### Mathematics - Core & Extension

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<tr>
<td>Students will understand how to simplify algebraic products and quotients using index laws. They will substitute values into formulae to determine unknowns and apply the four operations to simple algebraic fractions with numerical denominators. Students will understand how to solve problems involving linear equations. They will understand the process of sketching linear graphs and finding gradients and intercepts. They will also solve problems using parallel and perpendicular lines. Students will understand how to solve problems involving linear equations using algebraic and graphical techniques including using the CAS calculator technology. They will solve linear inequalities and graph their solutions on a number line. They will also understand how to graph half planes.</td>
<td>Students will understand how to solve right-angled triangle problems including those involving direction, angles of elevation and three dimensions. They will also understand the concepts of similarity and congruence and the application of them to solve problems involving shapes. Students will understand the concepts of Trigonometry and the corresponding ratios used to solve for unknown sides and angles in right angled triangles. Students will understand how to solve problems involving surface area and volume for a range of prisms, cylinders and composite shapes. Students will understand the process of expansion and factorisation of quadratic expressions. They will be able to solve quadratic equations by a range of strategies. They will explore the connection between algebraic and graphical representations of relations such as quadratics, circles and exponentials, including the use of the CAS calculator as appropriate.</td>
<td>Students will understand how to describe the results of two and three step chance experiments, assign probabilities to outcomes and determine probabilities of events. They will also investigate the concept of independence and understand the language of probability. Students will understand the statistical concepts of quartiles and inter quartile range. They will understand how to construct statistical representations such as box plots, histograms, dot and scatter plots. They will also understand how to evaluate statistical reports in the media. Students will understand the processes and applications of percentages relating to financial mathematics including: discounts, purchasing goods, credit card payments; saving and borrowing; simple and compound interest; and depreciation.</td>
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## Year 10 Curriculum Overview

### Mathematics (Gold)

<table>
<thead>
<tr>
<th>Measurement and Consumer Arithmetic</th>
<th>Algebra and Probability</th>
<th>Statistics and Straight Line Graphs</th>
<th>Equations, Pythagoras’ theorem and Trigonometry</th>
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<tr>
<td>Students will understand how to calculate perimeter, area, total surface area and the volume of shapes and solids. They will also convert between units of length, area and volume. Students will understand the processes and applications of percentages relating to financial mathematics including discounts, purchasing goods, credit card payments, saving and borrowing, simple and compound interest, depreciation, taxation and loans. Students will understand how to simplify and evaluate algebraic expressions by substituting, performing operations, collecting like terms, expanding and factorising. They will also apply the index laws and investigate exponential growth and decay. Students will construct Venn diagrams, two-way tables and tree diagrams and use them calculate probabilities. Students will construct and interpret frequency tables, column graphs, histograms, dot plots, stem-and-leaf plots, box and scatter plots. They will also calculate measures of centre and spread for data sets and identify outliers and lines of best fit. Students will understand how to sketch linear equations and solve problems involving linear modelling and rates of change. They will calculate the distance and midpoint between two points and interpret distance-time graphs. Students will understand how to solve linear equations and word problems requiring a linear equation to be formed and solved. They will also solve inequalities and simultaneous equations. Students will understand how to use trigonometry and Pythagoras’ theorem to find unknown side lengths and angles in right-angled triangles. They will apply trigonometry skills to practical problems involving bearings and angles of elevation and depression.</td>
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### Science

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<thead>
<tr>
<th>Atomic theory and bonding (Chemical Sciences)</th>
<th>The Mysterious Universe (Earth and Space Sciences)</th>
<th>Chemical Patterns (Chemical Sciences)</th>
<th>Forces and Energy (Physical Sciences)</th>
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<tbody>
<tr>
<td>Students will understand that the atomic structure and properties of elements are used to organise them in the periodic table. They will understand that different types of bonding can occur between different types of elements.</td>
<td>Students will understand the universe contains features including galaxies, stars and solar systems, and that the Big Bang Theory can be used to explain the origin of the universe.</td>
<td>Students will understand the different types of chemical reactions that are found in the environment and industrial settings.</td>
<td>Students will understand that energy conservation in a system can be explained by describing energy transfers and transformations. They will understand the forces acting on an object and the behavior of the object can be described and predicted using the law of physics.</td>
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<th>Getting into Genes (Biological Sciences)</th>
<th>Evolution (Biological Sciences)</th>
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<td>Students will understand that the transmission of heritable characteristics from one generation to the next involves DNA and genes.</td>
<td>Students will understand that the theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence.</td>
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### History

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<tr>
<th>Emergence of Australian Society</th>
<th>World War II</th>
<th>Australia Post WWII</th>
<th>Civil Rights</th>
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<tbody>
<tr>
<td>Students will understand the way in which popular culture moulded Australian society. They will investigate what it means to be Australian. They will determine the continuity and change in music, sport, film, gaming, social media, fashion, radio and television.</td>
<td>Students will understand the nature and the causes of WWI They will investigate how the end of WWI had a direct impact on the causes World War II.</td>
<td>Students will understand that Australia was fundamentally changed due to our involvement in WWII. They will study the European and Pacific Theatres of WWII including key events, leaders and resources.</td>
<td>Students will understand the Civil Rights movement in Australia and the United States following the formation of the Declaration of Human Rights by the United Nations. They will investigate the causes and nature of the protests and how Aboriginal protestors were shaped by the events and people of the United States in their fight for equality.</td>
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### Physical Education

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<td>Students will understand the skills and concepts involved in swimming, athletics, fitness testing, European handball and touch football. Students will build on and advance their skills in each of these areas.</td>
<td>Students will understand the skills and concepts involved in soccer, volleyball, netball and fitness. Students will build on and advance their skills in each of these areas.</td>
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# Year 10 Curriculum Overview

## Elective Subjects

### Business Management VCE Units 1 and 2

| In this unit, students examine fundamental management concepts and explore the contributions that small businesses make to the Australian economy. Students have an opportunity to study and simulate the decision-making, planning, evaluation and day-to-day activities needed to run a small business. Students apply business theory to real life and business case scenarios, and learn how to manage employees and adhere to legal requirements. | Students begin by analysing how marketing and public relations impact on business performance. Subsequently students learn about the importance of effective communication within businesses. There is a significant focus on ethical and socially responsible management throughout this unit. |

### Commerce

**The Financial World**

Students will investigate the history of financial transactions from bartering to banking to Bitcoin and beyond. Wealth creation strategies are compared including saving, investing, share trading and property investment. Students investigate global pricing of products, currency exchange rates, inflation, taxation and superannuation. Economic concepts are analysed such as branding, unit pricing, e-commerce, how supply and demand affects prices and the causes of the global financial crisis.

**Basic Accounting**

Students will learn basic accounting skills including how to classify a balance sheet using assets, liabilities and owners equity. Budgeting skills will include the use of a spreadsheet and determining the difference between revenue and expenses.

**Understanding the Law**

Students will understand the main principles of criminal and civil law and what is required to find an accused guilty beyond a reasonable doubt. Summary and indictable offences will be investigated as well as torts, court hierarchy and how laws are made. Students will develop an understanding of psychopathic behaviour and how criminology is used to evaluate this behaviour. They will study the jury system and evaluate whether this system of trial by peers is the most effective way of achieving justice by using historical cases and film studies.

### Dance VCE Units 1 and 2

| Students will understand how knowledge and understanding of the body helps a dancer better perform a movement. They will also understand the concepts of ‘safe dance’ as well as what criteria are necessary in order to choreograph a technical solo. Finally, they will understand the process of learning a dance as well as how to analyse that experience. | Students will understand the impact of cultural influences on a choreographer. They will understand how to choreograph a compositional solo as well as understand how to communicate a concept or idea through dance. |
### Year 10 Curriculum Overview

#### Design Technology

**TECHNICAL DRAWING**
- Students will understand how to prepare designs for the construction of a cabinet using SolidWorks CAD and technical drawing skills.
- Students will understand how to cut and assemble a range of timber joints using a variety of softwoods and hardwoods.

**MATERIALS**
- Students will understand how to shape and join steel components.

**CONSTRUCTION**
- Students will understand how to follow their plans and construct a piece of furniture by safely using specialised tools and equipment.

**TECHNICAL DRAWING**
- Students will understand how to prepare designs for a metal framed pushcart.
- Students will understand how to cut and assemble a range of timber joints using a variety of softwoods and hardwoods.

**MATERIALS**
- Students will understand how to shape and join steel components.

**CONSTRUCTION**
- Students will understand how to follow their plans and construct a human-powered vehicle safely by using specialised tools and equipment.

#### Drama

**The Ensemble**
- This unit introduces non-naturalistic ensemble performance. Students learn to use play-making techniques and manipulate dramatic elements, conventions and expressive skills to devise, analyse and evaluate ensemble performance work.

**Intro to Solo**
- This unit introduces solo performance. Students learn to use play-making techniques and manipulate dramatic elements, conventions and expressive skills to devise, analyse and evaluate solo performance work based on a feature film.

#### French

**Hier et Aujourd’hui (Yesterday and Today)**
- Students will understand perfect and imperfect tenses, irregular verb forms, time expressions, negatives and question formations.

**Le Cinéma Français**
- Students will understand how to write a film review.

**Demain (Tomorrow)**
- Students will understand the simple future tense and how to apply it in context and in making predictions.

**Un Séjour Linguistique en France (A language exchange in France)**
- Students will understand how to make arrangements and host an exchange student and the uses of the three tenses: past, present and future.

**La Vie Scolaire en France et en Australie**
- Students will understand the use of object pronouns and the conditional mood. They will appreciate how to formulate opinions on education.

**Literature: Le Petit Nicolas**
- Students will understand aspects of schooling and culture through the study of the short stories. They will practise the development of sentence structures in French.

**La Génération de Transition**
- Students will understand compound tenses, the sequence of tenses and the significance of new technologies.

#### Food Technology

**Gourmet Globetrotting**
- Students will understand how Australia’s modern food culture has evolved. This includes discovering indigenous ingredients, the implication of various historical events and the food trends which have emerged due to technological advances. Students will prepare dishes using a range of ingredients, equipment, cooking and presentation styles from a variety of cultures. Students will collaborate with the Year 10 Media class to create a short film.

**Cafe Culture**
- Students will create dishes using a range of ingredients, equipment, cooking and presentation styles from a typical cafe menu. They will learn to work co-operatively in group situations and alone. Students will understand the theory of cheese making and make their own Camembert Cheese. They will collaborate with the Year 10 Media class to create a short film.

#### General Mathematics – Further VCE Unit 1

Students will understand statistics and probability: displaying, sampling and interpreting data. A study of financial arithmetic, sequences and series and number systems is undertaken. Linear modelling, sketching and interpretation of graphs, linear and non-linear relations and their equations will be understood. Shape and measurement, coordinate geometry and the use of trigonometric ratios are used to solve practical problems.

Students will understand data analysis and applications, number patterns, geometry and trigonometry, graphs and relations.

#### Geography Units 1 and 2

Students will understand the geographic characteristics of natural environments and explain how they are developed by natural processes, including extreme natural events. They will also understand how to analyse and explain changes in natural environments due to natural processes and human activity. They will understand how to conduct fieldwork and collect and process data that can be represented using a range of geographic techniques.

Students will understand how to describe and explain the geographic characteristics of different types of rural and urban environments and analyse and explain changes due to human activities. They will appreciate how to sort, process and represent spatial data related to the formation of natural landscapes using GIS.
Year 10 Curriculum Overview

Indonesian VCE Units 1 and 2

*Iklim di Indonesia* (Weather in Indonesia)
Students will understand how to describe the weather, enquire about seasons, ask what to take, read basic weather forecasts.
They will also understand the use of object focus form and the use of makin lama makin and kalau dibandingkan dengan.

*Berkunjung ke Indonesia* (Visiting Indonesia)
Students will write a 10 day journal entry about a trip to and throughout Indonesia. They will learn how to adopt a personal, journal entry style of writing while also learning about different parts of Indonesia.
They will also understand the use of yang, semoga, mudah-mudahan, and moga-moga.

*Lingkungan* (Environment)
Students will understand how to discuss the environment in Indonesia and how to explain causes, reasons and consequences of certain actions.
Students will also understand the use of 'me-i', 'yang' and transitive verbs with suffixes 'I' and 'kan'.

*Upacara dan Perayaan* (Ceremonies and Celebrations)
Students will understand how to read formal invitations, write formal invitations and describe Muslim, Christian and Hindu ceremonies.

Information Technology VCE Units 1 and 2

Students will understand how to develop and use databases and web pages to analyse an ICT issue. Students will also understand problem solving methodology and networking topologies and protocols.

Music VCE Units 1 and 2

Students will understand research, analytical skills (listening and score reading), melodic and rhythmic transcription, recognition and writing of intervals, chords, scales, rhythms and creative composition. These skills are all integrated into the study of the Baroque Period, Impressionism and Musical Theatre.

Photography

Students will understand research, analytical skills (listening and score reading), melodic and rhythmic transcription, recognition and writing of intervals, chords, scales, rhythms, creative composition and performance. These skills are all integrated into the study of Expressionism and Film Music, Nationalism and Conducting.

Visual Art

Perspectives and Viewpoints
Students will understand still life from different perspectives. They will use pencil artwork to explore composition and collage.

Surrealist Painting
Students will understand the concepts and skills used in particular periods for drawing and painting and create a finished oil painting on canvas.

Visual Communication Design

The Design Process
Students will understand drawing methods through practical applications. Students will also apply the design process by analysing and evaluating existing designs and by working from a design brief to produce a design solution.
Students will apply the practices of Australian and international designers in social, cultural, historical and contemporary contexts. Students will understand how to apply digital and non-digital applications to make visual communications.

Thinking about Design
Students will understand advanced drawing methods through practical applications. They will apply the design process by working from a design brief to produce a design solution.
Students will develop and apply design thinking through the application of creative, critical and reflective techniques. Students will understand how to apply digital and non-digital applications to make visual communications.

Elective Semester Subjects

Media

Representations
Students will appreciate how to identify and discuss the ways representations are used in the media. They will understand how to operate a video camera and learn skills in cinematography. Students will also understand how to create a short narrative from script writing and storyboarding through to editing and post production.

Music Technology

Explore and Compose
Using the digital audio workstation software, Mixcraft 6, students will undertake creative tasks including loop based composition, MIDI sequencing, remixing, song writing, composition in response to an artwork and film/animation soundtrack scoring. A study of the concepts of music as well as the practice of keyboard techniques will develop listening skills and ensure that students have a deeper understanding of how rhythm, melody, chordal structure, texture, timbre, dynamics and structure can affect the overall sound and meaning of a musical composition. Students will have the opportunity to explore and compose in a wide range of musical styles of their own choosing.