summative internal assessment 2 (IA2): • Project — folio	25%	Summative external assessment (EA): • Examination	25%

# Industrial Technology Skills

## Applied senior subject

Applied

Industrial Technology Skills focuses on the practices and processes required to manufacture products in a variety of industries.

Students understand industry practices; interpret specifications, including technical information and drawings; demonstrate and apply safe, practical production processes with hand/power tools and machinery; communicate using oral, written and graphical modes; organise, calculate and plan production processes; and evaluate the products they create using predefined specifications.

Students develop transferable skills by engaging in manufacturing tasks that relate to business and industry, and that promote adaptable, competent, self-motivated and safe individuals who can work with colleagues to solve problems and complete practical work.

## Pathways

A course of study in Industrial Technology Skills can establish a basis for further education and employment in manufacturing industries. Employment opportunities may be found in the industry areas of aeroskills,

automotive, building and construction, engineering, furnishing, industrial graphics and plastics.

## Objectives

By the conclusion of the course of study, students should:

- describe industry practices in manufacturing tasks
- demonstrate fundamental production skills
- interpret drawings and technical information
- analyse manufacturing tasks to organise materials and resources
- select and apply production skills and procedures in manufacturing tasks
- use visual representations and language conventions and features to communicate for particular purposes
- plan and adapt production processes
- create products from specifications
- evaluate industry practices, production processes and products, and make recommendations.

## Structure

The Industrial Technology Skills course is designed around:

- core topics, which are integrated throughout the course
- elective topics, organised in industry areas, and manufacturing tasks related to the chosen electives.

Core topics	Industry area	Elective topics
<ul style="list-style-type: none"><li>• Industry practices</li><li>• Production processes</li></ul>	Aeroskills	<ul style="list-style-type: none"><li>• Aeroskills mechanical</li><li>• Aeroskills structures</li></ul>
	Automotive	<ul style="list-style-type: none"><li>• Automotive mechanical</li><li>• Automotive body repair</li><li>• Automotive electrical</li></ul>

	Building and construction	<ul style="list-style-type: none"> <li>• Bricklaying</li> <li>• Plastering and painting</li> <li>• Concreting</li> <li>• Carpentry</li> <li>• Tiling</li> <li>• Landscaping</li> </ul>
	Engineering	<ul style="list-style-type: none"> <li>• Sheet metal working</li> <li>• Welding and fabrication</li> <li>• Fitting and machining</li> </ul>
	Furnishing	<ul style="list-style-type: none"> <li>• Cabinet-making</li> <li>• Furniture finishing</li> <li>• Furniture-making</li> <li>• Glazing and framing</li> <li>• Upholstery</li> </ul>
	Industrial graphics	<ul style="list-style-type: none"> <li>• Engineering drafting</li> <li>• Building and construction drafting</li> <li>• Furnishing drafting</li> </ul>
	Plastics	<ul style="list-style-type: none"> <li>• Thermoplastics fabrication</li> <li>• Thermosetting fabrication</li> </ul>

## Assessment

For Industrial Technology Skills, assessment from Units 3 and 4 is used to determine the student's exit result, and this consists of four instruments, including:

- at least two projects
- at least one practical demonstration (separate to the assessable component of a project).

Project	Practical demonstration	Examination
A response to a single task, situation and/or scenario.	A task that assesses the practical application of a specific set of teacher-identified production skills and procedures.	A response that answers a number of provided questions, scenarios and/or problems.
<p>A project consists of a product component and at least one of the following components:</p> <ul style="list-style-type: none"> <li>• written: 500–900 words</li> <li>• spoken: 2½–3½ minutes</li> <li>• multimodal <ul style="list-style-type: none"> <li>– non-presentation: 8 A4 pages max (or equivalent)</li> <li>– presentation: 3–6 minutes</li> </ul> </li> <li>• product: continuous class time.</li> </ul>	Students demonstrate production skills and procedures in class under teacher supervision.	<ul style="list-style-type: none"> <li>• 60–90 minutes</li> <li>• 50–250 words per item</li> </ul>

# Health and Physical Education

## Physical Education - General senior subject

General

Physical Education provides students with knowledge, understanding and skills to explore and enhance their own and others' health and physical activity in diverse and changing contexts.

Physical Education provides a philosophical and educative framework to promote deep learning in three dimensions: about, through and in physical activity contexts. Students optimise their engagement and performance in physical activity as they develop an understanding and appreciation of the interconnectedness of these dimensions.

Students learn how body and movement concepts and the scientific bases of biophysical, sociocultural and psychological concepts and principles are relevant to their engagement and performance in physical activity. They engage in a range of activities to develop movement sequences and movement strategies.

Students learn experientially through three stages of an inquiry approach to make connections between the scientific bases and the physical activity contexts. They recognise and explain concepts and principles about and through movement, and demonstrate and apply body and movement concepts to movement sequences and movement strategies.

Through their purposeful engagement in physical activities, students gather data to analyse, synthesise and devise strategies to optimise engagement and performance. They engage in reflective decision-making as they evaluate and justify strategies to achieve a particular outcome.

## Pathways

A course of study in Physical Education can establish a basis for further education and employment in the fields of exercise science, biomechanics, the allied health professions, psychology, teaching, sport journalism, sport marketing and management, sport promotion, sport development and coaching.

## Objectives

By the conclusion of the course of study, students will:

- recognise and explain concepts and principles about movement
- demonstrate specialised movement sequences and movement strategies
- apply concepts to specialised movement sequences and movement strategies
- analyse and synthesise data to devise strategies about movement
- evaluate strategies about and in movement
- justify strategies about and in movement
- make decisions about and use language, conventions and mode-appropriate features for particular purposes and contexts.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Motor learning, functional anatomy, biomechanics and physical activity</b> <ul style="list-style-type: none"> <li>• Motor learning integrated with a selected physical activity</li> <li>• Functional anatomy and biomechanics integrated with a selected physical activity</li> </ul>	<b>Sport psychology, equity and physical activity</b> <ul style="list-style-type: none"> <li>• Sport psychology integrated with a selected physical activity</li> <li>• Equity — barriers and enablers</li> </ul>	<b>Tactical awareness, ethics and integrity and physical activity</b> <ul style="list-style-type: none"> <li>• Tactical awareness integrated with one selected 'Invasion' or 'Net and court' physical activity</li> <li>• Ethics and integrity</li> </ul>	<b>Energy, fitness and training and physical activity</b> <ul style="list-style-type: none"> <li>• Energy, fitness and training integrated with one selected 'Invasion', 'Net and court' or 'Performance' physical activity</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Project — folio	25%	Summative internal assessment 3 (IA3): • Project — folio	30%
Summative internal assessment 2 (IA2): • Investigation — report	20%	Summative external assessment (EA): • Examination — combination response	25%

# Sport & Recreation

## Applied senior subject

Applied

Sport & Recreation provides students with opportunities to learn in, through and about sport and active recreation activities, examining their role in the lives of individuals and communities.

Students examine the relevance of sport and active recreation in Australian culture, employment growth, health and wellbeing.

They consider factors that influence participation in sport and recreation, and how physical skills can enhance participation and performance in sport and recreation activities. Students explore how interpersonal skills support effective interaction with others, and the promotion of safety in sport and recreation activities. They examine technology in sport and recreation activities, and how the sport and recreation industry contributes to individual and community outcomes.

Students are involved in acquiring, applying and evaluating information about and in physical activities and performances, planning and organising activities, investigating solutions to individual and community challenges, and using suitable technologies where relevant. They communicate ideas and information in, about and through sport and recreation activities. They examine the effects of sport and recreation on individuals and communities, investigate the role of sport and recreation in maintaining good health, evaluate strategies to promote health and safety, and investigate personal and interpersonal skills to achieve goals.

## Pathways

A course of study in Sport & Recreation can establish a basis for further education and employment in the fields of fitness, outdoor recreation and education, sports administration, community health and recreation and sport performance.

## Objectives

By the conclusion of the course of study, students should:

- demonstrate physical responses and interpersonal strategies in individual and group situations in sport and recreation activities
- describe concepts and ideas about sport and recreation using terminology and examples
- explain procedures and strategies in, about and through sport and recreation activities for individuals and communities
- apply concepts and adapt procedures, strategies and physical responses in individual and group sport and recreation activities
- manage individual and group sport and recreation activities
- apply strategies in sport and recreation activities to enhance health, wellbeing, and participation for individuals and communities
- use language conventions and textual features to achieve particular purposes
- evaluate individual and group physical responses and interpersonal strategies to improve outcomes in sport and recreation activities
- evaluate the effects of sport and recreation on individuals and communities
- evaluate strategies that seek to enhance health, wellbeing, and participation in sport and recreation activities and provide recommendations
- create communications that convey meaning for particular audiences and purposes.



## Structure

The Sport & Recreation course is designed around core and elective topics.

Core topics	Elective topics
<ul style="list-style-type: none"> <li>• Sport and recreation in the community</li> <li>• Sport, recreation and healthy living</li> <li>• Health and safety in sport and recreation activities</li> <li>• Personal and interpersonal skills in sport and recreation activities</li> </ul>	<ul style="list-style-type: none"> <li>• Active play and minor games</li> <li>• Challenge and adventure activities</li> <li>• Games and sports</li> <li>• Lifelong physical activities</li> <li>• Rhythmic and expressive movement activities</li> <li>• Sport and recreation physical activities</li> </ul>

## Assessment

For Sport & Recreation, assessment from Units 3 and 4 is used to determine the student's exit result, and consists of four instruments, including:

- one project (annotated records of the performance is also required)
- one investigation, extended response or examination.

Project	Investigation	Extended response	Performance	Examination
A response to a single task, situation and/or scenario.	A response that includes locating and using information beyond students' own knowledge and the data they have been given.	A technique that assesses the interpretation, analysis/examination and/or evaluation of ideas and information in provided stimulus materials.	A response involves the application of identified skill/s when responding to a task that involves solving a problem, providing a solution, providing instruction or conveying meaning or intent.	A response that answers a number of provided questions, scenarios and/or problems.
At least two different components from the following: <ul style="list-style-type: none"> <li>• written: 500–900 words</li> <li>• spoken: 2½–3½ minutes</li> <li>• multimodal: 3–6 minutes</li> <li>• performance: 2–4 minutes.*</li> </ul>	Presented in one of the following modes: <ul style="list-style-type: none"> <li>• written: 600–1000 words</li> <li>• spoken: 3–4 minutes</li> <li>• multimodal: 4–7 minutes.</li> </ul>	Presented in one of the following modes: <ul style="list-style-type: none"> <li>• written: 600–1000 words</li> <li>• spoken: 3–4 minutes</li> <li>• multimodal: 4–7 minutes.</li> </ul>	<ul style="list-style-type: none"> <li>• 2–4 minutes*</li> </ul>	<ul style="list-style-type: none"> <li>• 60–90 minutes</li> <li>• 50–250 words per item</li> </ul>

\* Evidence must include annotated records that clearly identify the application of standards to performance.

# Science

## Biology - General senior subject

General

Biology provides opportunities for students to engage with living systems.

Students develop their understanding of cells and multicellular organisms. They engage with the concept of maintaining the internal environment. They study biodiversity and the interconnectedness of life. This knowledge is linked with the concepts of heredity and the continuity of life.

Students learn and apply aspects of the knowledge and skills of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society. They develop their sense of wonder and curiosity about life; respect for all living things and the environment; understanding of biological systems, concepts, theories and models; appreciation of how biological knowledge has developed over time and continues to develop; a sense of how biological knowledge influences society.

Students plan and carry out fieldwork, laboratory and other research investigations; interpret evidence; use sound, evidence-based arguments creatively and analytically when evaluating claims and applying biological knowledge; and communicate biological understanding, findings, arguments and conclusions using appropriate representations, modes and genres.

### Pathways

A course of study in Biology can establish a basis for further education and employment in the fields of medicine, forensics, veterinary, food and marine sciences, agriculture, biotechnology, environmental rehabilitation, biosecurity, quarantine, conservation and sustainability.

### Objectives

By the conclusion of the course of study, students will:

- describe and explain scientific concepts, theories, models and systems and their limitations
- apply understanding of scientific concepts, theories, models and systems within their limitations
- analyse evidence
- interpret evidence
- investigate phenomena
- evaluate processes, claims and conclusions
- communicate understandings, findings, arguments and conclusions.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Cells and multicellular organisms</b> <ul style="list-style-type: none"> <li>• Cells as the basis of life</li> <li>• Multicellular organisms</li> </ul>	<b>Maintaining the internal environment</b> <ul style="list-style-type: none"> <li>• Homeostasis</li> <li>• Infectious diseases</li> </ul>	<b>Biodiversity and the interconnectedness of life</b> <ul style="list-style-type: none"> <li>• Describing biodiversity</li> <li>• Ecosystem dynamics</li> </ul>	<b>Heredity and continuity of life</b> <ul style="list-style-type: none"> <li>• DNA, genes and the continuity of life</li> <li>• Continuity of life on Earth</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Data test	10%	Summative internal assessment 3 (IA3): • Research investigation	20%
Summative internal assessment 2 (IA2): • Student experiment	20%		
Summative external assessment (EA): 50% • Examination			

# Chemistry -

## General senior subject

General

Chemistry is the study of materials and their properties and structure.

Students study atomic theory, chemical bonding, and the structure and properties of elements and compounds. They explore intermolecular forces, gases, aqueous solutions, acidity and rates of reaction. They study equilibrium processes and redox reactions. They explore organic chemistry, synthesis and design to examine the characteristic chemical properties and chemical reactions displayed by different classes of organic compounds.

Students develop their appreciation of chemistry and its usefulness; understanding of chemical theories, models and chemical systems; expertise in conducting scientific investigations. They critically evaluate and debate scientific arguments and claims in order to solve problems and generate informed, responsible and ethical conclusions, and communicate chemical understanding and findings through the use of appropriate representations, language and nomenclature.

Students learn and apply aspects of the knowledge and skills of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society.

## Pathways

A course of study in Chemistry can establish a basis for further education and employment in the fields of forensic science, environmental science, engineering, medicine, pharmacy and sports science.

## Objectives

By the conclusion of the course of study, students will:

- describe and explain scientific concepts, theories, models and systems and their limitations
- apply understanding of scientific concepts, theories, models and systems within their limitations
- analyse evidence
- interpret evidence
- investigate phenomena
- evaluate processes, claims and conclusions
- communicate understandings, findings, arguments and conclusions.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Chemical fundamentals — structure, properties and reactions</b> <ul style="list-style-type: none"> <li>• Properties and structure of atoms</li> <li>• Properties and structure of materials</li> <li>• Chemical reactions — reactants, products and energy change</li> </ul>	<b>Molecular interactions and reactions</b> <ul style="list-style-type: none"> <li>• Intermolecular forces and gases</li> <li>• Aqueous solutions and acidity</li> <li>• Rates of chemical reactions</li> </ul>	<b>Equilibrium, acids and redox reactions</b> <ul style="list-style-type: none"> <li>• Chemical equilibrium systems</li> <li>• Oxidation and reduction</li> </ul>	<b>Structure, synthesis and design</b> <ul style="list-style-type: none"> <li>• Properties and structure of organic materials</li> <li>• Chemical synthesis and design</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Data test	10%	Summative internal assessment 3 (IA3): • Research investigation	20%
Summative internal assessment 2 (IA2): • Student experiment	20%		
Summative external assessment (EA): 50% • Examination			

# Physics -

## General senior subject

General

Physics provides opportunities for students to engage with classical and modern understandings of the universe.

Students learn about the fundamental concepts of thermodynamics, electricity and nuclear processes; and about the concepts and theories that predict and describe the linear motion of objects. Further, they explore how scientists explain some phenomena using an understanding of waves. They engage with the concept of gravitational and electromagnetic fields, and the relevant forces associated with them. They study modern physics theories and models that, despite being counterintuitive, are fundamental to our understanding of many common observable phenomena.

Students develop appreciation of the contribution physics makes to society: understanding that diverse natural phenomena may be explained, analysed and predicted using concepts, models and theories that provide a reliable basis for action; and that matter and energy interact in physical systems across a range of scales. They understand how models and theories are refined, and new ones developed in physics; investigate phenomena and solve problems; collect and analyse data; and interpret evidence. Students use accurate and precise measurement, valid and reliable evidence, and scepticism and intellectual rigour to evaluate claims; and communicate physics understanding, findings, arguments and conclusions using appropriate representations, modes and genres.

Students learn and apply aspects of the knowledge and skills of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society.

### Pathways

A course of study in Physics can establish a basis for further education and employment in the fields of science, engineering, medicine and technology.

### Objectives

By the conclusion of the course of study, students will:

- describe and explain scientific concepts, theories, models and systems and their limitations
- apply understanding of scientific concepts, theories, models and systems within their limitations
- analyse evidence
- interpret evidence
- investigate phenomena
- evaluate processes, claims and conclusions
- communicate understandings, findings, arguments and conclusions.

## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Thermal, nuclear and electrical physics</b> <ul style="list-style-type: none"> <li>• Heating processes</li> <li>• Ionising radiation and nuclear reactions</li> <li>• Electrical circuits</li> </ul>	<b>Linear motion and waves</b> <ul style="list-style-type: none"> <li>• Linear motion and force</li> <li>• Waves</li> </ul>	<b>Gravity and electromagnetism</b> <ul style="list-style-type: none"> <li>• Gravity and motion</li> <li>• Electromagnetism</li> </ul>	<b>Revolutions in modern physics</b> <ul style="list-style-type: none"> <li>• Special relativity</li> <li>• Quantum theory</li> <li>• The Standard Model</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Data test	10%	Summative internal assessment 3 (IA3): • Research investigation	20%
Summative internal assessment 2 (IA2): • Student experiment	20%		
Summative external assessment (EA): 50% • Examination			

# The Arts

## Visual Art - General senior subject

General

Visual Art provides students with opportunities to understand and appreciate the role of visual art in past and present traditions and cultures, as well as the contributions of contemporary visual artists and their aesthetic, historical and cultural influences. Students interact with artists, artworks, institutions and communities to enrich their experiences and understandings of their own and others' art practices.

Students have opportunities to construct knowledge and communicate personal interpretations by working as both artist and audience. They use their imagination and creativity to innovatively solve problems and experiment with visual language and expression.

Through an inquiry learning model, students develop critical and creative thinking skills. They create individualised responses and meaning by applying diverse materials, techniques, technologies and art processes.

In responding to artworks, students employ essential literacy skills to investigate artistic expression and critically analyse artworks in diverse contexts. They consider meaning, purposes and theoretical approaches when ascribing aesthetic value and challenging ideas.

### Pathways

A course of study in Visual Art can establish a basis for further education and

employment in the fields of arts practice, design, craft, and information technologies; broader areas in creative industries and cultural institutions; and diverse fields that use skills inherent in the subject, including advertising, arts administration and management, communication, design, education, galleries and museums, film and television, public relations, and science and technology.

### Objectives

By the conclusion of the course of study, students will:

- implement ideas and representations
- apply literacy skills
- analyse and interpret visual language, expression and meaning in artworks and practices
- evaluate art practices, traditions, cultures and theories
- justify viewpoints
- experiment in response to stimulus
- create meaning through the knowledge and understanding of materials, techniques, technologies and art processes
- realise responses to communicate meaning.



## Structure

Unit 1	Unit 2	Unit 3	Unit 4
<p><b>Art as lens</b> Through inquiry learning, the following are explored:</p> <ul style="list-style-type: none"> <li>• Concept: lenses to explore the material world</li> <li>• Contexts: personal and contemporary</li> <li>• Focus: People, place, objects</li> <li>• Media: 2D, 3D, and time-based</li> </ul>	<p><b>Art as code</b> Through inquiry learning, the following are explored:</p> <ul style="list-style-type: none"> <li>• Concept: art as a coded visual language</li> <li>• Contexts: formal and cultural</li> <li>• Focus: Codes, symbols, signs and art conventions</li> <li>• Media: 2D, 3D, and time-based</li> </ul>	<p><b>Art as knowledge</b> Through inquiry learning, the following are explored:</p> <ul style="list-style-type: none"> <li>• Concept: constructing knowledge as artist and audience</li> <li>• Contexts: contemporary, personal, cultural and/or formal</li> <li>• Focus: student-directed</li> <li>• Media: student-directed</li> </ul>	<p><b>Art as alternate</b> Through inquiry learning, the following are explored:</p> <ul style="list-style-type: none"> <li>• Concept: evolving alternate representations and meaning</li> <li>• Contexts: contemporary and personal, cultural and/or formal</li> <li>• Focus: continued exploration of Unit 3 student-directed focus</li> <li>• Media: student-directed</li> </ul>

## Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

### Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): • Investigation — inquiry phase 1	15%	Summative internal assessment 3 (IA3): • Project — inquiry phase 3	35%
Summative internal assessment 2 (IA2): • Project — inquiry phase 2	25%		
Summative external assessment (EA): 25% • Examination			

# Drama in Practice

## Applied senior subject

Drama in Practice gives students opportunities to plan, create, adapt, produce, perform, appreciate and evaluate a range of dramatic works or events in a variety of settings.

Students participate in learning activities that apply knowledge and develop creative and technical skills in communicating meaning to an audience.

Students learn essential workplace health and safety procedures relevant to the drama and theatre industry, as well as effective work practices and industry skills needed by a drama practitioner.

### Pathways

A course of study in Drama in Practice can establish a basis for further education and employment in the drama and theatre industry in areas such as performance, theatre management and promotions.

### Objectives

By the conclusion of the course of study, students should:

- identify and explain dramatic principles and practices
- interpret and explain dramatic works and dramatic meanings
- demonstrate dramatic principles and practices
- apply dramatic principles and practices when engaging in drama activities and/or with dramatic works
- analyse the use of dramatic principles and practices to communicate meaning for a purpose
- use language conventions and features and terminology to communicate ideas and information about drama, according to purposes
- plan and modify dramatic works using dramatic principles and practices to achieve purposes
- create dramatic works that convey meaning to audiences
- evaluate the application of dramatic principles and practices to drama activities or dramatic works.

### Structure

The Drama in Practice course is designed around core and elective topics.

Core	Electives
<ul style="list-style-type: none"> <li>• Dramatic principles</li> <li>• Dramatic practices</li> </ul>	<ul style="list-style-type: none"> <li>• Acting (stage and screen)</li> <li>• Career pathways (including arts entrepreneurship)</li> <li>• Community theatre</li> <li>• Contemporary theatre</li> <li>• Directing</li> <li>• Playbuilding</li> <li>• Scriptwriting</li> <li>• Technical design and production</li> <li>• The theatre industry</li> <li>• Theatre through the ages</li> <li>• World theatre</li> </ul>

## Assessment

For Drama in Practice, assessment from Units 3 and 4 is used to determine the student's exit result, and consists of four instruments, including:

- at least one project, arising from community connections
- at least one performance (acting), separate to an assessable component of a project.

Project	Performance	Product	Extended response	Investigation
A response to a single task, situation and/or scenario.	A technique that assesses the physical demonstration of identified skills.	A technique that assesses the production of a design solution.	A technique that assesses the interpretation, analysis/examination and/or evaluation of ideas and information in provided stimulus materials.	A response that includes locating and using information beyond students' own knowledge and the data they have been given.
<p>At least two different components from the following:</p> <ul style="list-style-type: none"> <li>• written: 500–900 words</li> <li>• spoken: 2½–3½ minutes</li> <li>• multimodal               <ul style="list-style-type: none"> <li>– non-presentation: 8 A4 pages max (or equivalent)</li> <li>– presentation: 3–6 minutes</li> </ul> </li> <li>• performance onstage (stage acting)               <ul style="list-style-type: none"> <li>– 2–4 minutes: individual</li> <li>– 1½–3 minutes: group</li> </ul> </li> <li>• performance onstage (screen acting)               <ul style="list-style-type: none"> <li>– 2–3 minutes: individual</li> <li>– 1½–2 ½ minutes: group</li> </ul> </li> <li>• performance offstage (directing, designing)               <ul style="list-style-type: none"> <li>– 4–6 minutes: individual</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• acting performance (stage)               <ul style="list-style-type: none"> <li>– 3–5 minutes: individual</li> <li>– 2–4 minutes: group</li> </ul> </li> <li>• acting performance (screen)               <ul style="list-style-type: none"> <li>– 2½–3½ minutes: individual</li> <li>– 2–3 minutes: group</li> </ul> </li> <li>• directing performance               <ul style="list-style-type: none"> <li>– 5–7 minutes: individual (excluding actors delivering text)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• variable conditions</li> </ul>	<p>Presented in one of the following modes:</p> <ul style="list-style-type: none"> <li>• written: 600–1000 words</li> <li>• spoken: 3–4 minutes</li> <li>• multimodal               <ul style="list-style-type: none"> <li>– non-presentation: 10 A4 pages max (or equivalent)</li> <li>– presentation: 4–7 minutes.</li> </ul> </li> </ul>	<p>Presented in one of the following modes:</p> <ul style="list-style-type: none"> <li>• written: 600–1000 words</li> <li>• spoken: 3–4 minutes</li> <li>• multimodal               <ul style="list-style-type: none"> <li>– non-presentation: 10 A4 pages max (or equivalent)</li> <li>– presentation: 4–7 minutes.</li> </ul> </li> </ul>

(excluding actors delivering text) • workshop performance (other): variable conditions • product: variable conditions.				
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# Visual Arts in Practice

## Applied senior subject

Applied

Visual Arts in Practice focuses on students engaging in art-making processes and making virtual or physical visual artworks. Visual artworks are created for a purpose and in response to individual, group or community needs.

Students explore and apply the materials, technologies and techniques used in art-making. They use information about design elements and principles to influence their own aesthetic and guide how they view others' works. They also investigate information about artists, art movements and theories, and use the lens of a context to examine influences on art-making.

Students reflect on both their own and others' art-making processes. They integrate skills to create artworks and evaluate aesthetic choices. Students decide on the best way to convey meaning through communications and artworks. They learn and apply safe visual art practices.

## Pathways

A course of study in Visual Arts in Practice can establish a basis for further education and employment in a range of fields, including design, styling, decorating,

illustrating, drafting, visual merchandising, make-up artistry, advertising, game design, photography, animation or ceramics.

## Objectives

By the conclusion of the course of study, students should:

- recall terminology and explain art-making processes
- interpret information about concepts and ideas for a purpose
- demonstrate art-making processes required for visual artworks
- apply art-making processes, concepts and ideas
- analyse visual art-making processes for particular purposes
- use language conventions and features to achieve particular purposes
- generate plans and ideas and make decisions
- create communications that convey meaning to audiences
- evaluate art-making processes, concepts and ideas.

## Structure

The Visual Arts in Practice course is designed around core and elective topics.

Core	Electives
<ul style="list-style-type: none"><li>• Visual mediums, technologies, techniques</li><li>• Visual literacies and contexts</li><li>• Artwork realisation</li></ul>	<ul style="list-style-type: none"><li>• 2D</li><li>• 3D</li><li>• Digital and 4D</li><li>• Design</li><li>• Craft</li></ul>

## Assessment

For Visual Arts in Practice, assessment from Units 3 and 4 is used to determine the student's exit result, and consists of four instruments, including:

- at least two projects, with at least one project arising from community connections
- at least one product (composition), separate to an assessable component of a project.

Project	Product	Extended response	Investigation
A response to a single task, situation and/or scenario.	A technique that assesses the application of identified skills to the production of artworks.	A technique that assesses the interpretation, analysis/examination and/or evaluation of ideas and information in provided stimulus materials.	A response that includes locating and using information beyond students' own knowledge and the data they have been given.
<p>A project consists of:</p> <ul style="list-style-type: none"> <li>• a product component: variable conditions</li> <li>• at least one different component from the following               <ul style="list-style-type: none"> <li>- written: 500–900 words</li> <li>- spoken: 2½–3½ minutes</li> <li>- multimodal                   <ul style="list-style-type: none"> <li>▪ non-presentation: 8 A4 pages max (or equivalent)</li> <li>▪ presentation: 3–6 minutes.</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• variable conditions</li> </ul>	<p>Presented in one of the following modes:</p> <ul style="list-style-type: none"> <li>• written: 600–1000 words</li> <li>• spoken: 3–4 minutes</li> <li>• multimodal           <ul style="list-style-type: none"> <li>- non-presentation: 10 A4 pages max (or equivalent)</li> <li>- presentation: 4–7 minutes.</li> </ul> </li> </ul>	<p>Presented in one of the following modes:</p> <ul style="list-style-type: none"> <li>• written: 600–1000 words</li> <li>• spoken: 3–4 minutes</li> <li>• multimodal           <ul style="list-style-type: none"> <li>- non-presentation: 10 A4 pages max (or equivalent)</li> <li>- presentation: 4–7 minutes.</li> </ul> </li> </ul>

# Vocational Education and Training and Aviation

## Certificate II in Hospitality

VET – Cost – VETis funded

VET

The Certificate II in Hospitality provides the important foundation to build your hospitality career.

This course offers you an introduction to hospitality and develops your skills and knowledge preparing you for your start in the industry.

Learn the basic skills to work effectively and safely, discover how to interact with customers, increase your hospitality knowledge and skills and boost your cultural awareness.

### Pathways

Hospitality career pathways include: café attendant, catering assistant, food and beverage attendant, apprentice chef.

### Work Placement Arrangements

Structured Work Placement must occur to complete a Certificate II in Hospitality. This involves 12 Industry Shifts that need to be done at local venues, some during school hours and some outside school hours.

### Structure

Core Unit Code	Core Unit Title
BSBWOR203B	Work effectively with others
SITHIND201	Source and use information on the hospitality industry
SITHIND202	Use hospitality skills effectively
SITXCCS202	Interact with customers
SITXCOM201	Show social and cultural sensitivity
SITXWHS101	Participate in safe work practices
SITXFSA101	Use hygienic practices for food safety
SITHFAB203	Prepare and serve non-alcoholic beverages
SITHFAB204	Prepare and serve espresso coffee
SITHGAM0001	Provide responsible gambling services
SITHCCC003	Prepare and present sandwiches
SITHFAB201	Provide responsible service of alcohol

### Assessment

Students will undertake a series of assessment tasks that will require a range of different knowledge and skills, including project-based work, folios and observations.

Projects/tasks and work experience evidence will be progressively gathered by the assessor for units of competency until sufficient valid evidence is gathered to make assessment decision on student competency. Submission of written work is based on the requirements of the units of competency.

# Recreational Pilot Licence

## Cost – as per Flying School

The Recreational Pilot Licence (RPL) is the first licence that a student will achieve on their path to becoming a Commercial Pilot. Students undertaking this course can choose to fly at any flying school of their choice.

The Recreational Pilot Licence (RPL) theory course will provide students with all the theory knowledge to sit the Civil Aviation Safety Authority (CASA) RPL theory exam. The course assumes no prior knowledge or experience in aviation.

It is taught by a qualified Grade 1 Flying Instructor who is a current staff member of Aviation High School. This course is a non-ATAR and non-QCE subject.

## Pathways

This course is for those students who are interested in a professional career in aviation.

## Structure

Students will study:

- Aeronautical Radio Operator
- Basics Aeronautical Knowledge – Engines, Flight Instruments, Systems, Aerodynamics, Performance, Weight and Balance
- Flight Rules and Air Law
- Human Factors
- Meteorology
- Navigation.

## Assessment

Students will sit formative exams at least once a term in class to determine their competency until they are ready to sit the external CASA RPL theory exam. This theory exam is sat at the student's flying school.

The flying school will determine when the students are ready to sit the RPL flight test.