



**AUSTRALIAN  
INTERNATIONAL  
ISLAMIC COLLEGE**

# **2027-2028 Senior Handbook**



# MESSAGE FROM DIRECTOR OF EDUCATION

The purpose of this handbook is to provide students and families with important information to support subject selection and pathway planning for Senior Secondary studies in Years 11 and 12.

The transition into the senior years is an important stage in every student's educational journey. I encourage students and parents/carers to carefully read the information provided in this handbook and attend the Senior Subject Selection afternoon. The information and advice provided will support meaningful discussions between students, parents/carers and teachers, helping students make informed decisions about their subject selections and future pathways.

Students are encouraged to select subjects that reflect their interests, strengths, abilities and future aspirations. These choices should also support their intended post-school pathways, including university, TAFE, vocational education and training, apprenticeships, traineeships or direct entry into the workforce.

At the Australian International Islamic College (AIIC), we strive for academic excellence while remaining firmly guided by our Islamic values and the College mantra, **Respect Before Learning**. Our senior students are expected to demonstrate maturity, self-discipline and responsibility as they prepare for the next stage of their lives. They are expected to demonstrate:

- self-discipline, responsibility and integrity;
- adherence to College rules, policies and expectations;
- respect for staff, peers and College property;
- commitment to Islamic values, etiquette (*adab*) and identity;
- dedication to academic excellence and continuous improvement; and
- active participation and positive contribution to the College and wider community.

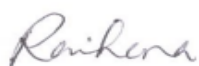
The subjects outlined in this handbook represent the College's planned senior offerings. However, the availability of individual subjects is subject to sufficient student demand, staffing and timetable requirements. Where minimum enrolment numbers are not met, a subject may not proceed, and students may be required to select an alternative subject.

Students and families who require further guidance will have access to additional course counselling and support to assist them in making appropriate and informed subject selections.

We pray that your senior years at AIIC will be a period of academic growth, personal development and preparation for a successful future. May Allah guide and support you throughout your journey and grant you success in your studies and in all that you strive to achieve.

We wish all our students every success as they begin this important and exciting stage of their educational journey.

Yours sincerely,



**Dr Raihana Ferdous**  
Director of Education

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# INTRODUCTION

The introduction of the new Queensland Certificate of Education (QCE) system is the most significant change to senior curriculum and assessment in Queensland since the early 1970s. The new system responds to the recommendations of the Queensland Review of Senior Assessment and Tertiary Entrance, conducted by the Australian Council for Educational Research (ACER), and reflects the Queensland Government position on senior curriculum and assessment. The QCAA is developing a robust set of integrated resources, processes and procedures that enable valid and reliable assessment. The broader purpose is to prepare young people for the exciting work, training and further learning opportunities emerging in the 21st century. The system is underpinned by:

- new and redeveloped syllabuses
- processes that strengthen the quality and comparability of school-based assessment
- external assessment in General subjects.

## WHAT IS THE QCE?

The QCE is an internationally recognised senior schooling qualification. For a Queensland Year 12 graduate, receiving a QCE signifies academic and personal achievement. To be awarded a QCE, a student must complete a significant amount of learning, to a set standard and in a set pattern, while meeting literacy and numeracy requirements. The new QCE system will continue to offer students flexibility in what they learn, and when and where learning occurs. Students will have a wide range of learning options including General and Applied subjects, vocational education and training, workplace and community learning, as well as university subjects undertaken while at school.

### ***QCE Requirement:***

As well as meeting the below requirements, students must have an open learning account before starting the QCE and accrue a minimum of one credit from a Core course of study while enrolled at a Queensland school.

#### **1. Set amount**

20 credits from contributing courses of study, including:

- QCAA-developed subjects or courses
- vocational education and training (VET) qualifications
- non-Queensland studies
- recognised studies.

#### **2. Set pattern**

12 credits from completed Core courses of study and 8 credits from any combination of:

- Core
- Preparatory (maximum 4)
- Complementary (maximum 8).

#### **3. Set standard**

Satisfactory completion, grade of C or better, competency or qualification completion, pass or equivalent.

#### **4. Literacy and Numeracy**

Students must meet literacy and numeracy requirements through one of the available learning options.

## QCE literacy and numeracy requirement

The QCE literacy and numeracy requirements meet standards outlined in the Australian Core Skills Framework (ACSF) Level 3. This national framework describes the five core skills of learning, reading, writing, oral communication and numeracy. The framework is used to describe core skills relevant to the workplace and employment, and tailor approaches to teaching and learning.

The literacy and numeracy requirements can be met through a range of options, as outlined in the following table

| Courses of study                        | Literacy                                                                                                                                                                                                                                                                                       | Numeracy                                                                                                                                                                                                                                                            | Set standard                                                                                       |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| General or Applied subjects             | QCAA General or Applied English subjects for Unit 1, Unit 2, or a Unit 3 and 4 pair: <ul style="list-style-type: none"> <li>• English</li> <li>• English &amp; Literature Extension</li> <li>• English as an Additional Language</li> <li>• Literature</li> <li>• Essential English</li> </ul> | QCAA General or Applied Mathematics subjects for Unit 1, Unit 2, or a Unit 3 and 4 pair: <ul style="list-style-type: none"> <li>• General Mathematics</li> <li>• Mathematical Methods</li> <li>• Specialist Mathematics</li> <li>• Essential Mathematics</li> </ul> | Satisfactory completion in Unit 1<br>or<br>Unit 2 or A grade of C or better in a Unit 3 and 4 pair |
| Short Courses                           | QCAA Short Course in Literacy                                                                                                                                                                                                                                                                  | QCAA Short Course in Numeracy                                                                                                                                                                                                                                       | Grade of C or better                                                                               |
| Vocational education and training (VET) | FSK20113 Certificate II in Skills for Work and Vocational Pathways                                                                                                                                                                                                                             | FSK20113 Certificate II in Skills for Work and Vocational Pathways                                                                                                                                                                                                  | Completion of qualification                                                                        |
| Senior External Examination             | Senior External Examination: QCAA English subject                                                                                                                                                                                                                                              | Senior External Examination: QCAA Mathematics subject                                                                                                                                                                                                               | Grade of C or better                                                                               |

## Core credit

College reports students' results at intervals set by the QCAA. General and Applied subject results are reported after students complete Unit 1, Unit 2, and the Unit 3 and 4 pair. QCE credit progressively accrues in students' learning accounts (see the QCE credit allocation table below). Credit from General and Applied courses of study will accrue when the set standard is met and reported. Results reported as satisfactory for Unit 1 or Unit 2 will accrue one credit each to a QCE.1 A grade of C or better in a Unit 3 and 4 pair will accrue two credits to a QCE. Extension subjects will accrue credit in the Core category of learning. Two credits will accrue to a QCE when the set standard of a grade of C or better is achieved in the Unit 3 and 4 pair

### QCE credit allocation for Core courses: General and Applied subjects:

| General & applied subjects | Set standard         | QCE credits |
|----------------------------|----------------------|-------------|
| Unit 1                     | Satisfactory         | 1           |
| Unit 2                     | Satisfactory         | 1           |
| Unit 3 & 4                 | Grade of C or better | 2           |
| Maximum credit available   |                      | 4           |
| Extension subjects         | Set standard         | QCE credits |
| Unit 3 & 4                 | Grade of C or better | 2           |

## WHAT IS ATAR?

The ATAR is the standard measure of overall school achievement used in all other Australian states and territories. It is a rank indicating a student's position overall relative to other students.

The ATAR is expressed on a 2000-point scale from 99.95 (highest) down to 0, in increments of 0.05.

ATARs below 30 will be reported as '30.00 or less'.

From 2020, the Australian Tertiary Admission Rank (ATAR) will replace the Overall Position (OP) as the standard pathway to tertiary study for Queensland Year 12s.

The ATAR is the primary mechanism used nationally for tertiary admissions and indicates a student's position relative to other students.

The ATAR will be introduced for students commencing Year 11 in 2019, who will graduate from the end of 2020 and seek entry to tertiary courses from 2021.

QTAC will calculate ATARs for Queensland school leavers.

If you are aiming for an ATAR for tertiary study entry, Queensland universities have decided that the following rules will apply:

1. Only General English subjects or Applied English subjects can be included in the ATAR, but not both.
2. Only General Maths subjects or Applied Maths subjects can be included in the ATAR, but not both.
3. Only one type of language subject can be included in the ATAR – either General or Senior External Examination, but not both.

### **ATAR eligibility:**

To be eligible for an ATAR, a student must have:

- satisfactorily completed an English subject
- completed five general subjects, or four general subjects plus one applied subject or VET course at AQF certificate III or above
- accumulated their subject results within a five-year period.

While students must satisfactorily complete an English subject to be eligible for an ATAR, the result in English will only be included in the ATAR calculation if it is one of the student's best five subjects.

| OR                              |                                                                                                                                                                                                                                                  |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Best five QCAA General subjects | Best four QCAA General subjects<br>+<br>The best result in a:<br>QCAA Applied (currently Authority-registered subject or Subject Area Syllabus subject)<br>or<br>Certificate III<br>or<br>Certificate IV<br>or<br>Diploma<br>or Advanced diploma |

If a student is eligible for an ATAR in both categories, QTAC will use their highest ATAR.

## ***English as a requirement for ATAR eligibility***

In the new system of tertiary entrance, 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 (new subject), English and Literature Extension (renamed), or English as an Additional Language.

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

## **TERTIARY ENTRANCE REQUIREMENTS**

### **New requirements starting with Year 12 students in 2020.**

- The QCAA will no longer issue Tertiary Entrance Statements.
- The Australian Tertiary Admission Rank (ATAR) will replace the OP. An ATAR is a number between 0.00 and 99.95. ATARs increase in increments of 0.05.
- The Queensland Tertiary Admissions Centre (QTAC) will calculate ATARs from students' results using a process of inter-subject scaling.
- An ATAR will be calculated from an eligible student's best five subject results, one of which may be an Applied subject or a competency-based VET certificate at a level III or above.
- Students must satisfactorily complete a QCAA English subject (C or better) to be eligible for an ATAR. However, a student's result in English will only contribute to their ATAR if it is one of their five best subject results.

### **Tertiary entrance processes**

- QTAC will be responsible for tertiary entrance in Queensland.
- The ATAR, calculated by QTAC, will be the primary mechanism used for school leavers seeking entrance to tertiary study in Queensland.
- QTAC will no longer operate schedules for ranking students who are ineligible for an ATAR.

## ***What will be different about senior assessment?***

A system of 100% school-based assessment has operated in Queensland for more than 40 years.

In the new system, subject results will be based on a student's achievement in three school-based assessments and one external assessment that is set and marked by the Queensland Curriculum and Assessment Authority (QCAA).

This is fewer assessments than students currently complete — emphasising quality over quantity.

In the new system, the external assessment results will generally contribute 25% towards a student's result in most subjects. In mathematics and science subjects, it will generally contribute 50%. The school-based assessments will not be scaled by the results of the external assessment when calculating a student's subject result.

The new system will keep all the qualities inherent in school-based assessment while introducing greater consistency and the transparency of common assessments that are sat by students at all schools.

## ***About Assessment in General subjects***

Assessment continues to play an integral role in improving learning and informing teaching in the new Queensland Certificate of Education (QCE) system. In General subjects, senior students' learning will

be assessed using three assessment instruments developed by schools (internal) and one subject-specific state-wide external assessment instrument. These instruments will be mapped to unit objectives. Schools will develop internal assessment instruments based on the syllabuses and these will then be approved by QCAA. Teachers will mark student responses to an internal assessment using an instrument-specific marking guide (ISMG) provided by QCAA. Comparability of those student results will be achieved through a process called Confirmation. QCAA will check the accuracy and reliability of a school's marking by selecting samples of student responses and matching them to the ISMG for each of the assessments. External assessment instruments will be developed by QCAA and all Queensland students in the relevant subject will sit it at the same time.

### ***Assessment planning***

In General subjects, teachers and schools will ensure that assessment programs for Units 1 and 2:

- assess each unit objective at least once
- provide at least two, but no more than four, assessments
- provide at least one assessment for each unit
- consider the suggested assessment information outlined in Units 3 and 4 that will most effectively assess the unit objectives
- provide opportunities for students to experience and respond to the types of assessment they will encounter in Units 3 and 4
- consider the assessment guidance in the syllabus.

### ***Assessment instruments***

In General subjects, teachers and schools will ensure that assessment instruments for Units 1 and 2: • are aligned with the attributes of quality assessment and reflect the principles of quality assurance

- assess all the unit objectives or are part of a set of instruments that assess all the unit objectives
- contextualise the unit objectives to suit the subject matter and assessment technique chosen
- contain questions, items and/or activities that
  - are timed to reflect the developmental stage of the course
  - use the appropriate language level
  - where required, use sources or stimulus materials that are clear and appropriate to the task
    - provide clear instructions so that students understand what is required of them
  - provide opportunities for students to demonstrate the identified objectives
  - where appropriate, use the conditions of similar tasks offered in Units 3 and 4
- provide students with appropriate time and resources to complete the task.

### ***Summative assessments***

Students will complete two summative internal assessments that count towards their overall subject result. Schools develop these assessments based on the learning described in the syllabus.

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

This syllabus provides instrument-specific standards for the two summative internal assessments. The instrument-specific standards describe the characteristics evident in student responses and align with the identified assessment objectives. Assessment objectives are drawn from the topic objectives and are contextualised for the requirements of the assessment instrument.

### **Criteria**

Each instrument-specific standards group assessment objectives into criteria. An assessment objective may appear in multiple criteria, or in a single criterion of an assessment. In Career Education, the following criteria are used:

- Knowledge and understanding
- Analysis and application
- Communication
- Learning.

### ***About external assessment***

In the new system, the assessment program for all General subjects will include external assessment that 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.

External assessment will be conducted annually in term 4. The external assessment result will form part of the final subject result for students in conjunction with their three internal assessment results. The external assessment result will not be used to scale the internal assessment result.

In General Mathematics and Science subjects, the external assessment component will **contribute 50%** to a student's final subject result. In all other General subjects it will **contribute 25%**.

The external assessment for General Mathematics, Science, Arts, Language and Music Extension subjects will assess subject matter from **Units 3 and 4**. For all other General subjects it will assess subject matter from **Unit 4**. Schools will be able to prepare their students for the assessment by teaching the subject matter specified in the syllabus.

### ***External assessment process***

The QCAA will engage teams of assessment writers with expert curriculum knowledge to develop external assessment instruments. Each external assessment will be subject to rigorous quality assurance from panels of Queensland teachers, academics and subject experts. Teachers will be encouraged to complete the required training and to apply for roles as assessment writers or scrutiny panel members.

It is important that students are given every opportunity to perform at their best in the external assessments. Mock, or practice, assessments for each subject will be released well in advance of the first external assessments. Students and teachers will be able to use these as resources to prepare for the external assessment. Mock assessments will be developed using the same rigorous processes as actual external assessments. In the future, students and teachers will be able to access past papers to assist in the preparation for external assessment. Marking of external assessment will **be undertaken by teachers from around Queensland** who have successfully completed the marker accreditation process and comprehensive training specific to each instrument. Marking of external assessment will be subject to extensive checking and cross-marking to ensure consistency and reliability.

The assessment schedule will be released in **the year prior to external assessment sittings**. QCAA will aim to minimise the chance of multiple sittings occurring on the same day; however students may be required to sit two external assessments in one day. Rescheduling will not be possible for avoidable issues, or because a student is not happy with their schedule.

Special provisions will enable equal access to assessment for all students with disability or those who experience misadventure. No student will be disadvantaged or advantaged through the use of special provisions. The QCAA is currently working with stakeholders and educational, legal and medical professionals to develop special provision policy and procedures prior to implementation.

### ***Feedback and reporting***

In Units 1 and 2, each assessment instrument will allow clear and explicit judgments using criteria that:

- 
- describe how well students demonstrate the unit objectives
  - provide the basis for feedback to students
  - describe the evidence across the range of possible student responses. Formats for making judgments may vary according to the course and assessment type, and could include answers, solutions and/or performance-level descriptors. For the most up-to-date information on the new QCE system, visit the QCAA website: [www.qcaa.qld.edu.au/senior/new-snr-assessment-te](http://www.qcaa.qld.edu.au/senior/new-snr-assessment-te).

### **International students**

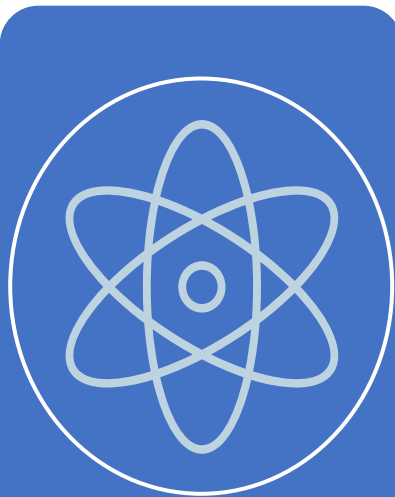
International students studying the Queensland secondary system who have fulfilled the requirements for an ATAR will receive an ATAR based on their results.

## **TYPES OF SUBJECTS**

There are 2 types of subjects QCAA is offering besides VET/tertiary courses.

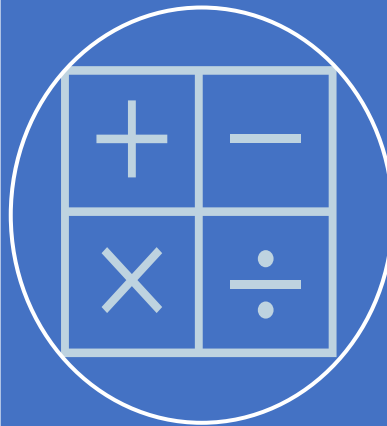
- General subjects
- Applied subjects and Vocational and Tertiary Courses

## Possible Pathways



ATAR/QCE

**Choose  
5 General  
Subjects**



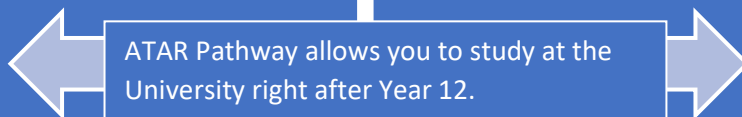
ATAR/QCE

**4 General Subjects  
+  
1 Applied subject  
(Any applied  
subject or a VET  
course)**



**NO ATAR  
Gives QCE**

**Choose ONLY  
applied subjects**



ATAR Pathway allows you to study at the  
University right after Year 12.

A delayed pathway to  
university.

# COURSES OF STUDY

**ENGLISH**

**ENGLISH AS AN ADDITIONAL LANGUAGE**

**ESSENTIAL ENGLISH**

**GENERAL MATHEMATICS**

**MATHEMATICAL METHODS**

**ESSENTIAL MATHEMATICS**

**CHEMISTRY**

**PHYSICS**

**BIOLOGY**

**ENGINEERING**

**DIGITAL SOLUTIONS**

**BUSINESS**

**ACCOUNTING**

**LEGAL STUDIES**

**HEALTH**

**PHYSICAL EDUCATION**

**STUDY OF RELIGION**

**SOCIAL AND COMMUNITY STUDIES**

**VISUAL ART IN PRACTICE**

**VOCATIONAL AND TERTIARY**

# ENGLISH

## Rationale

The QCAA English learning area is made up of five senior secondary subjects: Essential English, English, Literature, English & Literature Extension, and English as an Additional Language. These subjects share common features that include the continuing development of students' knowledge, understanding and skills in listening, speaking, reading, viewing, designing and writing. Differences between the subjects lie in the emphasis on how language and skills are developed and the contexts in which they are applied.

English learning area subjects offer students opportunities to enjoy language and be empowered as functional, purposeful, creative and critical language users who understand how texts can convey and transform personal and cultural perspectives. In a world of rapid cultural, social, economic and technological change, complex demands are placed on citizens to be literate within a variety of modes and mediums. Students are offered opportunities to develop this capacity by drawing on a repertoire of resources 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.

The subject 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 have opportunities to engage with language and texts through a range of teaching and learning experiences to foster:

- skills to communicate effectively in Standard Australian English for the purposes of responding to and creating literary and non-literary texts
- skills to 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
- enjoyment and appreciation of literary and non-literary texts, the aesthetic use of language, and style
- creative thinking and imagination, by exploring how literary and non-literary texts shape perceptions of the world and enable us to enter the worlds of others
- critical exploration of ways in which literary and non-literary texts may reflect or challenge social and cultural ways of thinking and influence audiences
- empathy for others and appreciation of different perspectives through studying a range of literary and non-literary texts from diverse cultures and periods, including Australian texts by Aboriginal writers and/or Torres Strait Islander writers.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### **1. Use patterns and conventions of genres to achieve particular purposes in cultural contexts and social situations.**

When students use patterns and conventions of genres, they apply knowledge and understanding of them to purposefully construct texts by combining

elements to form a coherent whole. In their development of texts, students demonstrate understanding of genres and their features as influenced by cultural contexts and social situations.

**2. Establish and maintain roles of the writer/speaker/designer and relationships with audiences.**

When students establish and maintain roles of the writer/speaker/designer and relationships with audiences, they set up and sustain a purposeful relationship within a specific context to create a rapport with, position, or have a particular influence over, the audience. Students demonstrate their understanding of the relationship between context, audience and purpose of a text by making decisions about language, subject matter, register and mode-appropriate features.

**3. Create and analyse perspectives and representations of concepts, identities, times and places.**

When students create perspectives and representations, they develop points of view and devise textual constructions of concepts, identities, times and places. When students analyse perspectives and representations, they examine in detail how these construct meaning in texts.

**4. Make use of and analyse the ways cultural assumptions, attitudes, values and beliefs underpin texts and invite audiences to take up positions.**

When students create texts that make use of the ways cultural assumptions, attitudes, values and beliefs underpin texts and shape meaning, they manipulate these to invite audiences to take up positions. When students analyse, they examine in detail the ways cultural assumptions, attitudes, values and beliefs underpin texts and explore how these shape meaning and invite audiences to take up positions.

**5. Use aesthetic features and stylistic devices to achieve purposes and analyse their effects in texts.**

When students use aesthetic features and stylistic devices (the aspects of texts that prompt emotional and critical reactions) to achieve purposes, they apply their knowledge and understanding of these to express a thought, feeling, idea or viewpoint to purposefully invite an audience to respond in a particular way. When students analyse the effects of aesthetic features and stylistic devices in texts, they examine the effects of those features and devices in detail to explore how they shape meaning and invite audiences to respond in particular ways.

**6. Select and synthesise subject matter to support perspectives.**

When students select subject matter, they make purposeful choices about the inclusion of material to support perspectives. When students synthesise, they combine elements to construct coherent texts.

## **7. Organise and sequence subject matter to achieve particular purposes.**

When students organise subject matter, they arrange material systematically and purposefully, e.g. by paragraphing. When students sequence subject matter, they place information in a continuous or connected manner to achieve particular purposes.

## **8. Use cohesive devices to emphasise ideas and connect parts of texts.**

When students use cohesive devices, they apply mode-appropriate language structures to emphasise and develop ideas, and connect parts of texts.

## **9. Make language choices for particular purposes and contexts.**

When students make language choices, they make decisions about the selection of vocabulary that is appropriate to particular purposes and contexts.

## **10. Use grammar and language structures for particular purposes.**

When students use grammar, they apply knowledge of morphology and syntax to create and express meaning in texts. When students use language structures, they systematically arrange words, phrases, clauses and sentences to express meaning in texts for particular purposes.

## **11. Use mode-appropriate features to achieve particular purposes.**

When students use mode-appropriate features, they select written, spoken, visual, gestural or digital features appropriate to the text type to express meaning in texts for particular purposes.

Mode-appropriate features include:

- written, e.g. conventional spelling and punctuation
- spoken, e.g. pronunciation, phrasing and pausing, audibility and clarity, volume, pace, silence
- gestural, e.g. proximity, stance, movement
- complementary, including digital features such as graphics, still and moving images, design elements, music and sound effects.

## **Pathways**

English is a General subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. 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.

## **Course Structure**

English is a General senior syllabus. It contains four QCAA-developed units from which schools develop their course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment. Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

### **Unit 1: Perspectives and texts**

In Unit 1, students explore individual and/or collective experiences and perspectives of the world through engaging with a variety of texts in a range of contexts. They examine how perspectives and representations of concepts, identities and/or groups are constructed through textual choices such as language, medium, style and text structures. This unit allows students to explore how meaning is shaped through the relationships between language, text, purpose, context and audience. Students

respond to a variety of non-literary texts and literary texts, and create texts of their own for a variety of purposes and audiences.

In responding to texts, students analyse the perspectives and representations of concepts, identities and/or groups in texts and how these shape their own and others' ideas and perspectives. In creating texts, students demonstrate their understanding of the relationships between text, purpose, context and audience by purposefully shaping perspectives and representations of concepts, identities/and or groups. Students experiment with, and make choices about, textual structures, medium, conventions and language to develop voice and style and position audiences.

## **Unit 2: Texts and culture**

In Unit 2, students explore cultural experiences of the world through engaging with a variety of texts. Building on Unit 1, students develop their understanding of how relationships between language, text, purpose, context and audience shape meaning and cultural perspectives. By engaging with a variety of texts, including Australian texts, students examine the relationship between language and identity, the effect of textual choices and the ways in which these choices position audiences for particular purposes, revealing attitudes, values and beliefs. Students respond to and create imaginative and analytical texts of their own.

## **Unit 3: Textual Connections**

In Unit 3, students explore connections between texts by examining representations of the same concepts and issues in different texts. In doing so, they consider how the textual constructions of the same concepts and issues in different texts resonate, relate to, and clash with one another, and their own perspectives. By examining texts in relation to other texts, students are offered opportunities to explore how connections between texts contribute to meaning-making. They revisit and build on understandings from Units 1 and 2 about how meaning and perspectives are shaped by the relationships between language, purpose, text, context and audience.

The unit comprises two topics that may be studied in either order:

Topic 1: Conversations about issues in texts

Topic 2: Conversations about concepts in texts.

## **Unit 4: Close study of literary texts**

In Unit 4, students explore the world and human experience by engaging with literary texts from diverse times and places. They explore how these texts build a shared understanding of the human experience and through this become significant to a culture. This unit includes the close study of literary texts to allow students to extend their experience of the world.

The unit comprises two topics:

Topic 1: Creative responses to literary texts

Topic 2: Critical responses to literary text

## **Assessment**

- Internal assessment 1: Spoken persuasive response (25%)
- Internal assessment 2: Written response for a public audience (25%)
- Internal assessment 3: Examination - extended response (25%)
- External assessment: Examination - extended response (25%)

# ENGLISH AS AN ADDITIONAL LANGUAGE

## Rationale

The QCAA English learning area is made up of five senior secondary subjects: Essential English, English, Literature, English & Literature Extension, and English as an Additional Language. These subjects share common features that include the continuing development of students' knowledge, understanding and skills in listening, speaking, reading, viewing, designing and writing. Differences between the subjects lie in the emphasis on how language and skills are developed and the contexts in which they are applied.

English learning area subjects offer students opportunities to enjoy language and be empowered as functional, purposeful, creative and critical language users who understand how texts can convey and transform personal and cultural perspectives. In a world of rapid cultural, social, economic and technological change, complex demands are placed on citizens to be literate within a variety of modes and mediums. Students are offered opportunities to develop this capacity by drawing on a repertoire of resources 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.

The subject English as an Additional Language is designed to develop students' knowledge, understanding and language skills in Standard Australian English (SAE), and provides students with opportunities to develop higher-order thinking skills through interpretation, analysis and creation of varied literary, non-literary, media and academic texts. Students have opportunities to engage with language and texts through a range of teaching and learning experiences to foster:

- skills to communicate effectively in SAE for the purposes of responding to and creating literary and non-literary texts
- development of language skills required for English language learners to be competent users of written and spoken English in a variety of contexts including academic contexts suitable for tertiary studies
- skills to make choices about generic structures, language, textual features and technologies to best convey intended meaning in the most appropriate medium and genre
- exploration of ways in which literary and non-literary texts may reflect or challenge social and cultural ways of thinking and influence audiences
- empathy for others and appreciation of different perspectives through a study of a range of literary texts from diverse cultures and periods, including Australian texts by Aboriginal writers and/or Torres Strait Islander writers
- enjoyment and appreciation of the English language.

The English as an Additional Language syllabus values and affirms the diversity of languages, interests, background knowledge and abilities that EAL students bring to the classroom. Students for whom this course is intended have the right to learn and succeed within a curriculum that is sensitive to and inclusive of their prior learning and experiences.

This syllabus also recognises the histories of Aboriginal peoples and Torres Strait Islander peoples and the multiple languages they have spoken and continue to speak in Australia. It

acknowledges that Aboriginal peoples and Torres Strait Islander peoples communicate in a variety of ways that are deeply embedded in their collective histories and relationships.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

**1. Use patterns and conventions of genres to achieve particular purposes in cultural contexts and social situations.**

When students use patterns and conventions of genres, they apply knowledge and understanding of them to purposefully construct texts by combining elements to form a coherent whole. In their development of texts, students demonstrate understanding of genres and their features as influenced by cultural contexts and social situations.

**2. Establish and maintain the roles of writer/speaker/designer and relationships with audiences.**

When students establish and maintain the roles of writer/speaker/designer and relationships with audiences, they set up and sustain a purposeful relationship within a specific context to create a rapport with, position, or have a particular influence over, the audience. Students demonstrate their understanding of the relationship between context, audience and purpose of a text by making decisions about language, subject matter, register and mode-appropriate features.

**3. Create and analyse perspectives and representations of concepts, identities, times and places.**

When students create perspectives and representations, they develop points of view and devise textual constructions of concepts, identities, times and places. When students analyse perspectives and representations, they examine in detail how these construct meaning in texts.

**4. Make use of and analyse the ways cultural assumptions, attitudes, values and beliefs underpin texts and invite audiences to take up positions.**

When students create texts that make use of the ways cultural assumptions, attitudes, values and beliefs underpin texts and shape meaning, they manipulate these to invite audiences to take up positions. When students analyse, they examine in detail the ways cultural assumptions, attitudes, values and beliefs underpin texts and explore how these shape meaning and invite audiences to take up positions.

**5. Use aesthetic features and stylistic devices to achieve purposes and analyse their effects in texts.**

When students use aesthetic features and stylistic devices (the aspects of texts that prompt emotional and critical reactions) to achieve purposes, they apply their knowledge and understanding of these to express a thought, feeling, idea or viewpoint to purposefully invite an audience to respond in a particular way. When students analyse the effects of aesthetic features and stylistic devices in texts, they examine the effects of those features and devices in detail to explore how they shape meaning and invite audiences to respond in particular ways.

**6. Select and synthesise subject matter to support perspectives.**

When students select subject matter, they make purposeful choices about the inclusion of material to support perspectives. When students synthesise, they combine elements to construct coherent texts.

**7. Organise and sequence subject matter to achieve particular purposes.**

When students organise subject matter, they arrange material systematically and purposefully, e.g. by paragraphing. When students sequence subject matter, they place information in a continuous or connected manner to achieve particular purposes.

**8. Use cohesive devices to emphasise ideas and connect parts of texts.**

When students use cohesive devices, they apply mode-appropriate language structures to emphasise and develop ideas, and connect parts of texts.

**9. Make language choices for particular purposes and contexts.**

When students make language choices, they make decisions about the selection of vocabulary that is appropriate to particular purposes and contexts.

**10. Use grammar and language structures for particular purposes.**

When students use grammar, they apply knowledge of morphology and syntax to create and express meaning in texts. When students use language structures, they systematically arrange words, phrases, clauses and sentences to express meaning in texts for particular purposes.

**11. Use mode-appropriate features to achieve particular purposes.**

When students use mode-appropriate features, they select written, spoken, visual, gestural or digital features appropriate to the text type to express meaning in texts for particular purposes.

Mode-appropriate features include:

- written, e.g. conventional spelling and punctuation
- spoken, e.g. pronunciation, phrasing and pausing, audibility and clarity, volume, pace, silence
- gestural, e.g. proximity, stance, movement
- complementary, including digital features such as graphics, still and moving images, design elements, music and sound effects.

## Eligibility

English as an Additional Language is designed for students for whom English is not their first or home language. These students include:

- Aboriginal students and Torres Strait Islander students for whom Standard Australian English (SAE) is not the first or home language/dialect
- students who were born in Australia and/or have lived in Australia for a number of years but who still require significant support for learning English as an additional language
- those who enter senior schooling with
  - not more than a total of five years of full-time schooling where the medium of instruction is English
  - more than a total of five years of full-time schooling where the medium of instruction is English but they have a restricted knowledge of English
  - varying exposure to English, but who have had disrupted education in one or more countries, including Australia

- some formal language exposure to English, and significant formal education in another language or languages, before arriving in Australia.

Schools are best placed to identify and confirm the eligibility of students undertaking this subject.

This syllabus is incompatible with the following English senior syllabuses: English, Literature, English & Literature Extension. Students may study English as an Additional Language in combination with Essential English and/or Short Course in Literacy.

## Pathways

English as an Additional Language is a General subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in English as an Additional Language promotes not only language and literacy skills, but also 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.

## Course Structure

### Unit 1: Language, text and culture

In Unit 1, students respond to and create texts that show how language and culture are interrelated and expressed in a range of socio-cultural contexts. A variety of written and spoken literary and non-literary texts including a focus on media texts will be used to develop an understanding of and ability to use text structures and language features across a range of contexts including academic learning. Students respond to and create analytical, persuasive and academic text types for a range of purposes and audiences.

### Unit 2: Perspectives in texts

In Unit 2, students respond to and analyse perspectives represented in Australian texts and how cultural assumptions, values, attitudes and beliefs underpin these texts. These texts may include texts by Aboriginal writers or Torres Strait Islander writers. Students create texts for a range of audiences and contexts. In responding to and analysing texts, students develop their understanding of how relationships between language, text, purpose, context and audience shape meaning and cultural perspectives. This unit builds on students' capacity to examine how texts work as they respond to and create imaginative and analytical texts for a range of purposes and audiences.

### Unit 3: Issues, ideas and attitudes

In Unit 3, students build on and consolidate their capacity to examine how texts work as they analyse and respond to representations of contemporary social issues, ideas and attitudes in a range of literary and non-literary texts, including media texts. Students investigate, explore and analyse how meaning and perspectives are shaped by the relationships between language, purpose, text, contexts and audiences. This unit focuses on providing opportunities for students to respond to and analyse a literary text, and to examine and create persuasive texts for particular purposes and audiences.

### Unit 4: Close study of literary texts

In Unit 4, students explore representations of the world and human experience by engaging with literary texts from diverse times and places. Students are given opportunities to explore how these texts build a shared understanding of human experience, and to examine how representations of social, moral and ethical issues position readers and viewers. Issues of contemporary social, moral and ethical relevance may include gender, power, race, religion, age, and class. This unit includes the close study of a literary text to allow students to explore further the ways in which language choices



shape meaning and influence audiences. Students use their language skills to create imaginative and analytical responses to literary texts.

## **Assessment**

- Internal assessment 1: Examination – written response (25%)
- Internal assessment 2: Persuasive response (25%)
- Internal assessment 3: Imaginative response (25%)
- External assessment: Examination - extended response (25%)

# ESSENTIAL ENGLISH (APPLIED SUBJECT)

## Rationale

The QCAA English learning area is made up of five senior secondary subjects: Essential English, English, Literature, English & Literature Extension, and English as an Additional Language. These subjects share common features that include the continuing development of students' knowledge, understanding and skills in listening, speaking, reading, viewing, designing and writing. Differences between the subjects lie in the emphasis on how language and skills are developed and the contexts in which they are applied.

English learning area subjects offer students opportunities to enjoy language and be empowered as functional, purposeful, creative and critical language users who understand how texts can convey and transform personal and cultural perspectives. In a world of rapid cultural, social, economic and technological change, complex demands are placed on citizens to be literate within a variety of modes and mediums. Students are offered opportunities to develop this capacity by drawing on a repertoire of resources 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.

The subject 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. The subject encourages students to recognise language and texts as relevant in their lives now and in the future and enables them to understand, accept or challenge the values and attitudes in these texts.

Students have opportunities to engage with language and texts through a range of teaching and learning experiences 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
- skills to choose generic structures, language, language features and technologies to best convey meaning
- skills to read for meaning and purpose, and to use, critique and appreciate a range of contemporary literary and non-literary texts
- effective use of language to produce texts for a variety of purposes and audiences
- creative and imaginative thinking to explore their own world and the worlds of others
- active and critical interaction with a range of texts, and an awareness of how language positions both them and others
- empathy for others and appreciation of different perspectives through a study of a range of texts from diverse cultures, including Australian texts by Aboriginal writers and/or Torres Strait Islander writers
- enjoyment of contemporary literary and non-literary texts, including digital texts.

### Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

#### **1. Use patterns and conventions of genres to suit particular purposes and audiences.**

When students use patterns and conventions of genres, they construct a range of text types with appropriate text structures and layout. In their development of texts, students demonstrate their understanding of genres and their features as influenced by purpose and audience.

**2. Use appropriate roles and relationships with audiences.**

When students use appropriate roles and relationships, they establish and maintain their role as the writer/speaker/designer of a text and set up and sustain a relationship with the audience within a specific context to suit particular purposes. Students demonstrate their understanding of the relationship between context, audience and purpose of a text by making decisions about language, subject matter, register and language features.

**3. Construct and explain representations of identities, places, events and/or concepts.**

When students construct representations, they use opinions, ideas, attitudes, values and/or beliefs to create particular identities, places, events and/or concepts.

When students explain representations, they explore how identities, places, events and/or concepts are constructed in texts and shape meaning.

**4. Make use of and explain opinions and/or ideas in texts, according to purpose.**

When students create texts, they make use of opinions and/or ideas to influence meaning.

When students explain opinions and/or ideas in texts, they think carefully about how these influence meaning, and apply their knowledge to explain how texts invite audiences to take up positions.

**Explain how language features and text structures shape meaning and invite particular**

**5. responses.**

When students explain how language features and text structures shape meaning, they think carefully about the relationship between genre, context, audience and purpose. They then apply their knowledge to explain how language features and text structures shape perspectives and invite audiences to respond to the text in particular ways.

**6. Select and use subject matter to support perspectives.**

When students select and use subject matter, they make purposeful choices about the inclusion of material to support perspectives, and use ideas and information purposefully, according to genre.

**7. Sequence subject matter and use mode-appropriate cohesive devices to construct coherent texts.**

When students sequence subject matter, they place information in a continuous or connected manner to achieve particular purposes and use mode-appropriate cohesive devices to connect parts of texts.

**8. Make language choices according to register informed by purpose, audience and context.**

When students make language choices, they demonstrate their understanding of a range of formal and informal registers. They do this by using and controlling language choices appropriate for the intended purpose, audience, context and text type to express meaning and invite audiences to take up positions, e.g. informal vocabulary in diary entries, formal vocabulary in essays.

**9. Use mode-appropriate language features to achieve particular purposes across modes.**

When students use mode-appropriate language features, they apply their knowledge of grammar and language structures to express meaning in texts for particular purposes, across all modes. Students also select language features specific to the mode of a text. Language features specific to a mode include:

- a. written, e.g. conventional spelling and punctuation, figurative language, sentence structure, literary devices
- b. spoken, e.g. pronunciation, phrasing and pausing, audibility and clarity, volume, pace, silence
- c. gestural, e.g. facial expressions, proximity, stance, movement
- d. complementary, including visual and digital features such as graphics, still and moving images, design elements, music and sound effects.

## Pathways

Essential English is an Applied subject suited to students who are interested in pathways beyond Year 12 that lead to tertiary studies, vocational education or work. 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.

### Course structure

Essential English is an Applied (Essential) senior syllabus. It contains four QCAA-developed units from which schools develop their course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment. Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

#### Unit 1: Language that works

In Unit 1, students explore how meaning is communicated in contemporary workplace texts and/or popular culture texts about the world of work. Students develop and use a range of strategies and skills to comprehend and interpret these texts. They explore how the relationships between context, purpose and audience create meaning in work-related texts and/or popular culture texts about the world of work. Students identify, consider and explain language choices and the organisational features of texts, and their impact on meaning. Students respond to a variety of work-related texts and/or popular culture texts about the world of work and create texts of their own for a variety of purposes and audiences.

In responding to texts, students focus on developing strategies and skills to comprehend texts used in a work context and/or popular culture texts about the world of work. They consider the various ways in which these texts communicate information, ideas and perspectives. They do this by developing and applying skills to identify main ideas, and interpret, question and infer when reading, viewing and listening to a range of texts.

#### Unit 2: Texts and human experiences

In Unit 2, students explore individual and/or collective experiences and perspectives of the world. Students explore how different perspectives, ideas, attitudes, values and/or beliefs are communicated through the textual representations of a range of human experiences. They identify audience and purpose, and consider how meaning is shaped in reflective/nonfiction texts to invite audiences to accept a particular point of view. Students respond to a variety of reflective/nonfiction texts by creating texts of their own for a variety of purposes and audiences.

In responding to texts, students identify the different perspectives, ideas, attitudes, values and/or beliefs that have been communicated through the purposeful construction of identities, places, events and/or concepts. Students apply their knowledge and understanding of how meaning is communicated in reflective/nonfiction texts when responding to a studied text or texts.

#### Unit 3: Language that influences

In Unit 3, students explore community, local and/or global issues and ideas presented in a range of texts that invite an audience to take up positions. Building on Units 1 and 2, students apply their understanding about how perspectives, ideas, attitudes and values are represented in texts to influence audiences. They explore how issues are represented in a range of texts and develop their own point of view about these issues. Students synthesise information to respond to and create a



range of texts, considering their intended purpose, their representation of ideas and issues, and audience responses. In responding to texts, students have opportunities to discuss and listen to differing perspectives, compare, draw conclusions and influence audiences for a range of purposes. Students also develop their skills in using appropriate vocabulary and accurate spelling, punctuation and grammar to enable effective communication.

Students respond to a variety of texts that invite audiences to take up positions, by constructing texts of their own.

The unit is made up of two topics:

- Creating and shaping perspectives on community, local and global issues in texts
- Responding to texts that seek to influence audiences.

#### **Unit 4: Representations and popular culture texts**

In Unit 4, students explore how the text structures, language features and language of contemporary popular culture texts shape meaning. They revisit and build on learning from Units 1, 2 and 3 about how the relationship between context, purpose and audience creates meaning, and they independently apply comprehension strategies when engaging with texts. Students respond to and engage with a variety of texts, including Australian texts, and create texts of their own. In responding to popular contemporary texts, students consider how perspectives are represented, they explore values inherent within these texts and examine connections between audience, purpose and context. They reflect on a range of popular culture texts and develop their own interpretations. Students also develop their skills in using appropriate vocabulary and accurate spelling, punctuation and grammar to enable effective communication.

The unit is made up of two topics:

Responding to popular culture texts

Creating representations of Australian identities, places, events and/or concepts.

#### **Assessment**

- Internal assessment 1: Spoken response (25%)
- Internal assessment 2: Common internal assessment (25%)
- Internal assessment 3: Multimodal response (25%)
- External assessment: Written response (25%)

# GENERAL MATHEMATICS

## Rationale

Mathematics is a unique and powerful intellectual discipline that is used to investigate patterns, order, generality and uncertainty. It is a way of thinking in which problems are explored and solved through observation, reflection and logical reasoning. It uses a concise system of communication, with written, symbolic, spoken and visual components. Mathematics is creative, requires initiative and promotes curiosity in an increasingly complex and data-driven world. It is the foundation of all quantitative disciplines.

To prepare students with the knowledge, skills and confidence to participate effectively in the community and the economy requires the development of skills that reflect the demands of the 21st century. Students undertaking Mathematics will develop their critical and creative thinking, oral and written communication, information & communication technologies (ICT) capability, ability to collaborate, and sense of personal and social responsibility — ultimately becoming lifelong learners who demonstrate initiative when facing a challenge. The use of technology to make connections between mathematical theory, practice and application has a positive effect on the development of conceptual understanding and student disposition towards mathematics.

Mathematics teaching and learning practices range from practising essential mathematical routines to develop procedural fluency, through to investigating scenarios, modelling the real world, solving problems and explaining reasoning. When students achieve procedural fluency, they carry out procedures flexibly, accurately and efficiently. When factual knowledge and concepts come to mind readily, students are able to make more complex use of knowledge to successfully formulate, represent and solve mathematical problems. Problem-solving helps to develop an ability to transfer mathematical skills and ideas between different contexts. This assists students to make connections between related concepts and adapt what they already know to new and unfamiliar situations. With appropriate effort and experience, through discussion, collaboration and reflection of ideas, students should develop confidence and experience success in their use of mathematics.

The major domains of mathematics in General Mathematics are Number and algebra, Measurement and geometry, Statistics and Networks and matrices, building on the content of the P–10 Australian Curriculum. Learning reinforces prior knowledge and further develops 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.

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. It incorporates a practical approach that equips learners for their needs as future citizens. Students will learn to ask appropriate questions, map out pathways, reason about complex solutions, set up models and communicate in different forms. They will experience the relevance of mathematics to their daily lives, communities and cultural backgrounds. They will develop the ability to understand, analyse and take action regarding social issues in their world. When students gain skill and self-assurance, when they understand the content and when they evaluate their success by using and transferring their knowledge, they develop a mathematical mindset.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Recall mathematical knowledge.

When students recall mathematical knowledge, they recognise features of remembered information. They recognise relevant concepts, rules, definitions, techniques and algorithms.

### 2. Use mathematical knowledge.

When students use mathematical knowledge, they put into effect relevant concepts, rules, definitions, techniques and algorithms. They perform calculations with and without technology.

### 3. Communicate mathematical knowledge.

When students communicate mathematical knowledge, they use mathematical language (terminology, symbols, conventions and representations) and everyday language. They organise and present information in graphical and symbolic form, and describe and represent mathematical models.

### 4. Evaluate the reasonableness of solutions.

When students evaluate the reasonableness of solutions, they interpret their mathematical results in the context of the situation and reflect on whether the problem has been solved. They verify results by using estimation skills and checking calculations, with and without technology. They make an appraisal by assessing implications, strengths and limitations of solutions and/or models, and use this to consider if alternative methods or refinements are required.

### 5. Justify procedures and decisions.

When students justify procedures and decisions, they explain their mathematical reasoning in detail. They make relationships evident, logically organise mathematical arguments, and provide reasons for choices made and conclusions reached.

### 6. Solve mathematical problems.

When students solve mathematical problems, they analyse the context of the problem to translate information into mathematical forms. They make decisions about the concepts, techniques and technology to be used and apply these to develop a solution. They develop, refine and use mathematical models, where applicable.

## Assumed knowledge, prior learning or experience

Assumed knowledge refers to the subject matter that teachers can expect students to know prior to beginning this subject. Emphasis is placed on the mastery of content, ensuring key concepts or procedures are learnt fully so they will not need reteaching.

Developing mastery often involves multiple approaches to teaching and conceptualising the same mathematical concept. When students have a good understanding of a key concept or procedure, they are more easily able to make connections to related new subject matter and apply what they already know to new problems.

Subject matter from previous unit/s is assumed for subsequent unit/s.

The following is a non-exhaustive list of assumed knowledge based on the subject matter in the P–10 Australian Curriculum version 9.

- Solve problems involving percentages, rates, ratios, simple algebraic fractions and duration, including 12- and 24-hour time.
- Recognise irrational numbers in applied contexts (e.g.  $\pi$ ).

- Round decimals to a given accuracy appropriate to the context and use appropriate rounding and estimation to check the reasonableness of solutions.
- Recognise the effect of using approximations of real numbers in repeated calculations.
- Solve problems involving very small and very large real numbers expressed in scientific notation.
- Apply the exponent laws with integer exponents and the zero-exponent, using exponent notation with numbers.
- Recognise and use variables to represent everyday formulas algebraically and substitute values into formulas to determine an unknown.
- Expand, factorise, rearrange and simplify algebraic expressions, applying the associative, commutative, identity, distributive and inverse properties.

## Pathways

General Mathematics is a general subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. 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.

## Course structure

General Mathematics is a General senior syllabus. It contains four QCAA-developed units from which schools develop their course of study.

Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

### Unit 1: Money, measurement, algebra and linear equations

In Unit 1, students will develop mathematical understandings and skills to solve problems relating to:

- Topic 1: Consumer arithmetic
- Topic 2: Shape and measurement
- Topic 3: Similarity and scale
- Topic 4: Algebra
- Topic 5: Linear equations and their graphs.

### Unit 2: Applications of linear equations and trigonometry, matrices and univariate data analysis

In Unit 2, students will develop mathematical understandings and skills to solve problems relating to:

- Topic 1: Applications of linear equations and their graphs
- Topic 2: Applications of trigonometry
- Topic 3: Matrices
- Topic 4: Univariate data analysis 1
- Topic 5: Univariate data analysis 2.

### Unit 3: Bivariate data and time series analysis, sequences and Earth geometry

In Unit 3, students will develop mathematical understandings and skills to solve problems relating to:

- 
- Topic 1: Bivariate data analysis 1
  - Topic 2: Bivariate data analysis 2
  - Topic 3: Time series analysis
  - Topic 4: Growth and decay in sequences
  - Topic 5: Earth geometry and time zones.

#### **Unit 4: Investing and networking**

In Unit 4, students will develop mathematical understandings and skills to solve problems relating to:

- Topic 1: Loans, investments and annuities 1
- Topic 2: Loans, investments and annuities 2
- Topic 3: Graphs and networks
- Topic 4: Networks and decision mathematics 1
- Topic 5: Networks and decision mathematics 2.

# MATHEMATICAL METHODS

## Rationale

Mathematics is a unique and powerful intellectual discipline that is used to investigate patterns, order, generality and uncertainty. It is a way of thinking in which problems are explored and solved through observation, reflection and logical reasoning. It uses a concise system of communication, with written, symbolic, spoken and visual components. Mathematics is creative, requires initiative and promotes curiosity in an increasingly complex and data-driven world. It is the foundation of all quantitative disciplines.

To prepare students with the knowledge, skills and confidence to participate effectively in the community and the economy requires the development of skills that reflect the demands of the 21st century. Students undertaking Mathematics will develop their critical and creative thinking, oral and written communication, information & communication technologies (ICT) capability, ability to collaborate, and sense of personal and social responsibility — ultimately becoming lifelong learners who demonstrate initiative when facing a challenge. The use of technology to make connections between mathematical theory, practice and application has a positive effect on the development of conceptual understanding and student disposition towards mathematics.

Mathematics teaching and learning practices range from practising essential mathematical routines to develop procedural fluency, through to investigating scenarios, modelling the real world, solving problems and explaining reasoning. When students achieve procedural fluency, they carry out procedures flexibly, accurately and efficiently. When factual knowledge and concepts come to mind readily, students are able to make more complex use of knowledge to successfully formulate, represent and solve mathematical problems. Problem-solving helps to develop an ability to transfer mathematical skills and ideas between different contexts. This assists students to make connections between related concepts and adapt what they already know to new and unfamiliar situations. With appropriate effort and experience, through discussion, collaboration and reflection of ideas, students should develop confidence and experience success in their use of mathematics.

The major domains of mathematics in Mathematical Methods are Algebra, Functions, relations and their graphs, Calculus and Statistics. Topics 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. The ability to translate written, numerical, algebraic, symbolic and graphical information from one representation to another is a vital part of learning in Mathematical Methods.

Students who undertake Mathematical Methods will 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. Through solving problems and developing models, they will appreciate that mathematics and statistics are dynamic tools that are critically important in the 21st century.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Recall mathematical knowledge.

When students recall mathematical knowledge, they recognise features of remembered information. They recognise relevant concepts, rules, definitions, techniques and algorithms.

### 2. Use mathematical knowledge.

When students use mathematical knowledge, they put into effect relevant concepts, rules, definitions, techniques and algorithms. They perform calculations with and without technology.

### 3. Communicate mathematical knowledge.

When students communicate mathematical knowledge, they use mathematical language (terminology, symbols, conventions and representations) and everyday language. They organise and present information in graphical and symbolic form, and describe and represent mathematical models.

### 4. Evaluate the reasonableness of solutions.

When students evaluate the reasonableness of solutions, they interpret their mathematical results in the context of the situation and reflect on whether the problem has been solved. They verify results by using estimation skills and checking calculations, with and without technology. They make an appraisal by assessing implications, strengths and limitations of solutions and/or models, and use this to consider if alternative methods or refinements are required.

### 5. Justify procedures and decisions.

When students justify procedures and decisions, they explain their mathematical reasoning in detail. They make relationships evident, logically organise mathematical arguments, and provide reasons for choices made and conclusions reached.

### 6. Solve mathematical problems.

When students solve mathematical problems, they analyse the context of the problem to translate information into mathematical forms. They make decisions about the concepts, techniques and technology to be used and apply these to develop a solution. They develop, refine and use mathematical models, where applicable.

## Assumed knowledge, prior learning or experience

Assumed knowledge refers to the subject matter that teachers can expect students to know prior to beginning this subject. Emphasis is placed on the mastery of content, ensuring key concepts or procedures are learnt fully so they will not need reteaching.

Developing mastery often involves multiple approaches to teaching and conceptualising the same mathematical concept. When students have a good understanding of a key concept or procedure, they are more easily able to make connections to related new subject matter and apply what they already know to new problems.

Subject matter from previous unit/s is assumed for subsequent unit/s.

The following is a non-exhaustive list of assumed knowledge based on the subject matter in the P–10 Australian Curriculum version 9.

- Factorise, expand and simplify expressions including monic quadratic expressions using a variety of strategies.
- Apply the four operations to simple algebraic fractions with numerical denominators.
- Substitute values into formulas to determine an unknown.
- Solve problems involving linear equations, including those derived from formulas and those that involve simple algebraic fractions.
- Recall the equation of a line in the form  $y=mx+c$
- Determine if lines are parallel or perpendicular lines, including  $m_1=m_2$  and  $m_1m_2=-1$
- Explore the connection between algebraic and graphical representations of relations, e.g. simple quadratics, circles and exponentials using digital technology as appropriate.
- Solve simple quadratic equations using a range of strategies.
- Solve linear simultaneous equations, using algebraic and graphical techniques, including using digital technology.
- Solve linear inequalities and graph their solutions on a number line.
- Solve right-angled triangle problems using trigonometric skills.
- Describe the results of two- and three-step chance experiments to determine probabilities of events and investigating the concept of independence and conditional probability.
- Obtain simple statistics from discrete and continuous data, including mean, median, mode, quartiles, range and interquartile range.
- Use scatterplots to investigate and comment on relationships between two numerical variables.
- Investigate and describe bivariate numerical data where the independent variable is time.
- Translate word problems to mathematical form.
- Understand that the real number system includes rational and irrational numbers.
- Use approximations of real numbers by truncating or rounding.
- Solve problems involving the surface area and volume of right prisms, including cylinders.
- Solve problems involving Pythagoras' theorem.

## Pathways

Mathematical Methods is a General subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. 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.

## Course structure

Mathematical Methods is a General senior syllabus. It contains four QCAA-developed units from which schools develop their course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment. Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

## **Unit 1: Surds, algebra, functions and probability**

In Unit 1, students will develop mathematical understandings and skills to solve problems relating to:

- Topic 1: Surds and quadratic functions
- Topic 2: Binomial expansion and cubic functions
- Topic 3: Functions and relations
- Topic 4: Trigonometric functions
- Topic 5: Probability.

## **Unit 2: Calculus and further functions**

In Unit 2, students will develop mathematical understandings and skills to solve problems relating to:

- Topic 1: Exponential functions
- Topic 2: Logarithms and logarithmic functions
- Topic 3: Introduction to differential calculus
- Topic 4: Applications of differential calculus
- Topic 5: Further differentiation.

## **Unit 3: Further calculus and introduction to statistics**

In Unit 3, students will develop mathematical understandings and skills to solve problems relating to:

- Topic 1: Differentiation of exponential and logarithmic functions
- Topic 2: Differentiation of trigonometric functions and differentiation rules
- Topic 3: Further applications of differentiation
- Topic 4: Introduction to integration
- Topic 5: Discrete random variables.

## **Unit 4: Further calculus, trigonometry and statistics**

In Unit 4, students will develop mathematical understandings and skills to solve problems relating to:

- Topic 1: Further integration
- Topic 2: Trigonometry
- Topic 3: Continuous random variables and the normal distribution
- Topic 4: Sampling and proportions
- Topic 5: Interval estimates for proportions.

# ESSENTIAL MATHEMATICS (APPLIED SUBJECT)

## Rationale

Mathematics is a unique and powerful intellectual discipline that is used to investigate patterns, order, generality and uncertainty. It is a way of thinking in which problems are explored and solved through observation, reflection and logical reasoning. It uses a concise system of communication, with written, symbolic, spoken and visual components. Mathematics is creative, requires initiative and promotes curiosity in an increasingly complex and data-driven world. It is the foundation of all quantitative disciplines.

To prepare students with the knowledge, skills and confidence to participate effectively in the community and the economy requires the development of skills that reflect the demands of the 21st century. Students undertaking Mathematics will develop their critical and creative thinking, oral and written communication, information & communication technologies (ICT) capability, ability to collaborate, and sense of personal and social responsibility — ultimately becoming lifelong learners who demonstrate initiative when facing a challenge. The use of technology to make connections between mathematical theory, practice and application has a positive effect on the development of conceptual understanding and student disposition towards mathematics.

Mathematics teaching and learning practices range from practising essential mathematical routines to develop procedural fluency, through to investigating scenarios, modelling the real world, solving problems and explaining reasoning. When students achieve procedural fluency, they carry out procedures flexibly, accurately and efficiently. When factual knowledge and concepts come to mind readily, students are able to make more complex use of knowledge to successfully formulate, represent and solve mathematical problems. Problem-solving helps to develop an ability to transfer mathematical skills and ideas between different contexts. This assists students to make connections between related concepts and adapt what they already know to new and unfamiliar situations. With appropriate effort and experience, through discussion, collaboration and reflection of ideas, students should develop confidence and experience success in their use of mathematics.

The major domains of mathematics in Essential Mathematics are Number, Data, Location and time, Measurement and Finance. Teaching and learning builds on the proficiency strands of the P–10 Australian Curriculum. Students develop their conceptual understanding when they undertake tasks that require them to connect mathematical concepts, operations and relations. They will learn to recognise definitions, rules and facts from everyday mathematics and data, and to calculate using appropriate mathematical processes.

Students will benefit from studies in Essential Mathematics because they will develop skills that go beyond the traditional ideas of numeracy. This is achieved through a greater emphasis on estimation, problem-solving and reasoning, which develops students into thinking citizens who interpret and use mathematics to make informed predictions and decisions about personal and financial priorities. Students will see mathematics as applicable to their employability and lifestyles, and develop leadership skills through self-direction and productive engagement in their learning. They will show curiosity and imagination, and appreciate the benefits of technology. Students will gain an appreciation that there is rarely one way of doing things and that real-world mathematics requires adaptability and flexibility.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Recall mathematical knowledge.

When students recall mathematical knowledge, they recognise features of remembered information. They recognise relevant concepts, rules, definitions, techniques and algorithms.

## **2. Use mathematical knowledge.**

When students use mathematical knowledge, they put into effect relevant concepts, rules, definitions, techniques and algorithms. They perform calculations with and without technology.

## **3. Communicate mathematical knowledge.**

When students communicate mathematical knowledge, they use mathematical language (terminology, symbols, conventions and representations) and everyday language. They organise and present information in graphical and symbolic form, and describe and represent mathematical models.

## **4. Evaluate the reasonableness of solutions.**

When students evaluate the reasonableness of solutions, they interpret their mathematical results in the context of the situation and reflect on whether the problem has been solved. They verify results by using estimation skills and checking calculations, with and without technology. They make an appraisal by assessing implications, strengths and limitations of solutions and/or models, and use this to consider if alternative methods or refinements are required.

## **5. Justify procedures and decisions.**

When students justify procedures and decisions, they explain their mathematical reasoning in detail. They make relationships evident, logically organise mathematical arguments, and provide reasons for choices made and conclusions reached.

## **6. Solve mathematical problems.**

When students solve mathematical problems, they analyse the context of the problem to translate information into mathematical forms. They make decisions about the concepts, techniques and technology to be used and apply these to develop a solution. They develop, refine and use mathematical models, where applicable.

## **Assumed knowledge, prior learning or experience**

Assumed knowledge refers to the subject matter that teachers can expect students to know prior to beginning this subject. Emphasis is placed on the mastery of content, ensuring key concepts or procedures are learnt fully so they will not need reteaching.

Developing mastery often involves multiple approaches to teaching and conceptualising the same mathematical concept. When students have a good understanding of a key concept or procedure, they are more easily able to make connections to related new subject matter and apply what they already know to new problems.

Subject matter from previous unit/s is assumed for subsequent unit/s.

The following is a non-exhaustive list of assumed knowledge based on the subject matter in the P–10 Australian Curriculum version 9.

- Recall concepts of number, percentages and money.
- Read and use graphs and scales.

- Recall concepts of probability, data collection and statistical data representations.
- Use a scientific calculator and other technology, where appropriate.
- Substitute numbers into formulas.
- Translate word problems to mathematical form.

## Pathways

Essential Mathematics is an Applied subject suited to students who are interested in pathways beyond Year 12 that lead to tertiary studies, vocational education or work. 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 will 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.

## Course structure

Essential Mathematics is an Applied (Essential) senior syllabus. It contains four QCAA-developed units from which schools develop their course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment. Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

### Unit 1: Number, data and money

In Unit 1, students will develop the mathematical understandings and skills to solve problems relating to:

- Fundamental topic: Calculations
- Topic 1: Number
- Topic 2: Representing data
- Topic 3: Managing money.

### Unit 2: Data and travel

In Unit 2, students will develop the mathematical understandings and skills to solve problems relating to:

- Fundamental topic: Calculations
- Topic 1: Data collection
- Topic 2: Graphs
- Topic 3: Time and motion.

### Unit 3: Measurement, scales and chance

In Unit 3, students will develop the mathematical understandings and skills to solve problems relating to:

- Fundamental topic: Calculations
- Topic 1: Measurement
- Topic 2: Scales, plans and models
- Topic 3: Probability and relative frequencies.



## Unit 4: Graphs, data and loans

In Unit 4, students will develop the mathematical understandings and skills to solve problems relating to:

- Fundamental topic: Calculations
- Topic 1: Bivariate graphs
- Topic 2: Summarising and comparing data
- Topic 3: Loans and compound interest.

# CHEMISTRY

## Rationale

At the core of all scientific endeavour is the inquiry into the nature of the universe. Science uses a systematic way of thinking, involving creative and critical reasoning, in order to acquire better and more reliable knowledge. Scientists recognise that knowledge is not fixed, but is fallible and open to challenge. As such, scientific endeavour is never conducted in isolation, but builds on and challenges an existing body of knowledge in the pursuit of more reliable knowledge. This collaborative process, whereby new knowledge is gained, is essential to the cooperative advancement of science, technology, health and society in the 21st century.

Tertiary study in any field will be aided by the transferable skills developed in this senior Science subject. It is expected that an appreciation of, and respect for, evidence-based conclusions and the processes required to gather, scrutinise and use evidence will be carried forward into all aspects of life beyond the classroom.

The purpose of senior Science subjects in Queensland is to introduce students to a scientific discipline. Students will be required to 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.

Upon completion of the course, students will have an appreciation for a body of scientific knowledge and the process that is undertaken to acquire this knowledge. They will be able to distinguish between claims and evidence, opinion and fact, and conjecture and conclusions.

In each of the senior Science subjects, students will develop:

- a deep understanding of a core body of discipline knowledge
- aspects of the skills used by scientists to develop new knowledge, as well as the opportunity to refine these skills through practical activities
- the ability to coordinate their understandings of the knowledge and skills associated with the discipline to refine experiments, verify known scientific relationships, explain phenomena with justification and evaluate claims by finding evidence to support or refute the claims.

Chemistry is the study of materials and their properties and structure. In Unit 1, students study atomic theory, chemical bonding, and the structure and properties of elements and compounds. In Unit 2, students explore intermolecular forces, gases, aqueous solutions, acidity and rates of reaction. In Unit 3, students study equilibrium processes and redox reactions. In Unit 4, students explore organic chemistry, synthesis and design to examine the characteristic chemical properties and chemical reactions displayed by different classes of organic compounds.

Chemistry aims to develop students:

- interest in and appreciation of chemistry and its usefulness in helping to explain phenomena and solve problems encountered in their ever-changing world
- understanding of the theories and models used to describe, explain and make predictions about chemical systems, structures and properties
- understanding of the factors that affect chemical systems and how chemical systems can be controlled to produce desired products
- appreciation of chemistry as an experimental science that has developed through independent and collaborative research, and that has significant impacts on society and implications for decision-making

- expertise in conducting a range of scientific investigations, including the collection and analysis of qualitative and quantitative data, and the interpretation of evidence
- ability to critically evaluate and debate scientific arguments and claims in order to solve problems and generate informed, responsible and ethical conclusions
- ability to communicate chemical understanding and findings to a range of audiences, including through the use of appropriate representations, language and nomenclature.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Describe ideas and findings.

Students use scientific representations and language in appropriate genres to give a detailed account of scientific phenomena, concepts, theories, models and systems.

### 2. Apply understanding.

Students use scientific concepts, theories, models and systems within their limitations. They use algebraic, visual and graphical representations of scientific relationships and data to determine unknown scientific quantities or features. They explain phenomena, concepts, theories, models, systems and modifications to methodologies.

### 3. Analyse data.

Students consider scientific information from primary and secondary sources to identify trends, patterns, relationships, limitations and uncertainty. In qualitative data, they identify the essential elements, features or components. In quantitative data, they use mathematical processes and algorithms. They identify data to support ideas, conclusions or decisions.

### 4. Interpret evidence.

Students use their understanding of scientific concepts, theories, models and systems and their limitations to draw conclusions and develop scientific arguments. They deduce, extrapolate, infer, justify and make predictions based on their analysis of data.

### 5. Evaluate conclusions, claims and processes.

Students critically reflect on the available evidence and make judgments about its application to research questions. They extrapolate findings to support or refute claims. They use the quality of the evidence to evaluate the validity and reliability of inquiry processes and suggest improvements and extensions for further investigation.

### 6. Investigate phenomena.

Students develop rationales and research questions for experiments and investigations. They modify methodologies to collect primary data and select secondary sources. They manage risks, environmental and ethical issues and acknowledge sources of information.

## Assumed knowledge, prior learning or experience

The Australian Curriculum: Science P–10 is assumed knowledge for this syllabus.

## Pathways

Chemistry is a general subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. 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.

## Course structure

Chemistry is a course of study consisting of four units. Subject matter, learning experiences and assessment increase in complexity from Units 1 and 2 to Units 3 and 4 as students develop greater independence as learners.

Units 1 and 2 provide foundational learning, which allows students to experience all syllabus objectives and begin engaging with the course subject matter. Students should complete Units 1 and 2 before beginning Units 3 and 4.

Units 3 and 4 consolidate student learning. Only the results from Units 3 and 4 will contribute to ATAR calculations. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

### Unit 1: Chemical fundamentals — structure, properties and reactions

In Unit 1, students relate matter and energy in chemical reactions as they consider the breaking and reforming of bonds as new substances are produced. The properties of a material depend on, and can be explained by, the material's structure. A range of models at the atomic and molecular scale enable explanation and prediction of the structure of materials, and how this structure influences properties and reactions.

Students conduct investigations to develop their understanding of patterns in the properties and composition of materials. They explore the structure of materials by describing physical and chemical properties at the macroscopic scale and use models of structure and primary bonding at the atomic and subatomic scale to explain these properties. They are introduced to the mole concept as a means of quantifying matter in chemical reactions.

Contexts that could be investigated in this unit include history of atomic model development, use of radioisotopes, energy transfers in industry and the human body, and analysis of elements in living things. Students can also use materials that they encounter in their lives as a context for investigating the relationships between structure and properties.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of chemical structure and properties, and reaction enthalpy. Collaborative experimental work also helps students to develop communication, interaction, and self-management skills.

Throughout the unit, students develop skills in observation, experimentation and data analysis to describe and explain periodicity, material chemistry and energy transfers in chemical reactions.

- Topic 1: Properties and structure of atoms (20 hours)
- Topic 2: Properties and structure of materials (5 hours)
- Topic 3: Chemical reactions — reactants, products and energy change (20 hours)

## Unit 2: Molecular interactions and reactions

In Unit 2, students develop their understanding of the physical and chemical properties of materials including gases, water, aqueous solutions, acids and bases. Students explore the characteristic properties of water that make it essential for physical, chemical and biological processes on Earth, including the properties of aqueous solutions. They investigate and explain the solubility of substances in water and compare and analyse a range of solutions. They learn how rates of reaction can be measured and altered to meet particular needs and use models of energy transfer and the structure of matter to explain and predict changes to rates of reaction. Students gain an understanding of how to control the rates of chemical reactions, including through the use of a range of catalysts.

Students conduct investigations of chemical reactions, including the prediction and identification of products, and the measurement of the rate of reaction. They investigate the behaviour of gases and use the kinetic theory to predict the effects of changing temperature, volume and pressure in gaseous systems.

Contexts that could be investigated in this unit include forensic chemistry, and acids in the atmosphere and ocean, such as rain, blood chemistry, water quality and the importance of enzymes. Through appropriate contexts, students explore how evidence from multiple disciplines and individuals and the development of ICT, and other technologies have contributed to developing understanding of intermolecular forces and chemical reactions.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of materials, mixtures, reactions and underpinning models and theories. Collaborative experimental work also helps students to develop communication, interaction, and self-management skills.

Throughout the unit, students develop skills in observation, design, experimentation and data analysis to describe and explain material chemistry, solutions and rates of reactions.

- Topic 1: Intermolecular forces and gases (13 hours)
- Topic 2: Aqueous solutions and acidity (22 hours)
- Topic 3: Rates of chemical reactions (10 hours)

## Unit 3: Equilibrium, acids and redox reactions

In Unit 3, students explore the reversibility of reactions in a variety of chemical systems at different scales; acid-base equilibrium systems and their applications; the principles of oxidation and reduction reactions; and the production of electricity from electrochemical cells. Processes that are reversible will respond to a range of factors and can achieve a state of dynamic equilibrium, while contemporary models can be used to explain the nature of acids and bases, and their properties and uses.

Students conduct investigations on electrochemical cells and volumetric analysis applications. They examine qualitative and quantitative data about acids, equilibrium and redox to analyse trends and draw conclusions.

They participate in experiments and investigations related to the principles of dynamic chemical equilibrium and how these can be applied to chemical processes and systems; electrochemical cells, the choice of materials used, and the voltage produced by these cells; pH scale and the extent of dissociation of acids and bases; and the concentrations of ions in an aqueous solution. Collaborative experimental work allows students to progressively develop their science inquiry skills, while gaining an enhanced appreciation of the importance of equilibrium and redox in the real world.

Contexts that could be investigated include environmental issues, such as acid rain and oceanic acidification; food or wine production; the historical development of theories about acids, corrosion and corrosion prevention; fuel cells; and uses of electrochemistry. Through the investigation of appropriate contexts, students explore the ways in which models and theories related to acid-base

and redox reactions, and their applications, have developed over time, and the ways in which chemistry contributes to contemporary debate in industrial and environmental contexts, including the use of energy, evaluation of risk and action for sustainability.

- Topic 1: Chemical equilibrium systems (25 hours)
- Topic 2: Oxidation and reduction (20 hours)

#### **Unit 4: Structure, synthesis and design**

In Unit 4, students explore the ways in which models and theories relate to chemical synthesis, structure and design, and associated applications; and the ways in which chemistry contributes to contemporary debate regarding current and future uses of local, regional and international resources. Students focus on the principles and application of chemical synthesis, particularly in organic chemistry, and consider where and how functional groups can be incorporated into already existing carbon compounds in order to generate new substances with properties that enable them to be used in a range of contexts. Current and future applications of chemistry include the development of specialised techniques to create or synthesise new substances to meet the specific needs of society, such as pharmaceuticals, fuels, polymers and nanomaterials.

Contexts that could be investigated in this unit include green polymer chemistry, insecticides and herbicides, biofuels and molecular synthesis. Through the investigation of these contexts, students may explore the contradiction between organic chemistry advances and the environmental impact accompanying these practices.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of organic structure, reactions and syntheses. Collaborative experimental work also helps students to develop communication, interaction, character and management skills.

Throughout the unit, students develop skills in experimental methodology, qualitative and quantitative data analysis and current organic developments to describe and explain the importance of this branch of chemistry to society.

- Topic 1: Properties and structure of organic materials (30 hours)
- Topic 2: Chemical synthesis and design (15 hours)

#### **Assessment**

- Internal assessment 1: Data test (10%)
- Internal assessment 2: Student experiment (20%)
- Internal assessment 3: Research investigation (20%)
- External assessment: Examination — combination response (50%)

# PHYSICS

## Rationale

At the core of all scientific endeavour is the inquiry into the nature of the universe. Science uses a systematic way of thinking, involving creative and critical reasoning, in order to acquire better and more reliable knowledge. Scientists recognise that knowledge is not fixed, but is fallible and open to challenge. As such, scientific endeavour is never conducted in isolation, but builds on and challenges an existing body of knowledge in the pursuit of more reliable knowledge. This collaborative process, whereby new knowledge is gained, is essential to the cooperative advancement of science, technology, health and society in the 21st century.

Tertiary study in any field will be aided by the transferable skills developed in this senior Science subject. It is expected that an appreciation of, and respect for, evidence-based conclusions and the processes required to gather, scrutinise and use evidence will be carried forward into all aspects of life beyond the classroom.

The purpose of senior Science subjects in Queensland is to introduce students to a scientific discipline. Students will be required to learn and apply aspects of the knowledge and skill of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society.

Upon completion of the course, students will have an appreciation for a body of scientific knowledge and the process that is undertaken to acquire this knowledge. They will be able to distinguish between claims and evidence, opinion and fact, and conjecture and conclusions.

In each of the senior Science subjects, students will develop:

- a deep understanding of a core body of discipline knowledge
- aspects of the skills used by scientists to develop new knowledge, as well as the opportunity to refine these skills through practical activities
- the ability to coordinate their understandings of the knowledge and skills associated with the discipline to refine experiments, verify known scientific relationships, explain phenomena with justification and evaluate claims by finding evidence to support or refute the claims.

Physics provides opportunities for students to engage with the classical and modern understandings of the universe. In Unit 1, students learn about the fundamental concepts of thermodynamics, electricity and nuclear processes. In Unit 2, students learn about the concepts and theories that predict and describe the linear motion of objects. Further, they will explore how scientists explain some phenomena using an understanding of waves. In Unit 3, students engage with the concept of gravitational and electromagnetic fields, and the relevant forces associated with them. Finally, in Unit 4, students study modern physics theories and models that, despite being counterintuitive, are fundamental to our understanding of many common observable phenomena.

Students will learn valuable skills required for the scientific investigation of questions. In addition, they will become citizens who are better informed about the world around them, and who have the critical skills to evaluate and make evidence-based decisions about current scientific issues.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Describe ideas and findings.

Students use scientific representations and language in appropriate genres to give a detailed account of scientific phenomena, concepts, theories, models and systems.

## **2. Apply understanding.**

Students use scientific concepts, theories, models and systems within their limitations. They use algebraic, visual and graphical representations of scientific relationships and data to determine unknown scientific quantities or features. They explain phenomena, concepts, theories, models, systems and modifications to methodologies.

## **3. Analyse data.**

Students consider scientific information from primary and secondary sources to identify trends, patterns, relationships, limitations and uncertainty. In qualitative data, they identify the essential elements, features or components. In quantitative data, they use mathematical processes and algorithms. They identify data to support ideas, conclusions or decisions.

## **4. Interpret evidence.**

Students use their understanding of scientific concepts, theories, models and systems and their limitations to draw conclusions and develop scientific arguments. They deduce, extrapolate, infer, justify and make predictions based on their analysis of data.

## **5. Evaluate conclusions, claims and processes.**

Students critically reflect on the available evidence and make judgments about its application to research questions. They extrapolate findings to support or refute claims. They use the quality of the evidence to evaluate the validity and reliability of inquiry processes and suggest improvements and extensions for further investigation.

## **6. Investigate phenomena.**

Students develop rationales and research questions for experiments and investigations. They modify methodologies to collect primary data and select secondary sources. They manage risks, environmental and ethical issues and acknowledge sources of information.

## **Pathways**

Physics is a general subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in Physics can establish a basis for further education and employment in the fields of science, engineering, medicine and technology.

## **Course structure**

Physics is a General senior syllabus. It contains four QCAA-developed units from which schools develop their course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment. Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

### **Unit 1: Thermal, nuclear and electrical physics**

In Unit 1, students explore the ways Physics is used to describe, explain and predict the energy transfers and transformations that are pivotal to modern industrial societies. An understanding of heating processes, nuclear reactions and electricity is essential to appreciate how global energy needs are met. Students investigate heating processes, apply the nuclear model of the atom to investigate radioactivity, and learn how nuclear reactions convert mass into energy. They examine the movement of electrical charge in circuits and use this to analyse and design electrical circuits. Contexts that could be investigated in this unit include technologies related to nuclear and thermal energy, electrical energy production, radiopharmaceuticals and electricity in the home; and related

areas of science such as nuclear fusion in stars. Through the investigation of these contexts, students may explore the challenge of meeting world energy needs and the ways in which science knowledge interacts with social, economic, cultural and ethical factors.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of heating processes, ionising radiation, nuclear reactions and electric circuits. Collaborative experimental work also helps students to develop communication, interaction, character and management skills.

Throughout the unit, students develop skills in interpreting, constructing and using a range of algebraic, graphical and symbolic representations to describe, explain and predict energy transfers and transformations.

- Topic 1: Heating processes
- Topic 2: Ionising radiation and nuclear reactions
- Topic 3: Electrical circuits

## **Unit 2: Linear motion and waves**

In Unit 2, students develop an appreciation of how an understanding of motion and waves can be used to describe, explain and predict a wide range of phenomena. Students describe linear motion in terms of displacement, velocity, acceleration and time data, and examine the relationships between force, momentum and energy for interactions in one dimension. Students also investigate common wave phenomena, using waves on springs, sound waves and consideration of seismic waves. They compare the behaviour of these waves with the behaviour of light, leading to an explanation of light phenomena, including constructive and destructive interference, and diffraction, in terms of a wave model.

Contexts that could be investigated in this unit include technologies (such as accelerometers, motion detectors, photo radar, energy conversion buoys, music, hearing aids, echo locators, fibre optics, DVDs and lasers) and related areas of science and engineering (such as sports science, car and road safety, acoustic design, noise pollution, seismology, bridge and building design).

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills, while gaining an enhanced appreciation of the range of technologies that have contributed to the development of physics understanding. Collaborative experimental work also helps students to develop communication, interaction, character and management skills.

Throughout the unit, students also develop their understanding of motion and wave phenomena through laboratory investigations. They develop skills in relating graphical representations of data to quantitative relationships between variables, and continue to develop skills in planning and conducting investigations and interpreting the results.

- Topic 1: Linear motion and force
- Topic 2: Waves

## **Unit 3: Gravity and electromagnetism**

In Unit 3, students develop a deeper understanding of motion and its causes by using Newton's laws of motion and the gravitational field model to analyse motion on inclined planes, and the motion of projectiles and satellites. Field theories have enabled physicists to explain a vast array of natural phenomena and have contributed to the development of technologies that have changed the world, including electrical power generation and distribution systems, artificial satellites and modern communication systems. Students develop their understanding of field theories of gravity and electromagnetism through investigations of motion and electromagnetic phenomena. Finally, they will investigate the production of electromagnetic waves.

Contexts that could be investigated in this unit include technologies such as artificial satellites, navigation devices, large-scale electrical power generation and distribution, motors and generators, electric cars, synchrotron science, medical imaging and astronomical telescopes such as the Square

Kilometre Array, and related areas of science and engineering such as sports science, amusement parks, ballistics, forensics, black holes and dark matter.

Participation in a range of experiments and investigations will allow students to develop skills in relating graphical representations of data to quantitative relationships between variables, using lines of force to represent vector fields, and interpreting interactions in two and three dimensions.

Throughout the unit, students develop skills in planning and conducting investigations, interpreting results and evaluating the validity of primary and secondary data, as well as the communication of these evaluations to others in a range of formats.

- Topic 1: Gravity and motion
- Topic 2: Electromagnetism

#### **Unit 4: Revolutions in modern physics**

In Unit 4, students examine observations of relative motion, light and matter that could not be explained by classical physics theories, and investigate how the shortcomings of existing theories led to the development of the special theory of relativity and the quantum theory of light and matter. The development of quantum theory and the theory of relativity fundamentally changed our understanding of how nature operates and led to the development of a wide range of new technologies, including those that revolutionised the storage, processing and communication of information. Students evaluate the contribution of the quantum theory of light to the development of the quantum theory of the atom, and examine the Standard Model of particle physics and how it relates to the Big Bang theory.

Contexts that could be investigated in this unit include technologies such as GPS navigation, lasers, modern electric lighting, medical imaging, quantum computers and particle accelerators, and related areas of science such as space travel, the digital revolution and the greenhouse effect.

Participation in a range of experiments and investigations will allow students to apply their understanding of relativity, black-body radiation, wave–particle duality and the quantum theory of the atom to make and/or explain observations of a range of phenomena such as atomic emission and absorption spectra, the photoelectric effect, lasers and Earth’s energy balance.

Throughout the unit, students develop skills in planning and conducting investigations, interpreting results, synthesising evidence to support conclusions, recognising and defining the realm of validity of physical theories and models, and communicating these conclusions to others in a range of formats.

- Topic 1: Special relativity
- Topic 2: Quantum theory
- Topic 3: The Standard Model

#### **Assessment**

- Internal assessment 1: Data test (10%)
- Internal assessment 2: Student experiment (20%)
- Internal assessment 3: Research investigation (20%)
- External assessment: Examination — combination response (50%)

# BIOLOGY

## Rationale

At the core of all scientific endeavour is the inquiry into the nature of the universe. Science uses a systematic way of thinking, involving creative and critical reasoning, in order to acquire better and more reliable knowledge. Scientists recognise that knowledge is not fixed but is fallible and open to challenge. As such, scientific endeavour is never conducted in isolation, but builds on and challenges an existing body of knowledge in the pursuit of more reliable knowledge. This collaborative process, whereby new knowledge is gained, is essential to the cooperative advancement of science, technology, health and society in the 21st century.

Tertiary study in any field will be aided by the transferable skills developed in this senior Science subject. It is expected that an appreciation of, and respect for, evidence-based conclusions and the processes required to gather, scrutinise and use evidence will be carried forward into all aspects of life beyond the classroom.

The purpose of senior Science subjects in Queensland is to introduce students to a scientific discipline. Students will be required to learn and apply aspects of the knowledge and skill of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society.

Upon completion of the course, students will have an appreciation for a body of scientific knowledge and the process that is undertaken to acquire this knowledge. They will be able to distinguish between claims and evidence, opinion and fact, and conjecture and conclusions.

In each of the senior Science subjects, students will develop:

- a deep understanding of a core body of discipline knowledge
- aspects of the skills used by scientists to develop new knowledge, as well as the opportunity to refine these skills through practical activities
- the ability to coordinate their understandings of the knowledge and skills associated with the discipline to refine experiments, verify known scientific relationships, explain phenomena with justification and evaluate claims by finding evidence to support or refute the claims.

Biology provides opportunities for students to engage with living systems. In Unit 1, students develop their understanding of cells and multicellular organisms. In Unit 2, they engage with the concept of maintaining the internal environment. In Unit 3, students study biodiversity and the interconnectedness of life. This knowledge is linked in Unit 4 with the concepts of heredity and the continuity of life.

Students will learn valuable skills required for the scientific investigation of questions. In addition, they will become citizens who are better informed about the world around them and who have the critical skills to evaluate and make evidence-based decisions about current scientific issues.

Biology aims to develop students:

- sense of wonder and curiosity about life
- respect for all living things and the environment
- understanding of how biological systems interact and are interrelated, the flow of matter and energy through and between these systems, and the processes by which they persist and change

- understanding of major biological concepts, theories and models related to biological systems at all scales, from subcellular processes to ecosystem dynamics
- appreciation of how biological knowledge has developed over time and continues to develop; how scientists use biology in a wide range of applications; and how biological knowledge influences society in local, regional and global contexts
- ability to plan and carry out fieldwork, laboratory and other research investigations, including the collection and analysis of qualitative and quantitative data and the interpretation of evidence
- ability to use sound, evidence-based arguments creatively and analytically when evaluating claims and applying biological knowledge
- ability to communicate biological understanding, findings, arguments and conclusions using appropriate representations, modes and genres.

## Course structure

Biology is a General senior syllabus. It contains four QCAA-developed units from which schools develop their course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment. Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

### Unit 1: Cells and multicellular organisms

In Unit 1, students explore the ways biology is used to describe and explain how the structure and function of cells and their components are related to the need to exchange matter and energy with their immediate environment. An understanding of the structure and function of cells is essential to appreciate the processes vital for survival. Students investigate the structure and function of cells and multicellular organisms. They examine the structure and function of plant and animal systems at cell and tissue levels in order to analyse how they facilitate the efficient provision or removal of materials.

Contexts that could be investigated in this unit include stem cell research, animal ethics, organ and tissue transplantation, bio-artificial organs and photosynthesis productivity. Through the investigation of these contexts, students may explore the ethical considerations that apply to the use of living organisms in research.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of the relationship between structure and function of cells and multicellular organisms. Collaborative experimental work also helps students to develop communication, interaction, character and management skills.

Throughout the unit, students develop skills in conducting real or virtual laboratory work and carrying out microscopic examination of cells and tissues. They use these skills to construct and use models to describe and interpret data about the functions of cells and organisms and to explain cellular processes.

- Topic 1: Cells as the basis of life (15 hours)
- Topic 2: Exchange of nutrients and wastes (15 hours)
- Topic 3: Cellular energy, gas exchange and plant physiology (15 hours)

### Unit 2: Maintaining the internal environment

In Unit 2, students explore the ways biology is used to describe and explain the responses of homeostatic mechanisms to stimuli and the human immune system. An understanding of personal and communal responses is essential to appreciate personal lifestyle choices and community health.

Students develop scientific skills and conceptual understanding in homeostasis, the immune system and the relationships between global, community and individual immunity. They examine geographical and population data to analyse strategies that may have personal and communal consequences.

Contexts that could be investigated in this unit include historical and current epidemics and pandemics. Through the investigation of these contexts, students may explore immunisation, quarantine, management strategies and travel preparation (both local and international).

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of controlling the internal environment. Collaborative experimental work also helps students to develop communication, interaction, character and management skills.

Throughout the unit, students develop skills in the application of technology, scientific practicals and investigations, analysis and evaluation. These skills allow them to describe and explain relationships between external and internal stimuli on controlling the internal environment.

- Topic 1: Homeostasis — thermoregulation and osmoregulation (24 hours)
- Topic 2: Infectious disease and epidemiology (21 hours)

### **Unit 3: Biodiversity and the interconnectedness of life**

In Unit 3, students explore the ways biology is used to describe and explain: the biodiversity within ecosystems; a range of biotic and abiotic components; species interactions; adaptations of organisms to their environment; principles of population dynamics; and how classification systems are used to identify organisms and aid scientific communication. An understanding of the structure of ecosystems, the processes involved in the movement of energy and matter in ecosystems and how environmental factors limit populations is essential to appreciate the dynamics, diversity and underlying unity of these systems. Students investigate the interactions within and between species, and the interactions between abiotic and biotic components of ecosystems. They also investigate how measurements of abiotic factors, population numbers, species diversity and descriptions of interactions between species can form the basis for spatial and temporal comparisons between ecosystems. They examine and analyse data collected from fieldwork to understand the interconnectedness of organisms, the physical environment and the impact of human activity.

Contexts that could be investigated in this unit include the local ecosystem; fishing and mining industries; habitat destruction; and ecosystem management systems. Through investigating these contexts, students may explore the impact of human activity on biodiversity, and sustainability of practices.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of how scientific knowledge is used to offer valid explanations and reliable predictions, and the ways in which scientific knowledge interacts with social, economic, cultural and ethical factors. Collaborative experimental work also helps students to develop communication, interaction, character and management skills.

Throughout the unit, students develop skills in sampling ecological systems, organising and analysing data and developing ecological models to describe and explain the diversity and interconnectedness of life on Earth.

- Topic 1: Describing biodiversity and populations (20 hours)
- Topic 2: Functioning ecosystems and succession (25 hours)

## **Unit 4: Heredity and continuity of life**

In Unit 4, students explore the ways biology is used to describe and explain the cellular processes and mechanisms that ensure the continuity of life. An understanding of the processes and mechanisms of how life on Earth has persisted, changed and diversified over the last 3.5 billion years is essential to appreciate the unity and diversity of life.

Students investigate different factors that affect cellular processes and gene pools. They examine different patterns of inheritance and the genetic basis of the theory of evolution through natural selection to analyse the use of predictive models in decision-making.

Contexts that could be investigated in this unit include DNA profiling, gene therapy and genetically modified organisms. Through the investigation of these contexts, students may explore the impact of the development of these technologies on future society.

Participation in a range of experiments and investigations will allow students to progressively develop their suite of science inquiry skills while gaining an enhanced appreciation of patterns of inheritance and the effect of a variety of factors on gene pools. Collaborative experimental work also helps students to develop communication, interaction, character and management skills.

Throughout the unit, students develop skills in modelling processes to describe and explain inheritance and population genetics.

- Topic 1: Genetics and heredity (30 hours)
- Topic 2: Continuity of life on Earth (15 hours)

### **Assessment**

- Internal assessment 1: Data test (10%)
- Internal assessment 2: Student experiment (20%)
- Internal assessment 3: Research investigation (20%)
- External assessment: Examination — combination response (50%)

# DIGITAL SOLUTIONS

## Rationale

Technologies have been an integral part of society for as long as humans have had the desire to create solutions to improve their own and others' quality of life. Technologies have an impact on people and societies by transforming, restoring and sustaining the world in which we live.

Australia needs enterprising and innovative individuals with the ability to make discerning decisions concerning the development, use and impact of technologies. When developing technologies, these individuals need to be able to work independently and collaboratively to solve open-ended problems. Subjects in the Technologies learning area prepare students to be effective problem-solvers as they learn about and work with contemporary and emerging technologies.

In Digital Solutions, students learn about algorithms, computer languages and user interfaces through generating digital solutions to problems. They engage with data, information and applications to generate digital solutions that filter and present data in timely and efficient ways while understanding the need to encrypt and protect data. They understand computing's personal, social and economic impact, and the issues associated with the ethical integration of technology into our daily lives.

Students engage in problem-based learning that enables them to explore and develop ideas, generate digital solutions, and evaluate impacts, components and solutions. They understand that solutions enhance their world and benefit society. To generate digital solutions, students analyse problems and apply computational, design and systems thinking processes. Students understand that progress in the development of digital solutions is driven by people and their needs.

Learning in Digital Solutions provides students with opportunities to develop, generate and repurpose solutions that are relevant in a world where data and digital realms are transforming entertainment, education, business, manufacturing and many other industries. Australia's workforce and economy requires people who are able to collaborate, use creativity to be innovative and entrepreneurial, and transform traditional approaches in exciting new ways.

By using the problem-based learning framework, students develop confidence in dealing with complexity, as well as tolerance for ambiguity and persistence in working with difficult problems that may have many solutions. Students are able to communicate and work with others in order to achieve a common goal or solution. Students write computer programs to generate digital solutions that use data; require interactions with users and within systems; and affect people, the economy and environments. Solutions are generated using combinations of readily available hardware and software development environments, code libraries or specific instructions provided through programming. Some examples of digital solutions include instructions for a robotic system, an instructional game, a productivity application, products featuring interactive data, animations and websites.

Digital Solutions prepares students for a range of careers in a variety of digital contexts. It develops thinking skills that are relevant for digital and non-digital real-world challenges. It prepares them to be successful in a wide range of careers and provides them with skills to engage in and improve the society in which we work and play. Digital Solutions develops the 21st century skills of critical and creative thinking, communication, collaboration and teamwork, personal and social skills, and information and communication technologies (ICT) skills that are critical to students' success in further education and life.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### **1. Recognise and describe elements, components, principles and processes.**

When students recognise, they identify or recall facts and particular features of elements, components, principles and processes used in digital technologies. When students describe, they give an account of elements, components, principles and processes in technology contexts.

### **2. Symbolise and explain information, ideas and interrelationships.**

When students symbolise, they represent information, idea development and system interrelationships using models, sketches, diagrams, tables and/or schemas. When students explain, they make information, ideas and interrelationships clear by describing them in more detail or revealing relevant facts.

### **3. Analyse problems and information.**

When students analyse, they breakdown and examine problems and information to ascertain patterns, similarities and differences in order to identify elements, components and features, and their relationship to the structure of problems. They determine the logic and reasonableness of information by using systems thinking and decomposition, pattern recognition, and abstraction computational thinking.

### **4. Determine solution requirements and criteria.**

When students determine solution requirements and success criteria, they establish, conclude or ascertain the interface, algorithm, programming and identified solution needs and constraints.

### **5. Synthesise information and ideas to develop possible digital solutions.**

When students synthesise, they combine and integrate information and ideas, and resolve uncertainties using design, systems and computational thinking to create new understanding and identify and develop possible digital solutions.

### **6. Generate components of the digital solution.**

When students generate, they use information, software, programming tools and skills to create components of an identified digital solution.

### **7. Evaluate components and solutions against criteria to make refinements and justified recommendations and evaluate impacts.**

When students evaluate, they appraise components and solutions by weighing up or assessing strengths, implications and limitations against success criteria. They evaluate the possible personal, social and economic impact of solutions to make refinements and recommendations. When students make refinements, they make partial or minor changes to improve the user experience and technical operation based on criteria. They use testing to evaluate and refine components and solutions based on criteria. When students make justified recommendations, they use supporting evidence to suggest modifications or enhancements.

When students evaluate, they appraise components and solutions by weighing up or assessing strengths, implications and limitations against success criteria. They evaluate the possible personal, social and economic impact of solutions to make refinements and recommendations. When students make refinements, they make partial or minor changes to improve the user experience and technical operation based on criteria. They use testing to evaluate and refine

components and solutions based on criteria. When students make justified recommendations, they use supporting evidence to suggest modifications or enhancements.

### **1. Make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.**

When students make decisions about mode-appropriate features, language and conventions, they use written, visual and spoken features to express meaning for particular purposes in a range of contexts. Written communication includes language conventions, specific vocabulary and language features such as annotations, paragraphs and sentences. Visual communication includes photographs, sketches, drawings, diagrams and motion graphics. Visual features include the elements and principles of visual communication. Spoken communication includes verbal and nonverbal features and may be for live or virtual audiences. Students use referencing conventions to practise ethical scholarship.

## **Assumed knowledge, prior learning or experience**

Students will have prior knowledge of the Australian Curriculum: Technologies, which is core in Years 7 and 8.

## **Pathways**

Digital Solutions is a general subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in Digital Solutions can establish a basis for further education and employment in the fields of science, technologies, engineering and mathematics.

## **Course structure**

Digital Solutions is a General senior syllabus. It contains four QCAA-developed units from which schools develop their course of study.

Digital Solutions is a course of study consisting of four units. Subject matter, learning experiences and assessment increase in complexity from Units 1 and 2 to Units 3 and 4 as students develop greater independence as learners. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair. Units 1 and 2 provide foundational learning, which allows students to experience all syllabus objectives and begin engaging with the course subject matter. Students should complete Units 1 and 2 before beginning Unit 3. It is recommended that Unit 3 be completed before Unit 4. Units 3 and 4 consolidate student learning. Only the results from Units 3 and 4 will contribute to ATAR calculations. Following figure outlines the structure of this course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

### **Unit 1: Creating with code**

In Unit 1, students will explore the creative and technical aspects of developing interactive digital solutions. They investigate algorithms, programming features and useability principles to generate small interactive solutions using programming tools and gain a practical understanding of programming features. This allows them the opportunity to explore existing and developing trends involving digital technologies.

- Topic 1: Understanding digital problems
- Topic 2: User experiences and interfaces
- Topic 3: Algorithms and programming techniques
- Topic 4: Programmed solutions

## **Unit 2: Application and data solutions**

In Unit 2, students are required to engage with and learn subject matter using the various phases of the problem-solving process. Students will optimise a given database and use programming skills acquired in Unit 1 to generate a solution that interacts with an existing database via structured query language (SQL). Students will plan, develop and generate the interface and code to enable the user to insert, update, retrieve and delete data using an existing database via SQL. Prior to inserting the data, the system will validate the data being entered to ensure its integrity and reliability for use and storage. Retrieved data will be displayed to the user in an appropriate format, such as text or a symbolic visual form.

- Topic 1: Data-driven problems and solution requirements
- Topic 2: Data and programming techniques
- Topic 3: Prototype data solutions

## **Unit 3: Digital innovation**

In Unit 3, students are required to engage with and learn subject matter using the various phases of the problem-solving process. Students analyse end-user needs, and use the knowledge and skills of problem-solving, computational, design and systems thinking. They determine data, programming and user experience requirements, using available resources to generate components and prototyped digital solutions. Students do this through one of the technology contexts: web applications, mobile applications, interactive media, or intelligent systems.

- Topic 1: Interactions between users, data and digital systems
- Topic 2: Real-world problems and solution requirements
- Topic 3: Innovative digital solutions

## **Unit 4: Digital impacts**

In Unit 4, students learn how data is shared in both local and global contexts, particularly how digital solutions are increasingly required to exchange data securely and efficiently. Students will understand elements of cybersecurity by exploring the conditions, environment and methods for enabling data to flow between different digital systems. They will analyse data privacy and data integrity risks associated with transferring data between applications and evaluate the personal, social and economic impacts associated with the use and availability of both public and private data. Students will generate an application that simulates the exchange of data between two applications.

- Topic 1: Digital methods for exchanging data
- Topic 2: Complex digital data exchange problems and solution requirements
- Topic 3: Prototype digital data exchanges

## **Assessment**

- Internal assessment 1: Technical Proposal (25%)
- Internal assessment 2: Digital Solution (25%)
- Internal assessment 3: Digital Solution (25%)
- External assessment: Examination — combination response (25%)

# ENGINEERING

## Rationale

Technologies have been an integral part of society for as long as humans have had the desire to create solutions to improve their own and others' quality of life. Technologies have an impact on people and societies by transforming, restoring and sustaining the world in which we live.

Australia needs enterprising and innovative individuals with the ability to make discerning decisions concerning the development, use and impact of technologies. When developing technologies, these individuals need to be able to work independently and collaboratively to solve complex, open-ended problems. Subjects in the Technologies learning area prepare students to be effective problem-solvers as they learn about and work with contemporary and emerging technologies.

The problem-solving process in Engineering involves the practical application of science, technology, engineering and mathematics (STEM) knowledge to develop sustainable products, processes and services. Engineers use their technical and social knowledge to solve problems in ways that meet the needs of today's individuals, communities, businesses and environments, without compromising the potential needs of future generations. Students who study Engineering develop technical knowledge and problem-solving skills that enable them to respond to and manage ongoing technological and societal change.

Engineering includes the study of mechanics, materials science and control technologies through real-world engineering contexts where students engage in problem-based learning. Students learn to explore complex, open-ended problems and develop engineered solutions. They recognise and describe engineering problems, determine success criteria, develop and communicate ideas and propose, generate, evaluate and refine real-world-related solutions. Students justify their decision-making and acknowledge the societal, economic and environmental sustainability of their engineered solutions. The problem-based learning framework in Engineering encourages students to become self-directed learners and develop beneficial collaboration and management skills.

Engineering provides students with an opportunity to experience, first-hand and in a practical way, the exciting and dynamic work of real-world engineers. Students learn transferrable 21st century skills that support their life aspirations, including critical thinking, creative thinking, communication, collaboration and teamwork, personal and social skills, and information & communication technologies (ICT) skills. The study of Engineering inspires students to become adaptable and resilient. They appreciate the engineer's ability to confidently and proficiently generate solutions that improve the quality of people's lives in an increasingly complex and dynamic technological world.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### **1. Recognise and describe engineering problems, knowledge, concepts and principles.**

When students recognise engineering problems, knowledge, concepts and principles, they identify or recall related engineering technology knowledge, mechanics, materials science and control technologies concepts and principles. When students describe they give an account of the characteristics or features of problems, knowledge, concepts and principles.

### **2. Symbolise and explain ideas and solutions.**

When students symbolise, they represent idea and solution development in sketches, drawings, diagrams, models, tables and/or schemas. When students explain, they use knowledge, understanding

and reasoning to make ideas, solutions and interrelationships plain or clear by describing them in more detail or revealing relevant facts.

### **3. Analyse problems and information.**

When students analyse problems and information, they research and investigate to explain and interpret, for the purpose of finding meaning or relationships. They determine the reasonableness of information and ascertain patterns, similarities and differences in order to identify elements, components and features, and their relationship to the structure of problems.

### **4. Determine success criteria for engineering problems.**

When students determine success criteria for engineering problems, they establish, conclude or ascertain solution needs and constraints, or requirements after consideration of elements, components and features, and their relationship to the structure of problems.

### **5. Synthesise information and ideas to propose possible solutions.**

When students synthesise information and ideas to propose possible solutions, they combine and integrate information and ideas, and resolve uncertainties using knowledge of technology, mechanics, materials science and control technologies, and knowledge gained through research, investigation and testing to create new understanding.

### **6. Generate prototype solutions to provide data to determine the feasibility of solutions.**

When students generate prototype solutions, they produce a trial solution, that when tested, provides data to determine the feasibility of the real-world solution.

### **7. Evaluate and refine ideas and solutions to make justified recommendations.**

When students evaluate, they appraise ideas and solutions by weighing up or assessing strengths, implications and limitations against success criteria. When students refine solutions, they modify to make improvements relative to success criteria. They use data, provided by testing, to evaluate and refine solutions. When students make justified recommendations, they put forward a point of view or suggestion with supporting evidence to make modifications.

### **8. Make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.**

When students make decisions about mode-appropriate features and conventions, they use written and visual features to express meaning for particular purposes in a range of contexts. Written communication includes language conventions, specific vocabulary and language features such as annotations, paragraphs, and sentences. Visual communication includes photographs, sketches, drawings and diagrams. Students use referencing conventions to practise ethical scholarship for particular purposes.

## **Assumed knowledge, prior learning or experience**

Students will have prior knowledge of the Australian Curriculum: Technologies, which is core in Years 7 and 8. Similarly, students will have studied the Australian Curriculum: Mathematics and the Australian Curriculum: Science as core in Years 9 and 10. The areas of study and subject matter draw on engineering, technology, science and mathematics knowledge.

## Pathways

Engineering is a general subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in Engineering can establish a basis for further education and employment in the field of engineering, including, but not limited to, civil, mechanical, mechatronic, electrical, aerospace, mining, process, chemical, marine, biomedical, telecommunications, environmental, micro-nano and systems. The study of engineering will also benefit students wishing to pursue post-school tertiary pathways that lead to careers in architecture, project management, aviation, surveying and spatial sciences.

## Course Structure

Engineering is a course of study consisting of four units. Subject matter, learning experiences and assessment increase in complexity from Units 1 and 2 to Units 3 and 4 as students develop greater independence as learners. Units 1 and 2 provide foundational learning, which allows students to experience all syllabus objectives and begin engaging with the course subject matter. Students should complete Units 1 and 2 before beginning Unit 3. It is recommended that Unit 3 be completed before Unit 4. Units 3 and 4 consolidate student learning. Only the results from Units 3 and 4 will contribute to ATAR calculations. Following figure outlines the structure of this course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

### Unit 1: Engineering fundamentals

In Unit 1, students learn about engineering's role in solving global and local societal problems in order to improve the human condition. They learn how to use their knowledge of fundamental mechanics and materials science concepts and principles to solve problems using the problem-solving process in Engineering in ways that meet human needs while considering the economic, social, ethical, legal and environmental impacts of their solutions. Students explore the history of engineering to gain an appreciation for the role played by engineering in the shaping of contemporary and future societies. Students engage in practical engineering activities to learn that engineering is an applied practical discipline that uses science and mathematics concepts and principles to solve real-world-related problems. Students are introduced to engineering drawings that communicate ideas to a technical and non-technical audience. Students participate in a range of individual and collaborative group activities, including those associated with material and process testing, analysis of the forces acting on basic structures, and problem-solving.

- Topic 1: Engineering in society
- Topic 2: Engineering communication
- Topic 3: Introduction to engineering mechanics
- Topic 4: Introduction to engineering materials

### Unit 2: Emerging technologies

In Unit 2, students explore the needs of contemporary and future societies. Students investigate the emergence of new materials, processes and machines developed to solve problems in relation to rapidly evolving needs. This unit builds on the knowledge gained in the previous unit and reinforces engineering's role in solving global and local societal problems in order to improve the human condition. Students use their knowledge of mechanics, materials science and control technologies to solve problems using the problem-solving process in Engineering in ways that meet contemporary and future human needs while considering the social, economic, ethical, legal and environmental impacts of their solutions. Students investigate new and emerging technologies in relation to engineering fields including biomedical, aerospace, energy and electrical. They engage in practical engineering activities using the knowledge gained in this unit to solve real-world-related problems. Students participate in a range of individual and collaborative group activities including those associated with advanced materials, health, renewable energy, autonomous vehicles and robotics.

- Topic 1: Emerging needs in society

- Topic 2: Emerging processes, machinery and automation
- Topic 3: Emerging materials

### **Unit 3: Civil structures**

In Unit 3, students learn about engineering's role in solving global and local societal problems to improve the human condition using the problem-solving process in Engineering. Students investigate civil structures to examine the benefits and the social and environmental consequences of their construction and use. Students engage in practical engineering activities to learn that engineering is an applied practical discipline that uses science and mathematics concepts and principles to solve real-world-related problems. Students participate in a range of individual and collaborative group activities, including those associated with material and process testing, and analysis of the forces acting on structures. Students investigate the difficulties involved in engineering solutions for communities where environmental extremes must be considered, including those associated with intense cold and heat, storms, drought or flood.

- Topic 1: Civil structures in society
- Topic 2: Civil structures and forces
- Topic 3: Civil engineering materials

### **Unit 4: Machines and mechanisms**

In Unit 4, students extend their knowledge of Units 1, 2 and 3 to develop an understanding of dynamics through machines and mechanisms, including the uniformly accelerated motion of objects in one dimension, apparent weight, and motion on an inclined plane. They examine the effect of frictional forces on the motion of objects. Students investigate the functional requirements of machines and mechanisms and establish a working knowledge of their operation in real-world contexts. They differentiate between the properties of materials used in the manufacture of machines and mechanisms in engineering fields such as mechanical, electrical, biomedical and mechatronics.

In this culminating unit, students apply the knowledge gained in previous units to solve problems using the problem-solving process in Engineering in ways that meet human needs while considering the social, ethical, economic and environmental impacts of their solutions. Students engage in practical engineering activities to learn that engineering is an applied practical discipline that uses science and mathematics concepts and principles to solve real-world-related problems. Students participate in a range of individual and collaborative group activities, including those associated with material and process testing and analysis of the forces acting on machines and mechanisms.

- Topic 1: Machines in society
- Topic 2: Machines, mechanisms and control
- Topic 3: Materials

### **Assessment**

- Internal assessment 1: Engineered Solution (25%)
- Internal assessment 2: Examination — combination response (25%)
- Internal assessment 3: Engineered Solution (25%)
- External assessment: Examination — combination response (25%)

# BUSINESS

## Rationale

Business is multifaceted. It is a contemporary discipline with representation in every aspect of society including individuals, community and government. Business, as a dynamic and evolving discipline, is responsive to environmental changes such as emerging technologies, globalisation, sustainability, resources, economy and society.

The study of business is relevant to all individuals in a rapidly changing, technology-focused and innovation-driven world. Through studying Business, students are challenged academically and exposed to authentic practices. The knowledge and skills developed in Business will allow students to contribute meaningfully to society, the workforce and the marketplace and prepare them as potential employees, employers, leaders, managers and entrepreneurs of the future.

Students investigate the business life cycle from the seed to post-maturity stage and develop skills in examining business data and information. Students learn business concepts, theories and strategies relevant to leadership, management and entrepreneurship. A range of business situations and environments is explored. Through this exploration, students investigate the influence of and implications for strategic development in the functional areas of finance, human resources, marketing and operations.

Learning in Business integrates an inquiry approach with authentic case studies. Students become critical observers of business practices by applying an inquiry process in undertaking investigations of business situations. They use a variety of technological, communication and analytical tools to comprehend, analyse and interpret business data and information. Students evaluate strategies using business criteria that are flexible, adaptable and underpinned by communication, leadership, creativity and sophistication of thought.

This multifaceted course creates a learning environment that fosters ambition and success, while being mindful of social and ethical values and responsibilities. Opportunity is provided to develop interpersonal and leadership skills through a range of individual and collaborative activities in teaching and learning. Business develops students' confidence and capacity to participate as members or leaders of the global workforce through the integration of 21st century skills.

Business allows students to engage with the dynamic business world (in both national and global contexts), the changing workforce and emerging digital technologies. It addresses contemporary implications, giving students a competitive edge in the workplace as socially responsible and ethical members of the business community, and as informed citizens, employees, consumers and investors.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### **1. Describe business situations and environments.**

Students recognise business facts and characteristics to describe business situations and the internal, external operating and macro business environments.

### **2. Explain business concepts and strategies.**

Students identify and explain business concepts and strategies relating to the key business functions using business terminology and provide examples to demonstrate their understanding.

### **3. Analyse and interpret business situations.**

Students analyse business situations, environments and the key business functions by selecting relevant data and information using analytical tools. Students interpret relationships and trends from the analysis to draw conclusions about implications for a business situation.

### **4. Evaluate business strategies.**

Students evaluate by using their analysis and interpretation to form judgments about business strategies using business criteria. They use these judgments to make decisions and propose recommendations for a business situation.

### **5. Create responses that communicate meaning to suit audience, context and purpose.**

Students create responses using the required genre to suit audience, context and purpose. They demonstrate choices of language, sequencing and the development of ideas to convey meaning. They use a recognised system of referencing to demonstrate scholarship.

## **Pathways**

Business is a general subject suited to students who are interested in pathways beyond Year 12 that lead to tertiary studies, vocational education or work. The study of Business provides opportunities for students to pursue entrepreneurial pathways and a wide range of careers in the public, private and not-for-profit sectors. 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.

## **Course structure**

Business is a course of study consisting of four units. Subject matter, learning experiences and assessment increase in complexity from Units 1 and 2 to Units 3 and 4 as students develop greater independence as learners.

Units 1 and 2 provide foundational learning, which allows students to experience all syllabus objectives and begin engaging with the course subject matter. Students should complete Units 1 and 2 before beginning Unit 3. It is recommended that Unit 3 be completed before Unit 4.

Units 3 and 4 consolidate student learning. Only the results from Units 3 and 4 will contribute to ATAR calculations. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

### **Unit 1: Business creation**

In Unit 1, students explore fundamental business concepts and strategies relating to strategic planning, business environments, leadership, management, entrepreneurship, human resources, finance, marketing, operations and technology. Students investigate the creation of business ideas and the business life cycle before focusing on the challenges of the seed stage. SWOT and PEST analytical tools are used to analyse strategic planning, stakeholders, competitors and the business environment. Business and entrepreneurial ideas are evaluated using the business criteria of competitiveness, effectiveness, efficiency and stakeholder satisfaction to determine their viability. Students use their knowledge of the fundamentals of business and the creation of business ideas to analyse and evaluate two authentic business case studies.

- Topic 1: Fundamentals of business
- Topic 2: Creation of business ideas

## Unit 2: Business growth

In Unit 2, students explore concepts and strategies used by businesses in the start-up and growth stages of the business life cycle. Students explore leadership and management across the key business functions, including financial, human resources, marketing and operations in the growth stage. Analytical tools, including STEEPLE and break-even analyses, are used to analyse and interpret the implications of establishing a business. Market entry is analysed and interpreted using the analytical tools SWOT and USP. Strategies to establish a business and market entry are evaluated using the business criteria of competitiveness, effectiveness, efficiency and stakeholder satisfaction. Two authentic case studies will allow students to investigate a franchise and a business entering a new market.

- Topic 1: Establishment of a business
- Topic 2: Entering markets

## Unit 3: Business diversification

In Unit 3, students explore concepts and strategies used by businesses in the maturity stage of the business life cycle. Students investigate diversification strategies, with a specific focus on expansion into global markets and emerging strategies providing a competitive advantage. Analytical tools, including SWOT, STEEPLE and USP analyses and power interest grid, are used to analyse the challenges businesses experience when trying to differentiate and expand. Business diversification strategies are evaluated using the business criteria of competitiveness, effectiveness, efficiency and stakeholder satisfaction. Students propose recommendations for business strategies across a range of management and functional areas. An authentic business case study allows students to investigate an Australian business that has expanded into the Asian market.

- Topic 1: Competitive markets
- Topic 2: Strategic development

## Unit 4: Business evolution

In Unit 4, students investigate the challenges for businesses in the post-maturity stage of the business life cycle and explore the leadership and management required when repositioning or transforming a business using financial, human resources, marketing and operational management strategies. Drivers of change and change management theories allow students to analyse, interpret and evaluate the outcomes for business evolution. A variety of analytical tools, including SWOT, STEEPLE, and force field analyses and Porter's five forces are used to analyse and interpret repositioning and transformation of a business. The business criteria of competitiveness, effectiveness, efficiency and stakeholder satisfaction are used to make decisions and propose recommendations to reposition and transform business.

- Topic 1: Repositioning a business
- Topic 2: Transformation of a business

## Assessment

- Internal assessment 1: Examination — combination response (25%)
- Internal assessment 2: Business report (25%)
- Internal assessment 3: Feasibility report (25%)
- External assessment: Examination — combination response (25%)

# ACCOUNTING

## Rationale

Accounting is a universal discipline, encompassing the successful management of financial resources of the public sector, businesses, and individuals. It is foundational to all organisations across all industries and assists in discharging accountability and financial control. Accounting is a way of systematically organising, critically analysing and communicating financial data and information for decision-making.

The overarching context for this syllabus is the real-world expectation that accounting involves processing transactions to develop financial statements and reports to stakeholders. Digital technologies are integral to accounting, enabling real-time access to vital financial information. When students study this subject, they develop an understanding of the essential role accounting plays in the successful performance of any organisation. Students learn fundamental accounting concepts in order to develop an understanding of accrual accounting, accounting for GST, managerial and accounting controls, internal and external financial statements, and analysis. Students are then ready for more complex utilisation of knowledge, allowing them to synthesise data and other financial information, evaluate practices of financial management, solve authentic accounting problems and make and communicate recommendations.

Accounting is for students with a special interest in business, commerce, entrepreneurship and the personal management of financial resources. The numerical, literacy, technical, financial, critical thinking, decision-making and problem-solving skills learned in Accounting enrich the personal and working lives of students. Problem-solving and the use of authentic and diversified accounting contexts provide opportunities for students to develop an understanding of the ethical attitudes and values required to participate more effectively and responsibly in a changing business environment.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### **1. Comprehend accounting concepts, principles and processes.**

Students comprehend when they identify accounting characteristics and demonstrate understanding of accounting concepts, principles and processes. Comprehending involves descriptions, explanations, calculations, identifying and ordering steps in a skill or process, and using accounting terminology.

### **2. Synthesise accounting principles and processes.**

Students use their knowledge to synthesise financial data and information. They apply accounting principles and processes to solve accounting problems and explain how the accounting problem is solved.

### **3. Analyse and interpret financial data and information.**

Students analyse when they use financial data and information to interpret trends and relationships and explain issues or problems.

### **4. Evaluate practices of financial management to make decisions and propose recommendations.**

Students evaluate when they use their analysis and interpretation to make decisions about existing or alternative practices of financial management. Decisions are justified using criteria that assess strengths and limitations. They propose a recommendation/s to solve an accounting problem.

## 5. Create responses that communicate meaning.

Students create a response that communicates meaning when they demonstrate choices of language, sequencing and the development of accounting ideas to convey meaning suitable for the purpose. They use a genre, including graphs, data and statistics to suit accounting contexts.

## Pathways

Accounting is a General subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in Accounting can establish a basis for further education and employment in the fields of accounting, business, management, banking, finance, law, economics and commerce. As the universal language of business (Helliard 2013), Accounting provides students with a variety of future opportunities, enabling a competitive advantage in entrepreneurship and business management in many types of industries, both locally and internationally.

## Course structure

Accounting is a course of study consisting of four units. Subject matter, learning experiences and assessment increase in complexity from Units 1 and 2 to Units 3 and 4 as students develop greater independence as learners. Units 1 and 2 provide foundational learning, which allows students to experience all syllabus objectives and begin engaging with the course subject matter. Students should complete Units 1 and 2 before beginning Unit 3. It is recommended that Unit 3 be completed before Unit 4. Units 3 and 4 consolidate student learning. Only the results from Units 3 and 4 will contribute to ATAR calculations. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

### Unit 1: Real-world accounting

In Unit 1, students consider real-world applications of accounting to develop an understanding of the role, purpose and uses of accounting. Students are introduced to accounting concepts through the analysis of financial statements for companies. Double entry accounting principles are applied to record and process transactions for sole trader businesses. Computerised accounting processes are introduced using a computerised accounting package and/or spreadsheeting software to record and process transactions.

- Topic 1: Introduction to accounting
- Topic 2: Accounting for today's businesses

### Unit 2: Financial reporting

In Unit 2, students explore how accounting information is used to effectively manage the finances for a sole trader business. Accrual accounting principles and processes are applied to prepare balance day adjustments at the end of the financial period to determine profit or loss and net worth in the financial statements. Ratio analysis is used to inform potential investors and business owners about the business. The use of a computerised accounting package and spreadsheet software provides students with an authentic application of processes. Students explore the implementation of internal controls in the accounting process to secure inventories and effectively manage credit accounts, and communicate their decisions and recommendations to internal users.

- Topic 1: End-of-period reporting for today's businesses
- Topic 2: Performance analysis of a sole trader business

### **Unit 3: Managing resources**

In Unit 3, students manage the resources of a sole trader business including cash, accounts receivable, non-current assets and technology. Double entry and accrual accounting principles are applied to record non-current assets (purchase, depreciation and disposal) in the life of the business. Cash budgets are produced using a spreadsheet (projecting the future) and financial statements (reporting on past performance) are produced to report comprehensively on the financial management of a sole trader business. The use of spreadsheet software provides opportunity for the authentic application of spreadsheet features and spreadsheet functions in accounting contexts. Students explore how administrative and accounting controls can be used effectively to protect and maintain the resources of a business.

- Topic 1: Cash management
- Topic 2: Managing resources for a sole trader business

### **Unit 4: Accounting — the big picture**

In Unit 4, students bring together the complete process of preparing fully classified financial statements for a sole trader business, and an analysis and evaluation of the Statement of Profit or Loss, Statement of Financial Position and Statement of Cash Flows. Ratios are calculated and questions are asked about the various elements that make up these financial statements in order to make decisions about the business. Making links to Unit 1, students examine external financial statements, calculate a range of ratios and compare these ratios with past performance and industry benchmarks in order to determine how a public company is performing and make decisions for stakeholders about the results.

- Topic 1: Fully classified financial statement reporting and analysis for a sole trader business
- Topic 2: Complete accounting process for a sole trader business
- Topic 3: Performance analysis of a public company.

### **Assessment**

- Internal assessment 1: Project — cash management (25%)
- Internal assessment 2: Examination — combination response (25%)
- Internal assessment 3: Examination — combination response (25%)
- External assessment: Examination — combination response (25%)

# LEGAL STUDIES

## Rationale

Legal Studies focuses on the interaction between society and the discipline of law. 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. An understanding of legal processes and concepts enables citizens to be better informed and able to constructively question and contribute to the improvement of laws and legal processes. This is important as the law is dynamic and evolving, based on values, customs and norms that are challenged by technology, society and global influences.

Legal Studies explores the role and development of law in response to current issues. The subject starts with the foundations of law and explores the criminal justice process through to punishment and sentencing. Students then study the civil justice system, focusing on contract law and negligence. With increasing complexity, students critically examine issues of governance that are the foundation of the Australian and Queensland legal systems, before they explore contemporary issues of law reform and change. The study finishes with considering Australian and international human rights issues. Throughout the course, students analyse issues and evaluate how the rule of law, justice and equity can be achieved in contemporary contexts.

The primary skills of inquiry, critical thinking, problem-solving and reasoning empower Legal Studies students to make informed and ethical decisions and recommendations. Learning is based on an inquiry approach that develops reflection skills and metacognitive awareness. Through inquiry, students identify and describe legal issues, explore information and data, analyse, evaluate to make recommendations, and create responses that convey legal meaning. They improve their research skills by using information and communication technology (ICT) and databases to access research, commentary, case law and legislation. Students analyse legal information to determine the nature and scope of the legal issue and examine different associated views, which are evaluated against legal criteria. These are critical skills that allow students to think strategically in the 21st century. Knowledge of the law enables students to have confidence in approaching and accessing the legal system and provides them with an appreciation of the influences that shape the system. Legal knowledge empowers students to make constructive judgments on, and knowledgeable commentaries about, the law and its processes. Students examine and justify viewpoints involved in legal issues, while also developing respect for diversity. Legal Studies satisfies interest and curiosity as students question, explore and discuss tensions between changing social values, justice and equitable outcomes.

Legal Studies enables students to appreciate how the legal system is relevant to them and their communities. The subject enhances students' abilities to contribute in an informed and considered way to legal challenges and change, both in Australia and globally.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Comprehend legal concepts, principles and processes.

Students comprehend by identifying, describing and explaining legal features, concepts, principles and processes. Students use relevant legal terminology, to demonstrate their understanding of the Australian and/or Queensland legal systems/s. Comprehending can also include translating knowledge into symbolic representations and constructing diagrams.

### 2. Select legal information from sources.

Students select legal information from primary and/or secondary sources, for example, case law, legal databases, legislation, government and other institutional websites, published reports, media

and expert commentaries. Students make these choices based on currency and relevance and use a recognised system of referencing to document and acknowledge sources.

### **3. Analyse legal issues.**

Students analyse legal issues by using legal information to apply legal concepts, principles and processes to determine the nature and scope of the legal issue and to examine different associated viewpoints and their consequences.

### **4. Evaluate legal situations.**

Students evaluate legal situations using knowledge from their analysis to present legal alternatives then make a recommendation in response to the situation. Students synthesise information to justify the recommendation using legal criteria, then discuss the implications of the recommendation.

### **5. Create responses that communicate meaning to suit the intended purpose.**

Students create a response using their knowledge to communicate meaning according to the intended purpose. Students use genre and language conventions that suit the context to convey legal meaning.

## **Pathways**

Legal Studies is a general subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. 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 Legal Studies students gain are transferable to all discipline areas and post-schooling tertiary pathways. The research and analytical skills this course develop are universally valued in business, health, science and engineering industries.

## **Course structure**

Legal Studies is a course of study consisting of four units. Subject matter, learning experiences and assessment increase in complexity from Units 1 and 2 to Units 3 and 4 as students develop greater independence as learners. Units 1 and 2 provide foundational learning, which allows students to experience all syllabus objectives and begin engaging with the course subject matter. Students should complete Units 1 and 2 before beginning Unit 3. It is recommended that Unit 3 be completed before Unit 4. Units 3 and 4 consolidate student learning. Only the results from Units 3 and 4 will contribute to ATAR calculations. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

### **Unit 1: Beyond reasonable doubt**

In Unit 1, students are introduced to the Australian legal system, the sources of law, and the roles of parliament and the courts. The unit focuses on legal principles and criteria, for example just and equitable outcomes. Students will consider how criminal law attempts to safeguard individuals' right to freedom from interference, with society's need for order. They examine the consequences of alleged criminal behaviour in terms of trial processes, punishment and sentences.

Where appropriate and possible, current contexts based on relevant and contemporary issues are used in this unit. Examples of issues include acts causing injury or death; property offences (for example, extortion and theft), wilful damage (for example, graffiti and arson), and environmental pollution; cybercrime; business, credit card and social security fraud and deception; drug and public order offences; and traffic and vehicle regulatory offences.

- Topic 1: Legal foundations
- Topic 2: Criminal investigation process
- Topic 3: Criminal trial process
- Topic 4: Punishment and sentencing

## Unit 2: Balance of probabilities

In Unit 2, students consider legal concepts, principles and processes within the Australian and Queensland civil justice systems. They develop an understanding that civil law regulates the rights and responsibilities that exist between individuals, groups, organisations and governments. They explore dispute resolution methods, including judicial determination and alternatives in and out of courts. Through a consideration of contemporary cases and legal issues, students evaluate the effectiveness of civil law and how it affects individuals within society.

- Topic 1: Civil law foundations
- Topic 2: Contractual obligations
- Topic 3: Negligence and the duty of care

## Unit 3: Law, governance and change

In Unit 3, students examine the complexities of the Australian legal system and its capacity to deal with the diversity of competing needs. They explore the role of legal institutions and law-making bodies in creating laws that reflect the views of society. Students consider the range of forces that create catalysts for change and reform, and how laws are changed or reformed to reflect shifting societal demands. This unit encourages and informs critical thinking about Australian and Queensland laws, and the importance of society and individuals engaging in law-making processes.

Students will study law, governance and change through relevant contemporary issues involving matters of governance and law reform. Examples of issues could arise from a range of areas, for example, family law, technology law, criminal law, counter-terrorism laws, employment law, and corporate law.

- Topic 1: Governance in Australia
- Topic 2: Law reform within a dynamic society

## Unit 4: Human rights in legal contexts

In Unit 4, students consider legal concepts, principles and contemporary issues studied in previous units to consider fundamental concepts of human rights and analyse Australia's participation within the global community. They recognise how human rights create challenges in national and international contexts, including for minority groups, and examine Australia's legal response to international law and human rights.

- Topic 1: Human rights
- Topic 2: Australia's legal response to international law and human rights
- Topic 3: Human rights in Australian contexts

## Assessment

- Internal assessment 1: Examination — combination response (25%)
- Internal assessment 2: Investigation — inquiry report (25%)
- Internal assessment 3: Investigation — analytical essay (25%)
- External assessment: Examination — combination response (25%)

# HEALTH

## Rationale

The knowledge, understanding and skills taught through Health and Physical Education enable students to explore and enhance their own and others' health and physical activity in diverse and changing contexts. Development of the physical, intellectual, social, emotional and spiritual capacities necessary in the strands of 'Movement and physical activity' and 'Personal, social and community health' are key components of the P–10 Australian Curriculum: Health and Physical Education. They provide the foundations for learning and alignment to the QCAA Physical Education and Health senior syllabuses, to build increasingly complex and developmental courses of study in the senior years.

The Health syllabus provides students with a contextualised strengths-based inquiry of the various determinants that create and promote lifelong health, learning and active citizenship. Drawing from the health, behavioural, social and physical sciences, the Health syllabus offers students an action, advocacy and evaluation-oriented curriculum. Embedded in Health is the Health inquiry model that provides the conceptual framework for this syllabus.

The Health syllabus is developmental and becomes increasingly more complex across the four units through the use of overarching approaches, frameworks and resources. This syllabus is underpinned by a salutogenic (strengths-based) approach, which focuses on how health resources are accessed and enhanced. Resilience as a personal health resource in Unit 1, establishes key teaching and learning concepts, which build capacity for the depth of understanding over the course of study. Unit 2 focuses on the role and influence of peers and family as resources through one topic selected from two choices: Elective topic 1: Alcohol, or Elective topic 2: Body image. Unit 3 explores the role of the community in shaping resources through one topic selected from three choices: Elective topic 1: Homelessness, Elective topic 2: Road safety, or Elective topic 3: Anxiety. The culminating unit challenges students to investigate and evaluate innovations that influence respectful relationships to help them navigate the post-schooling life-course transition.

Health uses an inquiry approach informed by the critical analysis of health information to investigate sustainable health changes at personal, peer, family and community levels. Students define and understand broad health topics, which they reframe into specific contextualised health issues for further investigation. Students plan, implement, evaluate and reflect on action strategies that mediate, enable and advocate change through health promotion.

Studying Health will highlight the value and dynamic nature of the discipline, alongside the purposeful processes and empathetic approach needed to enact change. The investigative skills required to understand complex issues and problems will enable interdisciplinary learning and prepare students for further study and a diverse range of career pathways. The development of problem-solving and decision-making skills will serve to enable learning now and in the future.

The health industry is currently experiencing strong growth and is recognised as the largest industry for new employment in Australia, with continued expansion predicted due to ageing population trends. A demand for individualised health care services increases the need for health- educated people who can solve problems and contribute to improved health outcomes across the lifespan at individual, family, local, national and global levels. The preventive health agenda is future-focused to develop 21st century skills, empowering students to be critical and creative thinkers, with strong communication and collaboration skills equipped with a range of personal, social and ICT skills.

## Pathways

Health is a general subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in Health can establish a basis for further education and employment in the fields of health science, public health, health education, allied health, nursing and medical professions.

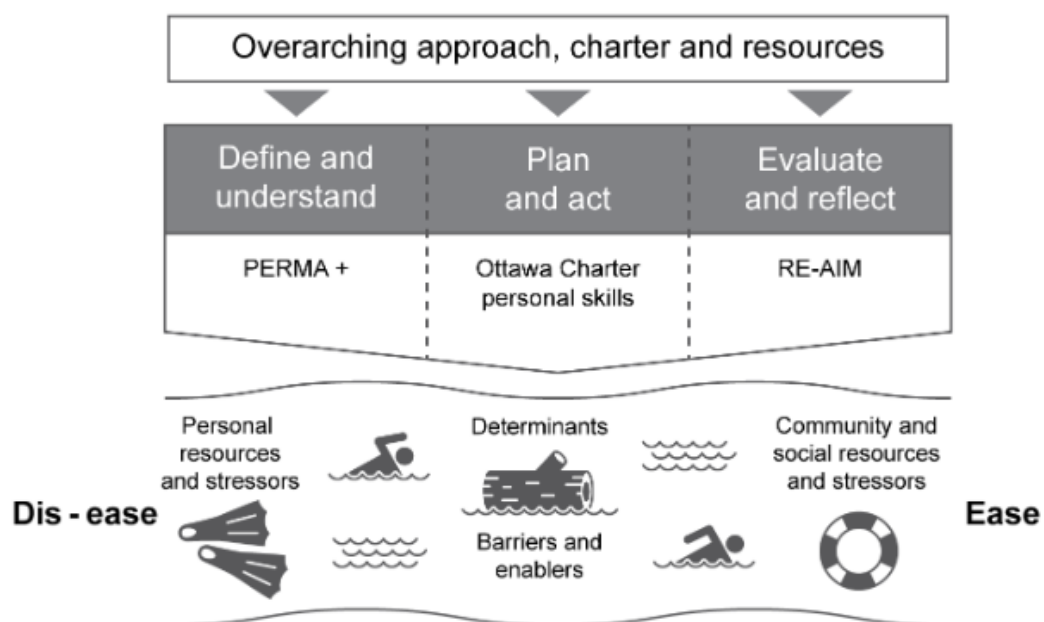
## Course Structure

Health is a General senior syllabus. It contains four QCAA-developed units from which schools develop their course of study. Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment. Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

### Unit 1: Resilience as a personal health resource

In Unit 1, students are introduced to and explore the broad notion of health, focusing on resilience as a personal health resource. In this introductory unit of Health, students will learn how to apply a socio-critical lens to develop a critical perspective of health and to gain an understanding of how health is socially constructed. The ability of people and authorities to influence the perception of health and illness for individuals is considered from pathogenically and salutogenically oriented lenses. Students develop their understanding of the salutogenic approach used to understand and critique health topics and issues through the Unit 1 Health inquiry model. Students learn how to reframe a broad health-related topic as a narrow, specific and contextualised issue through an inquiry approach. Students use the PERMA+ framework, personal skills action area of the Ottawa Charter and RE-AIM to analyse, implement and evaluate action strategies that build resilience as a resource for personal health.

Figure 1: Unit 1 Health inquiry model



### Unit objectives

1. Recognise and describe information about resilience in a personal health context.  
Comprehend and use the Health inquiry model in relation to resilience in a personal health context.
2. Analyse and interpret information to draw conclusions about resilience in a personal health context.
3. Critique information about resilience to distinguish determinants that influence health in a personal health context.
4. Investigate and synthesise information to develop an action strategy to influence resilience in a personal health context.

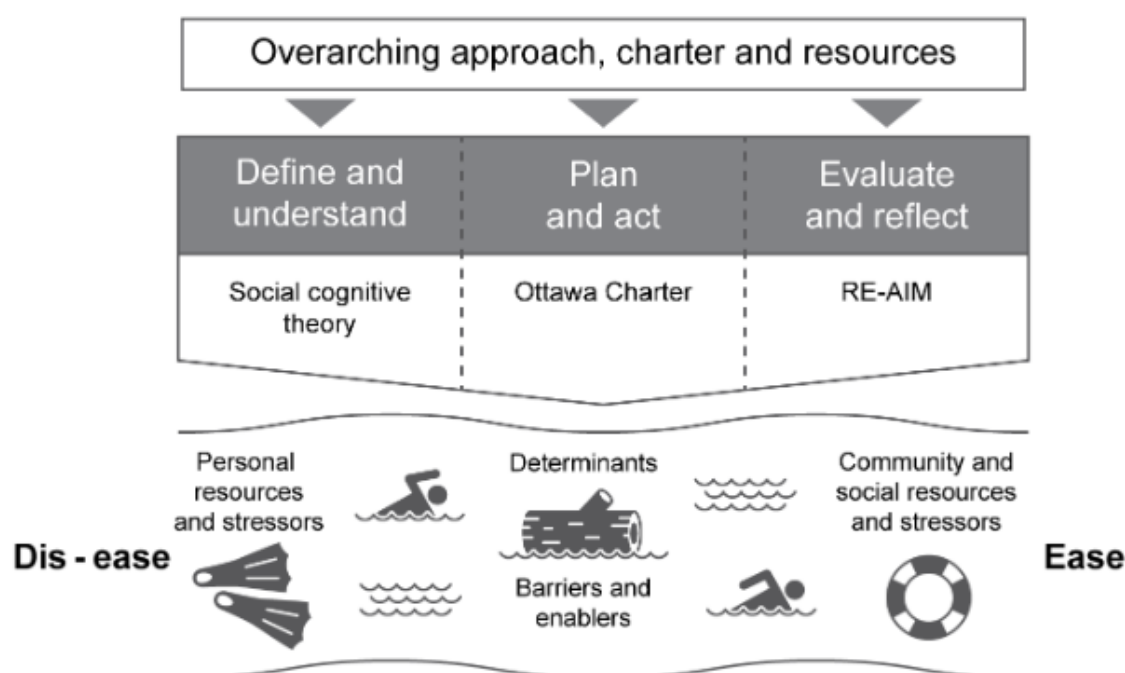
6. Evaluate and reflect on implemented action strategies related to resilience in a personal health context to justify recommendations that mediate, advocate and enable health promotion.
7. Organise information about resilience for a particular purpose.
8. Make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

## Unit 2: Peers and family as resources for healthy living

In Unit 2, students develop their skills to plan, implement and evaluate an action strategy to advocate, mediate and enable change in relation to alcohol and other drug use or body image in a peer and family health context. An inquiry approach is used to define and understand alcohol or body image as the broad health-related topic and reframe the chosen topic into a narrow-contextualised health issue.

Students investigate and analyse the risk factors and protective factors, individual and socioecological resources that are needed for healthy living through a peer and family health context. Primary data and secondary data trends are interpreted to draw conclusions and inform the development of an action strategy to strengthen, maintain or adapt peer/family resources. The action strategy is implemented and evaluated with recommendations and reflection used to inform future investigations. Approaches and frameworks within the Unit 2 Health inquiry model guide the action strategy development and evaluation.

Figure 2: Unit 2 Health inquiry model



## Unit objectives

1. Recognise and describe information about the chosen topic in a peer and family health context.
2. Comprehend and use the Health inquiry model in relation to the chosen topic in a peer and family health context.
3. Analyse and interpret information to draw conclusions about the chosen topic in a peer and family health context.
4. Critique information about the chosen topic to distinguish determinants that influence health in a peer and family health context.
5. Investigate and synthesise information to develop an action strategy to influence an issue relating to the chosen topic in a peer or family health context.
6. Evaluate and reflect on an implemented action strategy in a peer or family health context to justify recommendations that mediate, advocate and enable health promotion for an issue relating to the chosen topic.
7. Organise information about the chosen topic for particular purposes.
8. Make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

## Subject matter:

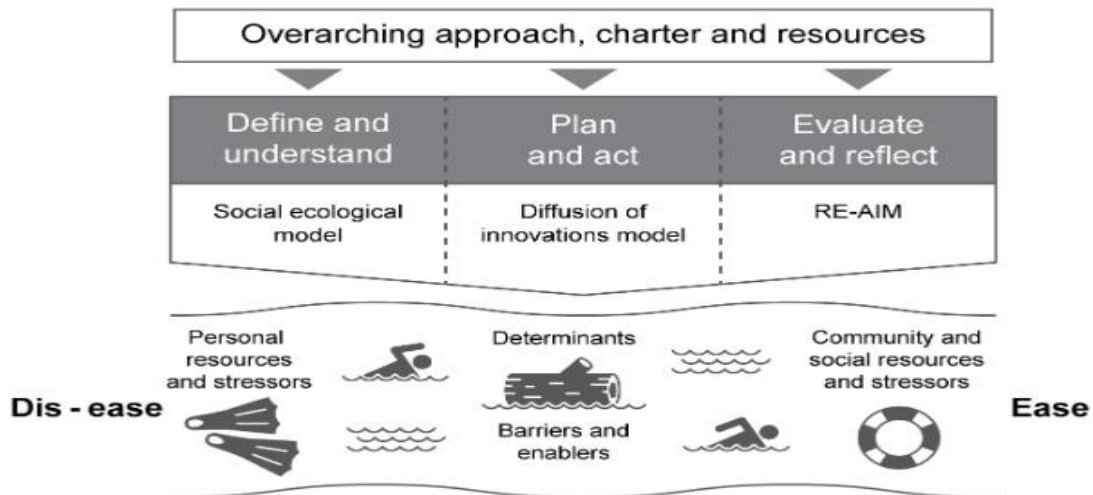
- Elective topic 1: Alcohol and other drugs
- Elective topic 2: Body image

## Unit 3: Community as a resource for healthy living

In Unit 3, students develop their skills to plan, implement, evaluate and reflect on an action strategy to advocate, mediate and/or enable change in relation to homelessness, transport safety or anxiety in a community health context. An inquiry approach is used to define and explore the broad health-related topic before students reframe the chosen topic into a narrow-contextualised health issue.

Students investigate and analyse the risk factors and protective factors, individual and socio-ecological resources that are needed for a target group in their local or regional community. Primary data and secondary data trends are interpreted to draw conclusions and inform the development of an action strategy to strengthen, maintain or adapt community resources. The action strategy is implemented and evaluated with recommendations and reflection used to inform future investigations. Approaches and frameworks within the Unit 3 Health inquiry model guide the action strategy development and evaluation.

**Figure 3: Unit 3 Health inquiry model**



### Unit objectives

1. Recognise and describe information about the chosen topic in a community health context.
2. Comprehend and use the Health inquiry model in relation to the chosen topic in a community health context.
3. Analyse and interpret information to draw conclusions about the chosen topic in a community health context.
4. Critique information about the chosen topic to distinguish determinants that influence health in a community health context.
5. Investigate and synthesise information to develop an action strategy to influence an issue relating to the chosen topic in a community health context.
6. Evaluate and reflect on an implemented action strategy in a community health context to justify recommendations that mediate, advocate and enable health promotion for an issue related to the chosen topic.
7. Organise information about the chosen topic for a particular purpose.
8. Make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

### Subject matter:

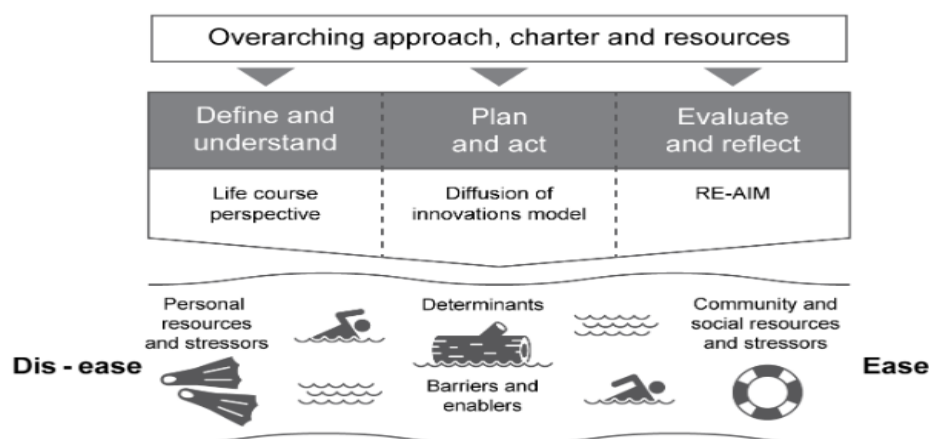
- Elective topic 1: Homelessness
- Elective topic 2: Transport safety
- Elective topic 3: Anxiety

### Unit 4: Respectful relationships in the post-schooling transition

In Unit 4, students investigate the role of respectful relationships as a general resistance resource in the post-schooling transition from a life course perspective using an inquiry approach. A life course perspective looks at how chronological age, relationships, common life transitions and social change shape people's lives from birth to death (Hutchison 2014). This culminating unit draws on knowledge of personal, social and community resources, barriers and enablers that has been progressively developed across the course of study. Students apply this knowledge to the next post-schooling transition period for young people using the life course perspective, the diffusion of innovations model

and RE-AIM. Students evaluate the innovations (proven concepts, programs, print, web and app-based resources) that support young people in their post-schooling transition, and the subsequent impact on their education, work, family and health trajectories. They propose justified strategies to enhance the diffusion of those innovations for their Year 12 cohort to support a successful post-schooling transition.

Figure 4: Unit 4 Health inquiry model



### Unit objectives

1. Recognise and describe information about respectful relationships in the post-schooling transition.  
Comprehend and use the Health inquiry model in relation to respectful relationships in the post-schooling transition.
2. Analyse and interpret information to draw conclusions about respectful relationships in the post-schooling transition.
3. Critique information about the influence of respectful relationships to distinguish determinants that influence health in the post-schooling transition.
4. Synthesise information to develop an action strategy to influence the diffusion of innovations model.
5. Evaluate and reflect on implemented action strategies in relation to respectful relationships in the post-schooling transition and justify recommendations that mediate, advocate and enable health promotion.
6. Organise information about respectful relationships in the post-schooling transition for a particular purpose.
7. Make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.
- 8.

### Assessment

- Internal assessment 1: Action research (25%)
- Internal assessment 2: Examination — extended response (25%)
- Internal assessment 3: Investigation (25%)
- External assessment: Examination — extended response (25%)

# PHYSICAL EDUCATION

## Rationale

The knowledge, understanding and skills taught through Health and Physical Education enable students to explore and enhance their own and others' health and physical activity in diverse and changing contexts. Development of the physical, intellectual, social and emotional capacities necessary in the strands of 'Movement and physical activity' and 'Personal, social and community health' is a key component of the P–10 Australian Curriculum: Health and Physical Education. It provides the foundations for learning and alignment to the Physical Education and Health senior syllabuses to build increasingly complex and developmental courses of study in the senior years. In Physical Education, Arnold's seminal work (1979, 1985, 1988) provides a philosophical and educative framework to promote deep learning in three dimensions: about, through and in movement contexts (Brown & Penney 2012; Stolz & Thorburn 2017). Across the course of study, students will engage in a range of physical activities to develop movement sequences and movement strategies. Students optimise their engagement and performance in physical activity as they develop an understanding and appreciation of the interconnectedness of the dimensions. In becoming physically educated, students learn to see 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.

The Physical Education syllabus is developmental and becomes increasingly complex across the four units. In Unit 1, students develop an understanding of the fundamental concepts and principles underpinning their learning of movement sequences and how they can enhance movement from a biomechanical perspective. In Unit 2, students broaden their perspective by determining the psychological factors, barriers and enablers that influence their performance and engagement in physical activity. In Unit 3, students enhance their understanding of factors that develop tactical awareness and influence ethical behaviour of their own and others' performance in physical activity. In Unit 4, students explore energy, fitness and training concepts and principles to optimise personal performance.

Students learn experientially through three stages of an inquiry approach to ascertain relationships between the scientific bases and the physical activity contexts. Students 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 and authentic experiences in physical activities, students gather, analyse and synthesise data to devise strategies to optimise engagement and performance. They evaluate and justify strategies about and in movement by drawing on informed, reflective decision-making.

Physically educated learners develop the 21st century skills of critical thinking, creative thinking, communication, personal and social skills, collaboration and teamwork, and information and communication technologies skills through rich and diverse learning experiences about, through and in physical activity. Physical Education fosters an appreciation of the values and knowledge within and across disciplines, and builds on students' capacities to be self-directed, work towards specific goals, develop positive behaviours and establish lifelong active engagement in a wide range of pathways beyond school.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### **1. Recognise and explain concepts and principles about movement.**

When students recognise, they identify particular features of body and movement concepts, and biophysical, sociocultural and psychological concepts and principles. When students explain, they describe in more detail or reveal relevant facts about the concepts and principles relevant to physical activities.

### **2. Demonstrate specialised movement sequences and movement strategies.**

When students demonstrate, they show evidence of specialised movement sequences and movement strategies performed in authentic performance environments.

### **3. Apply concepts to specialised movement sequences and movement strategies.**

When students apply, they use knowledge and understanding of body and movement concepts to perform specialised movement sequences and movement strategies in an authentic performance environment to achieve a determined outcome.

### **4. Analyse and synthesise data to devise strategies about movement.**

When students analyse, they examine gathered primary data and secondary data to ascertain relationships according to the physical activity context and the body and movement, biophysical, sociocultural and psychological concepts and principles. When students synthesise, they combine information and data about physical activity demands, concepts and principles and personal performance to devise strategies for optimising performance and engagement.

### **5. Evaluate strategies about and in movement.**

When students evaluate, they appraise the effectiveness of strategies by weighing up outcomes and limitations using analysed data and set criteria. Students make decisions to maintain or modify strategies about and in movement.

### **6. Justify strategies about and in movement.**

When students justify, they draw on informed, reflective decision-making to give valid reasons and provide evidence from primary data and secondary data to support decisions about the development, modification and maintenance of strategies about and in movement.

### **7. Make decisions about and use language, conventions and mode-appropriate features for particular purposes and contexts.**

When students make decisions about language, conventions and mode-appropriate features, they use written, visual and spoken features to express meaning for particular purposes in a range of contexts. Written features include language conventions, specific vocabulary and language attributes such as annotations, paragraphs and sentences. Visual features may include photographs, sketches, diagrams and motion graphics. Spoken features include pronunciation, phrasing and pausing, audibility and clarity, volume, pace and silence. Students use referencing conventions to practise ethical scholarship

## Pathways

Physical Education is a general subject suited to students who are interested in pathways that lead to tertiary studies, vocational education or work. 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.

Units 3 and 4 consolidate student learning. Only the results from Units 3 and 4 will contribute to ATAR calculations.

Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

### **Unit 1: Motor learning, functional anatomy and biomechanics in physical activity**

In Unit 1, students engage with concepts, principles and strategies about two topics.

In Topic 1, students engage in learning that includes the integration of motor learning subject matter and selected physical activities.

In Topic 2, students engage in learning that involves the integration of functional anatomy and biomechanics subject matter and selected physical activities.

Students recognise and explain the concepts and principles about motor learning, functional anatomy and biomechanics through purposeful and authentic learning in physical activity contexts. Students investigate body and movement concepts and demonstrate specialised movement sequences and movement strategies.

Students apply concepts and principles to specialised movement sequences and movement strategies in authentic performance environments to gather data about their personal application of motor learning, biomechanical and body and movement concepts. Students analyse and synthesise relationships between the motor learning and biomechanical requirements of physical activity and their personal performance. Students then devise a motor learning and biomechanical strategy to optimise performance in a selected physical activity.

Students evaluate the effectiveness of the motor learning, biomechanical and movement strategies and justify using primary data and secondary data.

- Topic 1: Motor learning in physical activity
- Topic 2: Functional anatomy and biomechanics in physical activity

### **Unit 2: Sport psychology and equity in physical activity**

In Unit 2, students engage with concepts, principles and strategies about two topics.

In Topic 1, Students recognise and explain the concepts and principles about sport psychology through purposeful and authentic learning in and about a selected physical activity. In physical activity, students explore body and movement concepts and demonstrate specialised movement sequences and movement strategies.

Students apply concepts to specialised movement sequences and movement strategies in authentic performance environments to gather data about their personal application of sport psychology and body and movement concepts. Students analyse and synthesise relationships between the sport psychology demands in physical activity and personal and team performance. Students then devise a psychological strategy to optimise performance in physical activity.

Students evaluate the effectiveness of the psychological and movement strategies and justify using primary data and secondary data.

In Topic 2, Students recognise and explain the concepts and principles about equity in physical activity. In a range of physical activities, students explore barriers and enablers to gather data about the influence on equity.

Students analyse data to synthesise relationships between the barriers and enablers in physical activity, and engagement and performance to identify an equity dilemma. Student then devise an equity strategy in response to the dilemma to optimise engagement and performance in physical activity.

Students evaluate the effectiveness of the equity strategy on engagement and performance, and justify using primary data and secondary data.

- Topic 1: Sport psychology in physical activity
- Topic 2: Equity — barriers and enablers

### **Unit 3: Tactical awareness and ethics in physical activity**

In Unit 3, students engage with concepts, principles and strategies about two topics.

In Topic 1 students recognise and explain the concepts and principles about dynamic systems of motor learning and tactical awareness through purposeful and authentic learning about and in selected physical activity. In physical activity, students explore body and movement concepts and demonstrate specialised movement sequences and movement strategies.

Students apply concepts to specialised movement sequences and movement strategies in authentic performance environments to gather data about their personal application of tactical and body and movement concepts. Students analyse and synthesise relationships between the constraints of movement strategies and their personal performance. Students then devise a tactical strategy to optimise performance of movement strategies in physical activity.

Students evaluate the effectiveness of the tactical and movement strategies and justify using primary data and secondary data.

In Topic 2 students recognise and explain the concepts and principles about ethics and integrity in physical activity. In a range of physical activities, students explore the factors that influence fair play, ethical behaviour and integrity to gather data about engagement.

Students use the ethical decision-making framework to analyse data and synthesise relationships between the factors that influence engagement in physical activity to identify an ethical dilemma. Students then devise an ethics strategy in response to the dilemma to optimise engagement in physical activity.

Students evaluate the effectiveness of the ethics strategy to optimise integrity and engagement and justify using primary data and secondary data.

- Topic 1: Tactical awareness in physical activity
- Topic 2: Ethics and integrity in physical activity

### **Unit 4: Energy, fitness and training in physical activity**

In Unit 4, students engage with concepts, principles and strategies about energy, fitness, training and physical activity.



Students recognise and explain the concepts and principles about energy, fitness and training through purposeful and authentic learning in selected physical activities. In selected physical activities, students investigate body and movement concepts and demonstrate specialised movement sequences and movement strategies.

Students apply concepts and principles to specialised movement sequences and movement strategies in authentic performance environments to gather data about their personal application of energy, fitness and training concepts. Students analyse and synthesise relationships between the energy and fitness demands of physical activity and their personal performance. Students then devise a training strategy to optimise performance for an identified movement strategy in a selected physical activity.

Students evaluate the effectiveness of the training strategy and movement strategies and justify using primary and secondary data.

- Topic 1: Energy, fitness and training integrated in physical activity

## **Assessment**

- Internal assessment 1: Project — folio (25%)
- Internal assessment 2: Investigation — report (25%)
- Internal assessment 3: Project — folio (25%)
- External assessment: Examination — combination response (25%)

# STUDY OF RELIGION

## Rationale

Rationale Study of Religion is the investigation and study of religious traditions and how religion has influenced, and continues to influence, people's lives. As religions are living traditions, a variety of religious expressions exists within each tradition. Religious beliefs and practices also influence the social, cultural and political lives of people and nations. Students become aware of their own religious beliefs, the religious beliefs of others, and how people holding such beliefs are able to co-exist in modern society. In this subject, students study the five major world religions of Judaism, Christianity, Islam, Hinduism and Buddhism; and Australian Aboriginal spiritualities and Torres Strait Islander religion. Each tradition is explored through the lens of the nature and purpose of religion, sacred texts that offer insights into life, and the rituals that mark significant moments and events in the religion itself and in the lives of adherents. Nature and purpose of religion, sacred texts, and rituals provide the foundations for understanding religious ethics and the ways religion functions in society and culture. Throughout the course of study, students engage with an inquiry approach to learning about religions, their central beliefs and practices, and their influence on individuals, groups and society. As a result, a logical and critical approach to understanding the influence of religion should be developed, with judgments supported through valid and reasoned argument. This contributes to the development of a range of transferable thinking and processing skills that will help students to live and work successfully in the 21st century. Study of Religion allows students to develop critical thinking skills, including those of analysis, reasoning and evaluation, as well as communication skills that support further study and postschool participation in a wide range of fields. The subject contributes to students becoming informed citizens, as religion continues to function as a powerful dimension of human experience. Through recognising the factors that contribute to different religious expressions, students develop empathy and respect for the ways people think, feel and act religiously, as well as a critical awareness of the religious diversity that exists locally and globally.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Explain features and expressions of religious traditions.

Students identify the distinguishing features of religions and religious traditions. They describe characteristics of religious traditions and explain the ways religion is expressed in the lives of adherents.

### 2. Analyse perspectives about religious expression.

Students examine perspectives about religious expressions that form and inform responses to issues or situations, using a selection of information from sacred texts and other authoritative sources. They identify distinct beliefs and practices within and, where appropriate, across traditions, explaining characteristics, similarities and differences evident in religious expressions.

### 3. Evaluate the significance and influence of religion.

Students use information from their analysis to make judgments about the significance of religion and its influence on individuals, groups and society. They synthesise valid perspectives and ideas about the role of religion in situations or within issues, drawing

conclusions and justifying their judgments with reasoning and evidence.

#### **4. Communicate to suit purpose.**

Students create responses that demonstrate choices of language and development of ideas to convey meaning suitable for purpose. They apply language conventions and present their responses using the required genre. Students use a recognised system of referencing to demonstrate scholarship

## **Pathways**

Study of Religion is a General subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in Study of Religion can establish a basis for further education and employment in such fields as anthropology, the arts, education, journalism, politics, psychology, religious studies, sociology

## **Course Structure**

Study of Religion is a course of study consisting of four units. Subject matter, learning experiences and assessment increase in complexity from Units 1 and 2 to Units 3 and 4 as students develop greater independence as learners. Units 1 and 2 provide foundational learning, which allows students to experience all syllabus objectives and begin engaging with the course subject matter. Students should complete Units 1 and 2 before beginning Unit 3. It is recommended that Unit 3 be completed before Unit 4. Units 3 and 4 consolidate student learning. Only the results from Units 3 and 4 will contribute to ATAR calculations.

### **Unit 1: Religion, meaning and purpose**

In Unit 1, students are introduced to the concept of religion and its role in providing meaning and purpose to adherents. It explores the five major world religions of Judaism, Christianity, Islam, Hinduism and Buddhism, as well as Australian Aboriginal spiritualities and Torres Strait Islander spiritualities and religion as a foundation to the course of study. Through an examination of the nature of religion and an introduction to key beliefs and practices, students investigate how these spiritualities and religions offer insights into life, provide guidance for living, and offer meaning and purpose to their followers. They are introduced to the significance of sacred texts and the role they play in the lives of adherents and their communities. As Unit 1 progresses, there is a focus on the diversity of Australian Aboriginal and Torres Strait Islander texts, the Abrahamic traditions and the sacred texts of Judaism, Christianity and Islam and the Eastern traditions of Hinduism and Buddhism and their sacred texts

- Topic 1: Nature and purpose of religion
- Topic 2: Sacred texts

### **Unit 2: Religion and ritual**

In Unit 2, students build on their understandings of Judaism, Christianity, Islam, Hinduism, Buddhism, Australian Aboriginal spiritualities and Torres Strait Islander spiritualities and religion as they investigate religious rituals that mark significant moments and events within the religion and in the lives of adherents. The rituals are studied under two categories: lifecycle rituals and calendrical rituals. Lifecycle rituals mark rites of passage in the biological and sociological cycle of human life; calendrical rituals occur at a particular time of the day, week, month or year or mark a period of time since a significant event.

- Topic 1: Lifecycle rituals
- Topic 2: Calendrical rituals

### **Unit 3: Religious ethics**

In Unit 3, students continue to build on Units 1 and 2 to examine the religious–ethical principles that are evident within the traditions of Judaism, Christianity, Islam, Hinduism and Buddhism. They are required to understand the religious foundations that form and inform ethical principles within different religious traditions. Students apply religious–ethical principles to real-life contexts and evaluate how they influence individuals, groups and society.

- Topic 1: Social ethics
- Topic 2: Personal ethics

### **Unit 4: Religion — rights and relationships**

In Unit 4, students consider how religion affects and influences people’s understanding of culture, history, politics and social interaction. Within this context, they consider the nature of humanity according to various world views, and the issues of rights and religion–state relationships that result. Students investigate how religions seek to shape and are shaped by their social, cultural and political contexts. They examine how the dynamic of religion in different times and places has interacted with the nation–state, as well as religion’s contributions to society and culture. They explore how religions seek to address humanity’s big questions about life, destiny, meaning and purpose, belief in the divine and the influence such responses have on the relationships between individuals, groups and society and how they treat and interact with each other.

- Topic 1: Religion and the nation–state
- Topic 2: Human existence and right

### **Assessment**

- Internal assessment 1: Examination — extended response (25%)
- Internal assessment 2: Investigation — inquiry response (25%)
- Internal assessment 3: Investigation — inquiry response (25%)
- External assessment: Examination — short response (25%)

# SOCIAL AND COMMUNITY STUDIES (APPLIED SUBJECT)

## Rationale

Social & Community Studies fosters personal and social knowledge and skills that lead to self-management and concern for others in the broader community. It empowers students to think critically, creatively and constructively about their future role in society.

Knowledge and skills to enhance personal development and social relationships provide the foundation of the subject. Personal development incorporates concepts and skills related to self-awareness and self-management, including understanding personal characteristics, behaviours and values; recognising perspectives; analysing personal traits and abilities; and using strategies to develop and maintain wellbeing.

The focus on social relationships includes concepts and skills to assist students engage in constructive interpersonal relationships, as well as participate effectively as members of society, locally, nationally or internationally.

Students engage with this foundational knowledge and skills through a variety of topics that focus on lifestyle choices, personal finance, health, employment, technology, the arts, and Australia's place in the world, among others. In collaborative learning environments, students use an inquiry approach to investigate the dynamics of society and the benefits of working thoughtfully with others in the community, providing them with the knowledge and skills to establish positive relationships and networks, and to be active and informed citizens.

Social & Community Studies encourages students to explore and refine personal values and lifestyle choices. In partnership with families, the school community and the community beyond school, including virtual communities, schools may offer a range of contexts and experiences that provide students with opportunities to practise, develop and value social, community and workplace participation skills.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Explain personal and social concepts and skills.

Students explain concepts and skills that contribute to positive personal development and interpersonal and community relationships. Students use relevant terminology.

### 2. Examine personal and social information.

Students select and use information to identify perspectives and approaches related to relevant issues. Students draw meaning from the perspectives and approaches identified.

### 3. Apply personal and social knowledge.

Students apply their knowledge to determine options. They consider positives and negatives of each option to make decisions that contribute to positive personal development, relationships and social outcomes.

### 4. Communicate responses.

Students present information through written, spoken, graphical and/or auditory modes using language conventions appropriate to audience, context and purpose.

### 5. Evaluate projects.

Students reflect on and discuss the effectiveness of their plans, processes and outcomes. They make judgments to explain improvements that could be made to their plans, processes and outcomes.

## Designing a course of study in Social & Community Studies

Syllabuses are designed for teachers to make professional decisions to tailor curriculum and assessment design and delivery to suit their school context and the goals, aspirations and abilities of their students within the parameters of Queensland's senior phase of learning.

The syllabus is used by teachers to develop curriculum for their school context. The term *course of study* describes the unique curriculum and assessment that students engage with in each school context. A course of study is the product of a series of decisions made by a school to select, organise and contextualise subject matter, integrate complementary and important learning, and create assessment tasks in accordance with syllabus specifications.

It is encouraged that, where possible, a course of study is designed such that teaching, learning and assessment activities are integrated and enlivened in an authentic setting.

### Course Structure

Social & Community Studies is an Applied senior syllabus. It contains at least four QCAA-developed units from which schools develop their course of study.

Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

Schools select four units from the unit options provided. They decide the order in which the units will be delivered. Once these decisions have been made, the four units selected and their order of implementation determine which units are considered Units 1–4.

Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

More information about the requirements for administering senior syllabuses is available in the 'Queensland curriculum' section of the [QCE and QCIA policy and procedures handbook](#).

### Curriculum

Senior syllabuses set out only what is essential while being flexible so teachers can make curriculum decisions to suit their students, school context, resources and expertise.

Within the requirements set out in this syllabus and the [QCE and QCIA policy and procedures handbook](#), schools have autonomy to decide:

- how and when subject matter is delivered
- how, when and why learning experiences are developed, and the context in which learning occurs
- how opportunities are provided in the course of study for explicit and integrated teaching and learning of complementary skills.

These decisions allow teachers to develop a course of study that is rich, engaging and relevant for their students.

## Assessment

Senior syllabuses set out only what is essential while being flexible so teachers can make assessment decisions to suit their students, school context, resources and expertise.

Applied senior syllabuses contain assessment specifications and conditions for the assessment instruments that must be implemented with Units 3 and 4. These specifications and conditions ensure comparability, equity and validity in assessment.

Within the requirements set out in this syllabus and the [\*QCE and QCIA policy and procedures handbook\*](#), schools have autonomy to decide:

- specific assessment task details
- assessment contexts to suit available resources
- how the assessment task will be integrated with teaching and learning activities
- how authentic the task will be.

In Unit 1 and Unit 2, schools:

- develop at least two but no more than four assessments
- complete at least one assessment for each unit
- ensure that each unit objective is assessed at least once.

In Units 3 and 4, schools develop four assessments using the assessment specifications and conditions provided in the syllabus.

More information about assessment in senior syllabuses is available in ‘The assessment system’ section of the *QCE and QCIA policy and procedures handbook*.

# VISUAL ARTS IN PRACTICE (APPLIED SUBJECT)

## Rationale

The arts are woven into the fabric of community. They have the capacity to engage and inspire students, enriching their lives, stimulating curiosity and imagination, and encouraging them to reach their creative and expressive potential. Arts subjects provide opportunities for students to learn problem-solving processes, design and create art, and use multiple literacies to communicate intention with diverse audiences.

In Visual Arts in Practice, students respond to authentic, real-world stimulus (e.g. problems, events, stories, places, objects, the work of artists or artisans), seeing or making new links between art-making purposes and contexts. They explore visual language in combination with media, technologies and skills to make artworks. Throughout the course, students are exposed to art-making modes, selecting from 2D, 3D, digital (static) and time-based and using these in isolation or combination, as well as innovating new ways of working.

When responding, students use analytical processes to identify problems and develop plans or designs for artworks. They use reasoning and decision-making to justify their choices, reflecting and evaluating on the success of their own and others' art-making. When making, students demonstrate knowledge and understanding of visual features to communicate artistic intention. They develop competency with and independent selection of media, technologies and skills as they make experimental and resolved artworks, synthesising ideas developed throughout the responding phase.

Learning is connected to relevant industry practice and opportunities, promoting future employment and preparing students as agile, competent, innovative and safe workers who can work collaboratively to solve problems and complete project-based work in various contexts.

## Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

### 1. Use visual arts practices.

When making, students use art-making modes, media, technologies and skills to create artworks. They develop independence across the course of study, selecting and refining use of visual arts practices according to their strengths and interests.

### 2. Plan artworks.

When responding, students analyse key features of purpose and context to plan artworks. They make decisions, explore solutions and choose strategies to achieve goals.

### 3. Communicate ideas.

When making, students use visual language to create artworks for specific purposes and in specific contexts. They interpret existing stimulus (e.g. problems, events, stories, places, objects, the work of artists or artisans) and generate and express individualised ideas or ways of working. Artworks may communicate representations, thoughts, feelings, experiences or observations.

### 4. Evaluate artworks.

When responding, students make judgments about their own and others' visual arts ideas and artworks, reflecting on strengths, implications and limitations and applying their learning to planning for future artworks. Students select and use visual arts terminology and language conventions when producing written, spoken or signed evaluations.

## Designing a course of study in Visual Arts in Practice

Syllabuses are designed for teachers to make professional decisions to tailor curriculum and assessment design and delivery to suit their school context and the goals, aspirations and abilities of their students within the parameters of Queensland's senior phase of learning.

The syllabus is used by teachers to develop curriculum for their school context. The term *course of study* describes the unique curriculum and assessment that students engage with in each school context. A course of study is the product of a series of decisions made by a school to select, organise and contextualise subject matter, integrate complementary and important learning, and create assessment tasks in accordance with syllabus specifications.

It is encouraged that, where possible, a course of study is designed such that teaching, learning and assessment activities are integrated and enlivened in an authentic setting.

## Course Structure

Visual Arts in Practice is an Applied senior syllabus. It contains at least four QCAA-developed units from which schools develop their course of study.

Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

Schools select four units from the unit options provided. They decide the order in which the units will be delivered. Once these decisions have been made, the four units selected and their order of implementation determine which units are considered Units 1–4.

Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

More information about the requirements for administering senior syllabuses is available in the 'Queensland curriculum' section of the [QCE and QCIA policy and procedures handbook](#).

## Curriculum

Senior syllabuses set out only what is essential while being flexible so teachers can make curriculum decisions to suit their students, school context, resources and expertise.

Within the requirements set out in this syllabus and the [QCE and QCIA policy and procedures handbook](#), schools have autonomy to decide:

- how and when subject matter is delivered
- how, when and why learning experiences are developed, and the context in which learning occurs
- how opportunities are provided in the course of study for explicit and integrated teaching and learning of complementary skills.

These decisions allow teachers to develop a course of study that is rich, engaging and relevant for their students.

## Assessment

Senior syllabuses set out only what is essential while being flexible so teachers can make assessment decisions to suit their students, school context, resources and expertise.

Applied senior syllabuses contain assessment specifications and conditions for the assessment instruments that must be implemented with Units 3 and 4. These specifications and conditions ensure comparability, equity and validity in assessment.

Within the requirements set out in this syllabus and the [\*QCE and QCIA policy and procedures handbook\*](#), schools have autonomy to decide:

- specific assessment task details
- assessment contexts to suit available resources
- how the assessment task will be integrated with teaching and learning activities
- how authentic the task will be.

In Unit 1 and Unit 2, schools:

- develop at least two but no more than four assessments
- complete at least one assessment for each unit
- ensure that each unit objective is assessed at least once.

In Units 3 and 4, schools develop four assessments using the assessment specifications and conditions provided in the syllabus.

More information about assessment in senior syllabuses is available in 'The assessment system' section of the *QCE and QCIA policy and procedures handbook*.

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## VOCATIONAL AND TERTIARY COURSES

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### Rationale

Vocational and Tertiary study is combined with Senior Subjects and may be used for tertiary selection as one of the five subjects contributing to a student's Australian Tertiary Admission Rank (ATAR) or to gain a Queensland Certificate of Education (QCE). Each VET qualification gained will have a single scaled score that can be included in the ATAR calculation for Certificates III, IV and Diploma level. Additionally, tertiary study of one successfully completed university subject equates to two credits towards the QCE.

### Pathways

Vocational courses are Accredited and Nationally recognized and can lead to tertiary studies, higher vocational courses or work. Completed Diploma study can lead into a Bachelor degree at university with rewarding Career opportunities.

### Course structure

Qualifications are competency based and consist of clustered units, delivered over one or two years usually. The Certificate III in Sport and Recreation is offered at AIIC, by our teachers, as a subject in Year 11 and 12. This course is both practical and theory in nature, contributing to ATAR rank and QCE.

### Course range

The Australian International Islamic College has available a range of diverse options for senior students to choose from. Costs are associated with the majority of external courses.

A sample of courses available:

[AVI30419 Certificate III in Aviation – Remote pilot \(RTO #31690 Australian Global Institute\)](#)

[52700WA - Certificate II in Plumbing \(RTO #0275 TAFE Qld\)](#)

[BSB40120 - Certificate IV/Diploma in Business \(Administration\) \(RTO #91088 MCI Institute\)](#)

[10283NAT Certificate IV in Crime and Justice Studies \(RTO #0275 TAFE Qld\)](#)

Successfully passing English and Mathematics (2021) may be a requirement for entry. AIIC have *more than 20 other courses available*, which are listed in our VET Student Handbook which is available on request.

# SUBJECT SELECTION FORM 2027

Student Name:

Year Level in 2026:

Students, select a total of five (5) subjects, including up to one (1) external VET course. They must choose both English and Mathematics, and then select three elective subjects.

**Step 1 – Select 1 Mathematics AND 1 English**

## COMPULSORY

| Instructions           | Subject                           | General | Applied Subject |
|------------------------|-----------------------------------|---------|-----------------|
| Select one (1) subject | General Mathematics               |         |                 |
|                        | Mathematical Methods              |         |                 |
|                        | Essential Mathematics             |         |                 |
| Select one (1) subject | English                           |         |                 |
|                        | English as an Additional Language |         |                 |
|                        | Essential English                 |         |                 |

**Step 2 – Select any three electives from the options below.** For each elective group, indicate your preferences by ranking them from 1 to 4. The Head of Secondary will review the selections in accordance with the Senior Academic Policy to finalise the elective subjects.

## ELECTIVES

| Elective Group 1                |  | Elective Group 2             |  | Elective Group 3       |  | VET/Tertiary Cert                                                  |  |
|---------------------------------|--|------------------------------|--|------------------------|--|--------------------------------------------------------------------|--|
| Business                        |  | Accounting                   |  | Legal Studies          |  | TAFE, Mater and other VET courses<br>(Refer to VET Course Choices) |  |
| Physics                         |  | Study of Religion            |  | Biology                |  |                                                                    |  |
| Health                          |  | Chemistry                    |  | Engineering            |  |                                                                    |  |
| Digital Solutions               |  | Social and Community Studies |  | Physical Education     |  |                                                                    |  |
| Cert II in Electro Technologies |  | Cert II in Hospitality       |  | Visual Art in Practice |  |                                                                    |  |

|                  |                |
|------------------|----------------|
| Parent Name      | Contact Number |
| Parent Email     |                |
| Parent Signature | Date           |



## RELATED DOCUMENTS

This Handbook should be read in conjunction with:

- Senior Secondary Academic Policy 2026;
- Assessment Policy and Procedures 2026;
- Promotion policy;
- Behaviour for Learning Policy;
- Enrolment Policy 2026;
- Uniform and personal appearance policy 2026; and
- [QCE and QCIA policy and procedures handbook v7.0](#)

[illegible]





# AUSTRALIAN INTERNATIONAL ISLAMIC COLLEGE

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