2023
VCE CURRICULUM GUIDE

Hume Anglican Grammar
Mt Ridley Campus

Anglican Grammar
Hume

Aim High, Be Proud

Curriculum Descriptions for all subjects in this Guide are based on the current Study Designs as published by the Victorian Curriculum and Assessment Authority.
The School reserves the right to withdraw a subject from the listings or offer a Unit 3 - 4 sequence only, should interest in the subject be very low.
All details are correct at the time of publication.

Contents

Introduction

Hume Anglican Grammar seeks to blend academic excellence with richness of opportunity and experience beyond the classroom. In the interests of their personal wellbeing, the School encourages students to pursue activities other than study, such as sport, debating, music, the Arts and leadership.

At all times, we strive to provide an equitable educational experience for all, preparing students to be confident, critical thinkers who have a passion for learning in any setting. Our academic program seeks to develop the pursuit of excellence as a habit of mind and equip students with the skills for lifelong learning.

Aside from their subject curricula, students are supported in their VCE studies by several wellbeing and extension initiatives. All students in Year 11 and 12 take part in several **Elevate Education** sessions (https://au.elevateeducation.com/seminars/Senior). learning skills relating to time management, memory techniques, examination preparation and general study strategies.

The School's successful **Academic Mentor program** means every Year 12 student is placed in a small group which meets regularly with an appointed, experienced member of staff who acts as that group's mentor. Both pastoral and academic, these forums give students an opportunity to air their concerns freely, share their successes and discuss aspects of their learning journey such as study strategies and revision.

Year 11 and Year 12 Course Overviews

The following is an overview of a typical course followed by a student at Hume.

Year 11

Semester 1	English/Literature/English Language Unit 1	Elective Unit 1	Elective Unit 1	Elective Unit 1	Elective Unit 1	Elective Unit 1
Semester 2	English/Literature/English Language Unit 2	Elective Unit 2	Elective Unit 2	Elective Unit 2	Elective Unit 2	Elective Unit 2

Year 12

Semester 1	English/Literature/ English Language Unit 3	Elective Unit 3	Elective Unit 3	Elective Unit 3	Elective Unit 3
Semester 2	English/Literature/ English Language Unit 4	Elective Unit 4	Elective Unit 4	Elective Unit 4	Elective Unit 4

The Victorian Certificate of Education (VCE)

Introduction

The VCE (Victorian Certificate of Education) is a two-year program in Years 11 and 12 administered by the Victorian Curriculum and Assessment Authority (VCAA). It is important that students consult personnel such as the Careers Counsellor, the Heads of Faculty and Subject Coordinators, the VCE Coordinator and the Head of Teaching and Learning to gain advice and make informed decisions about subject selection.

For students to be eligible for satisfactory completion of their VCE certificate and obtain an ATAR, Hume Anglican Grammar must abide by the rules set by VCAA pertaining to the submission of work, examination procedures and prerequisite curriculum rules.

It is important to understand the difference between a study (subject) and a Unit (semester). Most studies are made up of four Units. Units 1 and 2 are usually undertaken in the first year, and Units 3 and 4 are usually undertaken in the second year of the VCE program. A Unit represents about 100 hours of work (of which 50 - 60 hours will be class time) and is undertaken in one semester or half-year.

Graduation Requirements

Over the two years of the VCE program, most students will complete a total of 24 Units. To be awarded the VCE, students must satisfactorily complete at least 16 Units:

- three Units of English, or English Language or Literature or a combination of two of these. This combination must include on Unit 3-4 sequence
- three sequences of Units 3 and 4 studies other than English.

Aside from the compulsory English/English Language/Literature requirement, students have considerable choice over the Units and the mix of Units 1, 2, 3 and 4 they attempt. Tertiary entry is largely based on performance in up to six sequences of Units 3 and 4 studies.

Unit outcomes and satisfactory completion

Each Unit includes a set of outcomes. All requirements of each Unit must be achieved for satisfactory completion. Achievement of the outcomes is based on the teacher's assessment of the student's performance on assessment tasks prescribed for the Unit.

The Subject Selection Process

Choosing a suitable course:

The most important part of the subject selection process is for students to choose an appropriate program of study from the courses available through the School or other external providers. Students are advised to:

- gather information about the VCE subjects on offer at Hume Anglican Grammar.
- consider their strengths as well as their level of interest in the various subject areas available. Students SHOULD NOT select subjects based on preferred teachers, being with friends or ATAR scaling.
- think about possible tertiary options they might follow and establish the prerequisites and other requirements stipulated by tertiary institutions.
- think about whether they need a program which guides them more directly into the work force.
- speak to current senior students about the courses which interest them.
- seek advice from relevant staff (see 'Contacts' page of this handbook).
- visit Open Days and Experience Days offered by many tertiary Institutions.

We recommend students invest significant time and energy into this process to ensure selecting a course that will be both challenging and enriching, and one to which they will

be fully committed. We provide a plethora of opportunities in a community that rewards ambition, enthusiasm, hard work, and, where without doubt, everyone enjoys themselves. Even more importantly, we desire our community to be a place where honesty and mutual respect are expected. We look forward to assisting students in the process of course selection for their final years of Secondary education.

Virtual School Victoria (formerly Distance Education)

Students may study a subject through Virtual School Victoria if it is not offered by the School. This may be done only after consultation with the Head of Teaching and Learning. Students are enrolled by Hume Anglican Grammar as their home school. Parents pay the associated fees. Studying via distance education requires significant autonomy, initiative and commitment. As such, an application to study via distance education will be considered based on each student's previous academic results, capacity for self-motivation and work ethic; indicators of work ethic include academic detentions, attendance, class participation and behaviour.

Acceleration: Years 10 - 11

The VCE is normally studied over a two-year period with subjects benchmarked for student ability in Years 11 and 12. The VCE permits schools to make flexible pathway decisions for individual students such as the models in the table below.

When embarking on VCE subject selection, the School ensures each student studies a course that corresponds to their strengths and enables them to achieve their highest academic potential, while providing a clear direction for future tertiary learning. For some students, acceleration will be a sensible strategy toward achieving their goals while for others, the better course of action is to study the normally benchmarked Year 11 and 12 subjects without acceleration.

	Subject mix Year 10	**Subject mix Year 11**	**Subject mix Year 12**
Student A (three-year VCE)	1 x Unit 1-2 subject 5 x Year 10 subjects	1 x Unit 3-4 subject 4 x Unit 1-2 subjects	5 x Unit 3-4 subjects totalling 6 x Unit 3-4 subjects
Student B (two-year VCE)	6 x Year 10 subjects	1 x Unit 3-4 subject 4 x Unit 1-2 subjects	5 x Unit 3-4 subjects totalling 6 x Unit 3-4 subjects

For 2023, students may apply to accelerate if they meet the required criteria:

- Achieving an 80% standard in all subjects
- Having solid study habits and committed work ethic
- Having demonstrable potential in a specific subject discipline
- Have been consistently hard-working during their Secondary years

The final decision on acceleration rests with a panel of a minimum of two members of staff who review each student's application. The performance of accelerated students will be reviewed twice during 2023 with students' progress determining their continuation in the program. Subjects available for acceleration for Unit 1-2 and Unit 3-4 in 2023:

• Australian and Global Politics* • Accounting • Biology • Business Management	• Environmental Science • General Mathematics • Geography • Health and Human Development	• Legal Studies • Media* • Psychology • Religion and Society* • Systems Engineering

	• History	*Unit 3-4 only

Benefits of acceleration: accelerating in Year 11

- Selecting a single Unit 3 and 4 sequence in Year 11, alongside Unit 1 and 2 subjects, allows students to experience the rigour, pleasures and requirements of studying a Year 12 course, helping them know what to expect in their final year at school.
- There is a percentage increase in a sixth subject added to a student's ATAR score in Year 12.
- Being in a classroom environment with older students, accelerated students benefit from interacting with and learning alongside a senior cohort.
- Having completed a Unit 3 and 4 sequence at the end of Year 11 can mean students have more freedom of subject choice in Year 12 and a clearer idea of the best learning path for them as individuals.

Challenges of acceleration: acceleration in Year 10 or 11

- Students may find they devote too much time to their accelerated sequence at the expense of other subjects.
- Unless students remain committed to and diligent in their accelerated study, there is very little or even no percentage benefit to be gained.

Acceleration and timetabling

- A Year 11 student who selects a Unit 3 - 4 subject is placed in a class together with Year 12 students also studying that subject. Similarly, a Year 10 student studying a Unit 1 - 2 subject is placed in a class with Year 11 students.

Students who have studied an accelerated subject in Year 10 2022

- If a student has already studied a Units 1 - 2 sequence in Year 10, they need to reapply for Units 3 - 4 acceleration in 2023. Decisions will be based on performance.

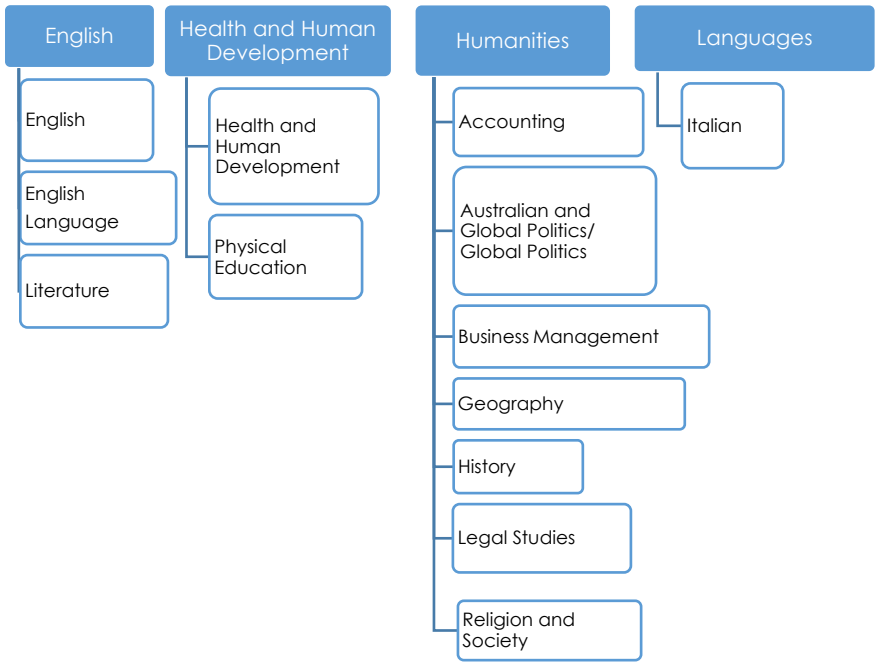
Note: Acceleration is not a guarantee to an increased ATAR score. Some students are better served by studying subjects at the benchmarked year level. The School examines each application on its own merits.

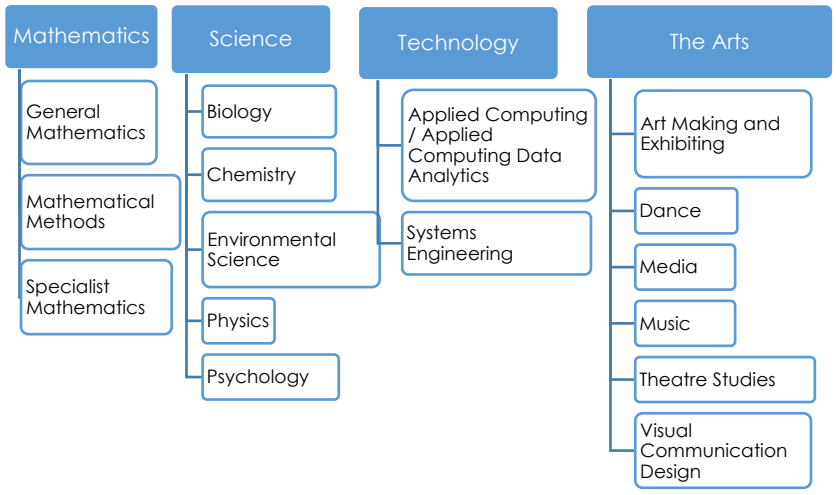
Key Dates

For further information contact the Head of Teaching and Learning or relevant Head of Faculty – see 'Contacts' page

Date	Action
Week 1 Term 2 Tuesday Friday 15 – Monday 25 July	Year 10 students have individual meetings with selected members of staff to discuss 2023 VCE.
Friday, 15 July	VCE Curriculum Guide 2023 emailed to students.
Week 2 Wednesday, 20 July	Attend the Subject Selection Evening with parents.
Week 2 Friday 22 July	**Web preferences open** for students Years 8-11 for subject selection.
	Applications for acceleration open for students Years 10-11
Week 3 Monday, 25 July	Lunchtime information booths held in STEM Centre for students to attend: Year 8 – Monday 25 Year 9 – Tuesday 26 Years 10-11 – Wednesday 27
	Students applying for acceleration receive notification of whether they are approved to proceed to panel. Panels commence.
Week 4 Wednesday, 3 August	Applications for acceleration close
Friday, 5 August	**Web preferences close.**
Week 5 Wednesday, 10 August	Last day for students to return web preferences slip. Students notified of decision on acceleration.

Overview of Subject Offerings in the VCE





Accounting – Unit 1 and 2

Unit 1: Role of Accounting in Business

This unit explores the establishment of a business and the role of accounting in the determination of business success or failure. In this, it considers the importance of accounting information to stakeholders. Students analyse, interpret and evaluate the performance of the business using financial and non-financial information. They use these evaluations to make recommendations regarding the suitability of a business as an investment. Students record financial data and prepare reports for service businesses owned by sole proprietors. Where appropriate, the accounting procedures developed in each area of study should incorporate the application of the Conceptual Framework and financial indicators to measure business performance and consider the range of ethical concerns faced by business owners when making decisions, including financial, social and environmental.

Area of Study 1: The Role of Accounting
Area of Study 2: Recording Financial Data and Reporting Accounting Information for a Service Business

Unit 2: Accounting and Decision-Making for a Trading Business

Students develop their knowledge of the accounting process for sole proprietors operating a trading business, with a focus on inventory, accounts receivable, accounts payable and non-current assets. Students use manual processes and ICT, including spreadsheets, to prepare historical and budgeted accounting reports. Students analyse and evaluate the performance of the business relating to inventory, accounts receivable, accounts payable and non-current assets. They use relevant financial and other information to predict, budget and compare the potential effects of alternative strategies on the performance of the business. Using these evaluations, students develop and suggest to the owner strategies to improve business performance. Where appropriate, the accounting procedures developed in each area of study should incorporate application of the Conceptual Framework, financial indicators and ethical considerations for business owners when making business decisions, including financial, social and environmental.

Area of Study 1: Accounting for Inventory
Area of Study 2: Accounting for and managing accounts receivable and accounts payable
Area of Study 3: Accounting for and managing non-current assets

Prerequisites

None.

Methods of Assessment

- Structured questions
- Folio of exercises (manual and ICT)
- Case studies (manual and/or ICT)
- Tests (manual and/or ICT)
- Reports (written, oral or multimedia)
- End-of-semester examination

Accounting – Unit 3 and 4

Unit 3: Financial Accounting for a Trading Business

This unit focuses on financial accounting for a trading business owned by a sole proprietor and highlights the role of accounting as an information system. Students use the double entry system of recording financial data and prepare reports using the accrual basis of accounting and the perpetual method of inventory recording. Students develop their understanding of the accounting processes for recording and reporting and consider the effect of decisions made on the performance of the business. They interpret reports and information presented in a variety of formats and suggest strategies to the owner to improve the performance of the business. Where appropriate, the accounting procedures developed in each area of study should incorporate the application of the Conceptual Framework, financial indicators to measure business performance, as well as the ethical considerations of business owners when making decisions, including financial, social and environmental.

Area of Study 1: Recording and analysing financial data
Area of Study 2: Preparing and interpreting accounting reports

Unit 4: Recording, reporting, budgeting and decision-making

Students further develop their understanding of accounting for a trading business owned by a sole proprietor and the role of accounting as an information system. Students use the double entry system of recording financial data and prepare reports using the accrual basis of accounting and the perpetual method of inventory recording. Both manual methods and ICT are used to record and report. Students extend their understanding of the recording and reporting process with the inclusion of balance day adjustments and alternative depreciation methods. They investigate both the role and importance of budgeting in decision-making for a business. They analyse and interpret accounting reports and graphical representations to evaluate the performance of a business. From this evaluation, students suggest strategies to business owners to improve business performance. Where appropriate, the accounting procedures developed in each area of study should incorporate application of the Conceptual Framework and financial indicators to measure business performance, as well as the ethical considerations of business owners when making decisions, including financial, social and environmental.

Area of Study 1: Extension of recording and reporting
Area of Study 2: Budgeting and decision-making

Prerequisites

None.

Methods of Assessment

- Case study analysis
- ICT exercises
- Tests
- Analytical exercises
- Media analysis
- Investigation and report (written, visual, oral)
- External end-of-year examination

Applied Computing – Unit 1 and 2

Unit 1: Applied Computing

Students are introduced to the stages of the problem-solving methodology. Students focus on how data can be used within software tools such as databases and spreadsheets to create data visualisations, and the use of programming languages to develop working software solutions.
In Area of Study 1, as an introduction to data analytics, students respond to a teacher-provided analysis of requirements and designs to identify and collect data in order to present their findings as data visualisations. They present work that includes database, spreadsheet and data visualisations solutions. In Area of Study 2, students select and use a programming language to create a working software solution. Students prepare, document and monitor project plans and engage in all stages of the problem-solving methodology.

Area of Study 1: Database software, spreadsheet software and data visualisation software
Area of Study 2: An appropriate programming language

Unit 2: Applied Computing

Students focus on developing innovative solutions to needs or opportunities that they have identified and propose strategies for reducing security risks to data and information in a networked environment.
In Area of Study 1, students work collaboratively and select a topic for further study to create an innovative solution in an area of interest. The innovative solution can be presented as a proof of concept, a prototype or a product. Students engage in all areas of the problem-solving methodology. In Area of Study 2, as an introduction to cybersecurity, students investigate networks and the threats, vulnerabilities and risks to data and information. They propose strategies to protect the data accessed using a network.

Area of Study 1: Any software tools used to create an innovative solution, for example a programming language, spreadsheet software, web-authoring software, presentation software, tool for planning a project
Area of Study 2: A software tool to represent a network

Prerequisites

None.

Methods of Assessment

- Folio of exercises or software solutions and a written report
- Presentation (oral, multimedia, visual) to present findings or software solutions
- Annotated visual report
- Case study with structured questions
- Design of a wireless network or a working model of a wireless network
- End-of-semester examination

Applied Computing: Data Analytics – Unit 3 and 4

Unit 3: Data Analytics

Students apply the problem-solving methodology to identify and extract data through the use of software tools such as database, spreadsheet and data visualisation software to create data visualisations or infographics. Students develop an understanding of the analysis, design and development stages of the problem-solving methodology. In Area of Study 1, students respond to teacher-provided solution requirements and designs. They develop data visualisations and use appropriate software tools to present findings. Appropriate software tools include database, spreadsheet and data visualisation software. In Area of Study 2 students propose a research question, prepare a project plan, collect and analyse data, and design infographics or dynamic data visualisations. Area of Study 2 forms the first part of the School-Assessed Task (SAT) that is completed in Unit 4, Area of Study 1.

Area of Study 1: Data Analytics
Area of Study 2: Data analytics: analysis and design

Unit 4: Data Analytics

Students focus on determining the findings of a research question by developing infographics or dynamic data visualisations based on large complex data sets and on the security strategies used by an organisation to protect data and information from threats. In Area of Study 1, students apply the problem-solving stages of development and evaluation to develop their preferred design prepared in Unit 3, Area of Study 2, into infographics or dynamic data visualisations, and evaluate the solutions and project plan. Area of Study 1 forms the second part of the School-Assessed Task (SAT). In Area of Study 2 students investigate security practices of an organisation. They examine the threats to data and information, evaluate security strategies and recommend improved strategies for protecting data and information.

Area of Study 1: Data Analytics: development and evaluation
Area of Study 2: Cybersecurity: data and information security

Prerequisites

None.
Accelerated students must generally demonstrate successful completion of Applied Computing Units 1 and 2.

Methods of Assessment

- Witten report
- Annotated visual plan
- Case study with structured questions
- Report in multimedia format
- External end-of-year examination

Art Making and Exhibiting – Unit 1 and 2

Unit 1: Explore, expand and investigate

Students explore materials, techniques and processes in a range of art forms. They expand their knowledge and understanding f the characteristics, properties and application of materials used in art making. Students also explore the historical development of specific art forms and investigate how the characteristics, properties and use of materials and techniques have changed over time. Throughout, students become aware of and understand the safe handling of materials they use. Their exploration and experimentation is documented in both visual and wiritten form in a Visual Arts journal. The three Areas of Study invite students to consider:

- How do artists use materials and techniques in their art making?
- How do artists use materials and techniques to represent ideas and achieve a style in their artworks?
- What role do artworks and their presentation play in society?

Area of Study 1: Explore – materials, techniques and art forms
Area of Study 2: Expand, present and reflect
Area of Study 3: Investigate – research and present

Unit 2: Understand, develop and resolve

Students continue to research how artworks are made by investigating how artis use aesthetic qualities to represent ideas in artworks. They broaden their investigation to understand how artworks are displayed to audiences and how ideas are represented to communicate meaning. Students respond to a set theme and progressively develop their own ideas. They consolidate these ideas to plan and make finished artworks, reflecting on their knowledge and understanding of the aesthetic qualities of artworks. Students begin to understand how exhibitions are planned and designed and how spaces are organised for exhibitions. The three Areas of Study invite students to consider:

- How are thematic exhibitions planned and designed?
- How does an artist develop aesthetic qualities and style in artworks?
- How does an artist develop ideas and personal style in artworks?

Area of Study 1: Understand – ideas, artworks and exhibition
Area of Study 2: Develop – theme, aesthetic qualities and style
Area of Study 3: Resolve – ideas, subject matter and style

Prerequisites
Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.

Methods of Assessment

- Visual Arts journal
- Finished Artworks and exhibition (art form: choose from painting, drawing, printmaking, sculpture, film, video, ceramics, sound, photography, installations, interdisciplinary practices, digital artworks, fashion, textiles and street art).
- End-of-semester examination

Art Making and Exhibiting – Unit 3 and 4

Unit 3: Collect, extend and connect

Students actively engage in art making, techniques and processes. They explore contexts, subject matter and ideas to develop artworks in imaginative and creative ways. They also investigate how artists use visual language to represent ideas and meaning in artworks. The materials, techniques and processes of the art form the students work with are fundamental to the artworks they make. Students use their Visual Arts journal to record their process. They record their research of artists, artworks and collected ideas and document the iterative and interrelated aspects of art making to connect the inspirations and influences they have researched. After critiques, students evaluate their work to revise and refine. They visit an exhibition in either a gallery, museum or other space, visiting or viewing a minimum of two exhibitions during the year. They research the exhibition of the artworks in those spaces and the role a curator has in planning and writing information about an exhibition.

Area of Study 1: Collect – inspiration, influences and images
Area of Study 2: Extend – make, critique and reflect
Area of Study 3: Connect – curate, design and propose

Unit 4: Consolidate, present and conserve

Students make connections to the artworks they have made in Unit 3, consolidating and extending their ideas and art making to further refine and resolve artworks in specific art forms. The progressive resolution of these works is documented in the student's Visual Arts journal, demonstrating their developing technical skills as well as their refinement of subject matter, ideas, visual language, aesthetic qualities and style. Students also reflect on their selected finished artworks and evaluate the materials, techniques and processes used. They organise the presentation of their finished pieces, making decisions on how their art will be displayed, lighting they may use and any other considerations. They continue to engage with galleries and examine a variety of exhibitions, documenting their investigations and review in their journal.

Area of Study1: Consolidate – refine and resolve
Area of Study 2: Present – plan and critique
Area of Study 3: Conserve – present and care

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate ad commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required. Accelerated students must generally demonstrate successful completion of Unit 1-2.

Methods of Assessment

- Visual Arts journal
- Finished Artworks and Exhibition (**one** art form: choose from painting, drawing, printmaking, sculpture, film, video, ceramics, sound, photography, installations, interdisciplinary practices, digital artworks, fashion, textiles and street art.
- External end-of-year examination

Australian and Global Politics – Unit 1 and 2

Unit 1: Ideas, Actors and Power

Students are introduced to the key ideas relating to the exercise of political power. They explore how these ideas shape political systems and in particular the characteristics of liberalism. They consider the nature of power in Australian democracy and in a non-democratic political system. They also explore the nature and influence of key political actors in Australia: political parties, interest groups and the media. All these forms of participation in Australian democracy influence the political agenda.

Area of Study 1: Power and Ideas
Area of Study 2: Political actors and power

Unit 2: Global Connections

This unit introduces students to the global community and the global actors who are part of this community. In Area of Study 1 students explore the myriad ways lives have been affected by the increased interconnectedness of the world through the process of globalisation. In Area of Study 2, students consider the extent to which global actors cooperate and share visions and goals as part of the global community. They investigate the ability of the global community to manage areas of global cooperation and to respond to issues of global conflict and instability.

Area of Study 1: Global Links
Area of Study 2: Global Cooperation and conflict

Prerequisites
None.

Methods of Assessment

- Oral presentation such as podcast or video
- Wiki or blog
- Social media campaign
- PowerPoint or interactive presentation
- Research report
- Case study
- Essay
- Short answer questions
- Extended response questions
- End-of-semester examination

Global Politics – Unit 3 and 4

Unit 3: Global Actors

Students investigate the key global actors of contemporary global politics; states, intergovernmental organisations, non-state actors and one transnational corporation. They use evidence to analyse the key global actors and their aims, roles and power. They develop an understanding of the key actors through an in-depth examination of the concepts of national interests and power as they relate to the state. Students also investigate the way in which a specific Asia-Pacific state uses its power to pursue its national interests and explore the factors that have shaped that state's national interests in the last 10 years. Students study one of the following states in the Asia-Pacific; Australia, Chine, Indonesia, Japan, United States of America, and the way in which one Asia-Pacific state uses power to achieve its objectives. VCE Global Politics is a contemporary study and the focus is on examples and case studies from within the last 10 years. However, contemporary issues and events may also ask for contextualising which requires investigation prior to this timeframe.

Area of Study 1: Global Actors
Area of Study 2: Power in the Asia-Pacific

Unit 4: Global Challenges

Students investigate key global challenges facing the international community in the 21st century. They examine and analyse the debates surrounding two ethical issues that are underpinned by international law. They then evaluate the effectiveness of responses to these issues and use concepts of realism and cosmopolitanism as a framework for analysing these issues and debates. Students also explore the context and causes of global crises and consider the varying effectiveness of responses and challenges to resolving them. They investigate the causes of two global crises, selected from the following: climate change, armed conflict, terrorism, and economic instability. VCE Global Politics is a contemporary study and focus must be on examples and case studies from within the last 10 years. However, contemporary issues and events may need to be contextualised for students and this may require some investigation prior to this timeframe.

Area of Study 1: Ethical issues and debates
Area of Study 2: Global crises

Methods of Assessment

- Oral presentation such as podcast or video
- Wiki or blog
- Social media campaign
- PowerPoint or interactive presentation
- Research report
- Case study
- Essay
- Short answer questions
- Extended response questions
- End-of-year external examination

Biology – Unit 1 and 2

Unit 1: How do living things stay alive?

In this unit, students examine the cell as the structural and functional unit of life, from the single celled to the multicellular organism, including the requirements for sustaining cellular processes. Students focus on cell growth, replacement and death and the role of stem cells in differentiation, specialisation and renewal of cells. They explore how systems function through cell specialisation in vascular plants and animals and consider the role homeostatic mechanisms play in maintaining an animal's internal environment.
A student-adapted or student-designed scientific investigation is undertaken in Area of Study 3. The investigation involves the generation of primary data and is related to the function and/or the regulation of cells or systems.

Area of Study 1: How do cells function?
Area of Study 2: How do plant and animal systems function?
Area of Study 3: How do scientific investigations develop understanding of how organisms regulate their functions?

Unit 2: How is continuity of life maintained?

Students explore reproduction and the transmission of biological information from generation to generation and the impact this has on species diversity. They apply their understanding of chromosomes to explain the process of meiosis. Students consider how the relationship between genes, and the environment and epigenetic factors influence phenotypic expression. They explain the inheritance of characteristics, analyse patterns of inheritance, interpret pedigree charts and predict outcomes of genetic crosses.
Students analyse the advantages and disadvantages of asexual and sexual reproductive strategies, including the use of reproductive cloning technologies. They study structural, physiological and behavioural adaptations that enhance an organism's survival. Students explore interdependences between species, focusing on how keystone species and top predators' structure and maintain the distribution, density and size of a population. They also consider the contributions of indigenous Australian knowledge and perspectives in understanding the survival of organisms in Australian ecosystems.
A student-directed research investigation into a contemporary ethical issue is undertaken which relates to the application of genetic knowledge, reproductive science, inheritance or adaptations and interdependencies beneficial for survival.

Area of Study 1: How is inheritance explained?
Area of Study 2: How do inherited adaptations impact on diversity?
Area of Study 3: How is science used to explore and communicate bioethical issues?

Prerequisites

None.

Methods of Assessment

For each outcome, at least one task selected from:

- a case study analysis
- problem-solving involving biological concepts and skills
- a bioinformatics exercise
- a data analysis
- response to an issue
- reflective annotations of a logbook of practical activities
- media analysis of two or more media sources
- laboratory or fieldwork report
- a modelling or simulation activity
- a scientific poster

Biology – Unit 3 and 4

Unit 3: How do cells maintain life?

Students investigate the workings of the cell from several perspectives. They analyse the structure and function of nucleic acids as information molecules, gene structure and expression in prokaryotic and eukaryotic cells and proteins as a diverse group of functional molecules. They examine the biological consequences of manipulating the DNA molecule and applying biotechnologies. Students explore the structure, regulation and rate of biochemical pathways, with reference to photosynthesis and cellular respiration. They explore how the application of biotechnologies to biochemical pathways could lead to improvements in agricultural practices. Students investigate a selected case study, data analysis and/or a bioethical issue with investigation topics including, but not limited to: discovery and development of the model of the structure of DNA; proteomic research applications; transgenic organism use in agriculture; use, research and regulation of gene technologies, including CRISPR-Cas9; outcomes and unexpected consequences of enzyme inhibitors; research into increasing efficiency of photosynthesis or cellular respiration or impact of poisons on the cellular respiration pathway.

Area of Study 1: What is the role of nucleic acids and proteins in maintaining life?
Area of Study 2: How are biochemical pathways regulated?

Unit 4: How does life change and respond to challenges over time?

Students consider the continual change and challenges to which life on Earth has been and continues to be subjected. They study the human immune system and interactions between its components to provide immunity. Students consider how biological knowledge can respond to bioethical issues and challenges related to disease. Students consider how evolutionary biology is based on the accumulation of evidence over time. They investigate various change events on a population's gene pool and the biological consequences of changes in allele frequencies. Students examine the evidence for species relatedness and change in life forms using evidence from palaeontology, structural morphology, molecular homology and comparative genomics. Students examine the evidence for structural trends in the human fossil record. Students apply their knowledge through investigation of a selected case study, data analysis and/or bioethical issue, including but not limited to: deviant cell behaviour and links to disease; autoimmune diseases; allergic reactions; development of immunotherapy strategies; bacteriophage therapy; prevention and eradication of disease; vaccinations; bioprospecting for new medical treatments; patterns and evidence for evolutionary relationships; population and species changes over time in non-animal communities; monitoring of gene pools for conservation planning; role of selective breeding programs in conservation of endangered species; or impact of technologies on the study of evolutionary biology.

Area of Study 1: How do organisms respond to pathogens?
Area of Study 2: How are species related over time?
Area of Study 3: How inquiry investigates cellular processes and/or biological change

Prerequisites

None.

Methods of Assessment

- Report of practical activities and student-designed or adapted investigation
- Bioinformatics exercise
- Data analysis
- Structured questions
- External end-of-year examination

Business Management – Unit 1 and 2

Unit 1: Planning a Business

Businesses of all sizes are major contributors to the economic and social wellbeing of a nation. The ability of entrepreneurs to establish a business and the fostering of conditions under which new business ideas can emerge are vital for a nation's wellbeing. Taking a business idea and planning how to make it a reality are the cornerstones of economic and social development. Students explore the factors affecting business ideas and the internal and external environments within which businesses operate, as well as the effect of these on planning a business. They also consider the importance of the business sector to the national economy and social wellbeing.

Area of Study 1: The business idea
Area of Study 2: Internal business environment and planning
Area of Study 3: External business environment and planning

Unit 2: Establishing a Business

This unit focuses on the establishment phase of a business. Establishing a business involves compliance with legal requirements as well as decisions about how best to establish a system of financial record keeping, staff the business and establish a customer base. Students examine the legal requirements that must be met to establish a business. They investigate the essential features of effective marketing and consider the best way to meet the needs of the business in terms of staffing and financial record keeping. Students analyse management practices by applying key knowledge to contemporary business case studies from the past four years.

Area of Study 1: Legal requirements and financial considerations
Area of Study 2: Marketing a business
Area of Study 3: Staffing a business

Prerequisites

None.

Methods of Assessment

- Case study analysis
- Development of a business plan
- School-based, short-term business activity
- Tests
- Analytical exercises
- Media analysis
- Investigation and report (written, visual, oral)
- End-of-semester examination

Business Management – Unit 3 and 4

Unit 3: Managing a Business

Students explore the key processes and considerations for managing a business efficiently and effectively to achieve business objectives. They examine different types of businesses and their respective objectives and stakeholders. Students also investigate strategies to manage both staff and business operations to meet objectives and develop an understanding of the complexity and challenge of managing businesses. They compare theoretical perspectives with current practices drawing on contemporary Australian and global business case studies from the past four years.

Area of Study 1: Business foundations
Area of Study 2: Human Resource Management
Area of Study 3: Operations management

Unit 4: Transforming Business

Businesses are under constant pressure to adapt and change to meet their objectives. In this unit students consider the importance of reviewing key performance indicators to determine current performance and the strategic management necessary to position a business for the future. Students study a theoretical model to undertake change and consider a variety of strategies to manage change in the most efficient and effective way to improve business performance. They investigate the importance of leadership in change management. Using a contemporary business case study from the past four years, students evaluate business practice against theory.

Area of Study 1: Reviewing performance – the need for change
Area of Study 2: Implementing change

Prerequisites

None.

Methods of Assessment

- Case study analysis
- Development of a business plan
- School-based, short-term business activity
- Tests
- Analytical exercises
- Media analysis
- Investigation and report (written, visual, oral)
- End-of-year external examination

Chemistry – Unit 1 and 2

Unit 1: How can the diversity of materials be explained?

The development and use of materials for specific purposes is an important human endeavour. Students investigate the chemical structures and properties of a range of materials, including covalent compounds, metals, ionic compounds and polymers. They are introduced to ways that chemical quantities are measured. They consider how manufacturing innovations lead to more sustainable products being produced for society through th use of renewable raw materials and a transition from a linear toward a circular economy.

Students conduct practical investigations involving the reactivity series of metals, separation of mixtures by chromatography, use of precipitation reactions to identify ionic compounds, determination of empirical formulas, and synthesis of polymers. A student-directed research investigation into the sustainable production or use of a selected material is undertaken to explore how sustainability factors such as green chemistry principles and the transition to a circular economy are considered in the production of materials to ensure minimum toxicity and impacts on human health and the environment.

Area of Study 1: How do the chemical structures of materials explain their properties and reactions?
Area of Study 2: How are materials quantified and classified?
Area of Study 3: How can chemical principles be applied to create a more sustainable future?

Unit 2: How do chemical reactions shape the natural world?

Society is dependent on the work of chemists to analyse the materials and products in everyday use. Students analyse and compare different substances dissolved in water and the gases that may be produced in chemical reactions. They explore applications of acid-base and redox reactions in society.

Students conduct practical investigations involving the specific heat capacity of water, acid-base and redox reactions, solubility, molar volume of a gas, volumetric analysis, and the use of a calibration curve. A student-adapted or designed scientific investigation is undertaken, involving the generations of primary data related to the production of gases, acid-base or redox reactions, or the analysis of substances in water.

In both Units 1 and 2, students use chemistry terminology, including symbols, formulas, chemical nomenclature and equations, to represent and explain observations and data from their own investigations and to evaluate the chemistry-based claims of others.

Area of Study 1: How do chemicals interact with water?
Area of Study 2: How are chemicals measured and analysed?
Area of Study 3: How do quantitative scientific investigations develop our understanding of chemical reactions?

Prerequisites

None.

Methods of Assessment

- Practical activity reports, student-designed or adapted investigation and independent research investigation
- Other assessments such as modelling activity, media response, data analysis and test
- Reflective learning journal
- End-of-semester examination

Chemistry – Unit 3 and 4

Unit 3: How can chemical processes be designed to optimise efficiency?

Students explore energy options and the chemical production of materials with reference to efficiencies, renewability and the minimisation of their impact on the environment. They compare and evaluate different chemical energy resources, including fossil fuels, biofuels, galvanic cells and fuel cells. They investigate the combustion of fuels, including the energy transformations involved, the use of stoichiometry to calculate the amounts of reactants and products involved in the reactions, and calculations of the amounts of energy released and their representations. Students consider the purpose, design and operating principles of galvanic cells, fuel cells and electrolytic cells. In this context they use the electrochemical series to predict and write half and overall redox equations and apply Faraday's laws to calculate quantities in electrolytic reactions. They investigate and apply the equilibrium law and Le Chatelier's principle to different reaction systems, including to predict and explain the conditions that will improve the efficiency and percentage yield of chemical processes.

Area of Study 1: What are the options for energy production?
Area of Study 2: How can the yield of a chemical product be optimised?

Unit 4: How are organic compounds categorised, analysed and used?

Students investigate the structural features, bonding, typical reactions and uses of the major families of organic compounds including those found in food. Students study the ways in which organic structures are represented and named. They process data from instrumental analyses of organic compounds to confirm or deduce organic structures and perform volumetric analyses to determine the concentrations of organic chemicals in mixtures. Students consider the nature of the reactions involved to predict the products of reaction pathways and to design pathways to produce particular compounds from given starting materials. Students investigate key food molecules through an exploration of their chemical structures, the hydrolytic reactions in which they are broken down and the condensation reactions in which they are rebuilt to form new molecules.

Area of Study 1: How can the diversity of carbon compounds be explained and categorised?
Area of Study 2: What is the chemistry of food?
Area of Study 3: Practical investigation

Prerequisites

There are no prerequisites for Year 12 students, however, the study of Chemistry Units 1and 2 is highly recommended.

Methods of Assessment

- Report of practical activities, student-designed or adapted investigation and independent research investigation
- Modelling activity
- Structured questions
- External end-of-year examination

Dance – Unit 1 and 2

Unit 1: Dance

Students explore the potential of the body as an instrument of expression and communication in conjunction with the regular and systematic development of physical dance skills. Students discover the diversity of expressive movement and purposes for dancing in dances from different times, places, cultures, traditions and/or styles. They commence the process of developing a personal movement vocabulary and also begin the practices of documenting and analysing movement. Through this work they develop understanding of how other choreographers use these practices. Students learn about relevant physiology and approaches to health and wellbeing, and about care and maintenance of the body. They apply this knowledge through regular and systematic dance training. Students explore the choreographic process through movement studies, cohesive dance compositions and performances. They discuss influences on other choreographers and the impact of these influences on intentions and movement vocabulary in selected dance works.

Area of Study 1: Dance perspectives
Area of Study 2: Choreography and performance
Area of Study 3: Dance technique and performance
Area of Study 4: Awareness and maintenance of the dancer's body

Unit 2: Dance

Students extend their personal movement vocabulary and skill in using a choreographic process by exploring elements of movement (time, space and energy), the manipulation of movement through choreographic devices and the types of form used by choreographers. Students use the choreographic process to develop and link movement phrases to create a dance work. They apply their understanding of the processes used to realise a solo or group dance work – choreographing and/or learning, rehearsing, preparing for performance and performing. Students are introduced to a range of dance traditions, styles and works. Dance traditions, styles and works selected for study should encompass the dance output of traditional and/or contemporary Aboriginal and Torres Strait Islander Peoples and other Australian dance artists. Students may also study material such as dance from other cultures, music theatre, the work of tap/jazz or street performers, ballet choreographers, and/or modern dance. Students describe the movement vocabulary in their own and others' dances by identifying the use of movement categories and ways the elements of movement have been manipulated through choreographic devices.

Area of Study 1: Dance perspectives
Area of Study 2: Choreography, performance
Area of Study 3: Dance technique and performance

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.

Methods of Assessment

- Structured questions
- Performance
- End-of-semester examination

Dance – Unit 3 and 4

Unit 3: Dance

Students choreograph, rehearse and perform a solo dance work that allows them to execute a diverse range of physical skills and actions drawn from all movement categories. Students continue regular and systematic dance training and learn and perform a duo or group dance work created by another choreographer. They continue to develop their ability to safely execute movement vocabulary and perform with artistry. Students analyse the realisation of their solo and the learnt duo or group dance work, focusing on the processes of choreographing or learning, rehearsing, preparing for performance and performing. This analysis connects each student's work as a choreographer to that of professional choreographers. Students further develop understanding of the choreographic process through analysing two dance works by choreographers of the twentieth and/or twenty-first centuries. These works are selected from the VCAA Prescribed list for Unit 3, including solo or duo works, and works where the performance of a particular dancer in a group can be studied independently. Students analyse how the intentions chosen by choreographers are developed through choreographic devices and arrangement of phrases and sections.

Area of Study 1: Dance perspectives
Area of Study 2: Choreography, performance and analysis of a skills-based solo dance
Area of Study 3: Dance technique, performance and analysis of a learnt dance work

Unit 4: Dance

Students choreograph, rehearse and perform a solo dance work with a cohesive structure. When rehearsing and performing this dance work students focus on communicating the intention with accurate execution of choreographic variations of spatial organisation. They explore how they can demonstrate artistry in performance. Students document and analyse the realisation of the solo dance work across the processes of choreographing, rehearsing, preparing to perform and performing the dance work. Students continue to develop their understanding of the choreographic process through analysis of a group dance work by a twentieth or twenty-first century choreographer. This analysis focuses on ways in which the intention is expressed through the manipulation of spatial relationships. Students analyse the use of group structures (canon, contrast, unison, and asymmetrical and symmetrical groupings and relationships) and spatial organisation (direction, level, focus and dimension) and investigate the influences on choices made by choreographers in these works.

Area of Study 1: Dance perspectives
Area of Study 2: Choreography, performance and dance-making analysis

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.

Methods of Assessment

- Structured questions
- Performance
- External end-of-year examination

English – Unit 1 and 2

Unit 1: English

Students engage in reading and viewing texts with a focus on personal connections with the story. They discuss and clarify ideas and values presented by authors through their evocations of character, setting and plot and through investigations of the point of view and/or voice of the text. They develop and strengthen inferential reading and viewing skills, and consider the ways a text's vocabulary, text structures and language features can create meaning on several levels and in different ways. Students' exploration of texts involves understanding and appreciating the role of vocabulary, text structures and language features in creating story and meaning. They contemplate the ways a text can present and reflect human experiences, and how stories or aspects of stories resonate with their own memories and lives. Students are encouraged to share their experience and understanding of the world, and make connections with key ideas, concerns and tensions presented in a text. They also explore the cultural, social and historical values embedded in the text, and can compare these values with their own. It is through these moments of connection that students engage more closely with the reading experience and draw parallels with their own observations of the world.
For this outcome, students will read and explore one set text, this text must be of a different text type form that selected for study in Unit 2.

Area of Study 1: Reading and exploring texts
Area of Study 2: Crafting texts

Unit 2: English

In this area of study, students develop their reading and viewing skills, including deepening their capacity for inferential reading and viewing, to further open possible meanings in a text, and to extend their writing in response to text. Students will develop their skills from Unit 1 through an exploration of a different text type from that studied in Unit 1. Students read or view a text, engaging with the ideas, concerns and tensions, and recognise ways vocabulary, text structures, language features and conventions of a text work together to create meaning. Through discussions about representations in a text, they examine the ways readers understand text considering its historical context, and social and cultural values. They also explore the text through the prism of their own cultural knowledge, experiences and understanding of the world, and extend their observations into analytical and abstracted explorations. Developing analytical writing about a text provides students with opportunities to build skills to discuss ideas, apply appropriate metalanguage, integrate evidence from a text to support key points, and explore organisational structures such as formal essays.

Area of Study 1: Reading and exploring texts
Area of Study 2: Exploring argument

Prerequisites

None.

Methods of Assessment

- Personal response to a set text
- Student created texts (such as short stories, speeches, essays etc.)
- Analytical response to a set text
- Annotated persuasive texts
- Analysis of the use of argument and persuasive language
- End-of-semester examination

English – Unit 3 and 4

Unit 3: English

Students identify, discuss and analyse how the features of selected texts create meaning and how they influence interpretation. In identifying and analysing explicit and implied ideas and values in texts, students examine the ways in which readers are invited to respond to texts. They develop and justify their own detailed interpretations of texts, preparing sustained analytical interpretations of selected texts, using textual evidence to support their responses. Students present sustained creative responses to selected texts, demonstrating their understanding of the world of the texts and how texts construct meaning. Students also analyse and compare the use of argument and language in texts that debate a topical issue. They develop their understanding of the way in which language and argument complement one another in positioning the reader. They compare different written texts presenting argument on similar ideas or issues, considering different ways authors use language to express arguments.

Area of Study 1: Reading and creating texts
Area of Study 2: Analysing and presenting argument

Unit 4: English

Students explore the meaningful connections between two texts. They analyse the interplay between character and setting, voice and structure, and how ideas, issues and themes are conveyed. Students produce a written analysis comparing selected texts, discussing important similarities and differences and exploring how the texts deal with similar or related ideas, issues or themes from different perspectives to reflect particular values. Furthermore, students build their understanding of both the analysis and construction of texts that attempt to influence audiences. They use their knowledge of argument and persuasive language as a basis for the development of their own persuasive texts in relation to a topical issue. Students use their understanding of argument and language to research, draft and deliver an oral presentation on their own point of view.

Area of Study 1: Reading and comparing texts
Area of Study 2: Presenting argument

Prerequisites

English or Literature Units 1and 2

Methods of Assessment

- Persuasive oral with statement of intention
- Comparative analysis of argument
- Creative writing pieces
- Text response essays
- Comparative essays
- External end-of-year examination

English Language – Unit 1 and 2

Unit 1: Language and communication

Students consider the way language is organised and explore the various functions of language and the nature of language as an elaborate system of signs. The relationship between speech and writing as the dominant modes of language and the impact of situational and cultural contexts on language choices are also considered. Students investigate children's ability to acquire language, and the stages of language acquisition across a range of subsystems.

Area of Study 1: The nature and functions of language
Area of Study 2: Language acquisition

Unit 2: Language change

Students consider factors contributing to change over time in the English language and factors contributing to the spread of English. They explore texts from the past and from the present, considering how all subsystems of the language system are affected.
Students also consider how the global spread of English has led to a diversification of the language and to English now being used by more people as an additional or a foreign language than as a first language. Students consider the cultural repercussions of the spread of English and the various possibilities for the future of English.

Area of Study 1: English across time
Area of Study 2: Englishes in context

Prerequisites
None.

Methods of Assessment
Assessment may include:
- a folio of annotated texts
- an essay
- an investigative report
- an analysis of spoken and/or written text
- an analytical commentary or short-answer questions
- a case study
- End-of-semester examination

English Language – Unit 3 and 4

Unit 3: Language variation and social purpose

Students investigate English language in contemporary Australian social settings, along a continuum of informal and formal registers. They consider language as a means of social interaction, exploring how through written and spoken texts we communicate information, ideas, attitudes, prejudices and ideological stances. Students examine the stylistic features of formal and informal language in both spoken and written modes; the grammatical and discourse structure of language; the choice and meanings of words within texts; how words are combined to convey a message; the purpose in conveying a message, and the context in which a message is conveyed. They consider how texts are influenced by the situational and cultural contexts in which they occur and learn how speakers and writers select features from stylistic variants, or registers, and how this in turn establishes the degree ofr formality within a discourse.

Area of Study 1: Informal Language
Area of Study 2: Formal Language

Unit 4: Language variation and identity

Students focus on the role of language in establishing and challenging different identities. There are many varieties of English used in contemporary Australian society, including national, regional, cultural and social variations. Standard Australian English is the variety that is granted prestige in contemporary Australian society and it has a role in establishing national identity. However, non-Standard English varieties also play a role in constructing users' social and cultural identities. Students examine a range of texts to explore the ways different identities are constructed. These texts include extracts from novels, films or televisions programs, poetry, letters and emails, transcripts of spoken interaction, songs, advertisements, speeches and bureaucratic or official documents.

Area of Study 1: Language variation in Australian society
Area of Study 2: Individual and group identities

Prerequisites
Unit 1 and 2 English Language

Methods of Assessment
Assessment may include:

- Folio of annotated texts
- Essay
- Investigative report
- Analytical commentary
- Short-answer questions
- End-of-year external examination

Environmental Science – Unit 1 and 2

Unit 1: How are Earth's dynamic systems interconnected to support life?

Students examine the processes and interactions occurring within and between Earth's four interrelated systems – the atmosphere, biosphere, hydrosphere and lithosphere. They focus on how ecosystem functioning and can influence many local, regional and global environmental conditions such as plant productivity, soil fertility, water quality and air quality. Students explore how changes that have taken place throughout geological and recent history are fundamental to predicting the likely impact of future changes. They consider a variety of influencing factors in achieving a solutions-focused approach to responsible management of challenges related to natural and human-induced environmental change. A student-adapted or designed investigation is undertaken that involves the generation of primary data and is related to ecosystem components, monitoring and/or change.

Area of Study 1: How are Earth's systems organised and connected?
Area of Study 2: How do Earth's systems change over time?
Area of Study 3: How do scientific investigations develop understanding of how Earth's systems support life?

Unit 2: What affects Earth's capacity to sustain life?

Students consider pollution as well as food and water security as complex and systemic environmental challenges facing current and future generations. They examine the characteristics, impacts, assessment and management of a range of pollutants that are emitted or discharged into Earth's air, soil, water and biological systems, and explore factors that limit and enable the sustainable supply of adequate and affordable food and water. A student-directed investigation is undertaken in Area of Study 3. This explores how science can be applied to address Earth's capacity to sustain life in the context of the management of a selected pollutant and/or the maintenance of food and/or water security.

Prerequisites

None

Methods of assessment

- Report of student-adapted or design investigation using appropriate format such as a scientific poster or article for publication
- Report as to how science can be applied in the management of a selected pollutant, in an appropriate format for a selected audience
- Other assessments such as logbook of reflective annotation, photojournalism article, data analysis, analysis and evaluation of case study
- End-of-semester examination

Environmental Science – Unit 3 and 4

Unit 3: How can biodiversity and development be sustained?

Students focus on environmental management through the application of sustainability principles. They explore the value of the biosphere to all living things by examining the concept of biodiversity and the ecosystem services important for human health and wellbeing. They analyse the processes that threaten biodiversity and evaluate biodiversity management strategies for a selected threatened endemic animal or plant species. Students use a selected environmental science case study with reference to sustainability and environmental management from an Earth systems perspective, including impact on the atmosphere, biosphere, hydrosphere and lithosphere.
A student-designed scientific investigation involving the generation of primary data related to biodiversity, environmental management, climate change and/or energy use is undertaken in either Unit 3 or Unit 4, or across both Units and is assessed in Unit 4, Outcome 3.

Area of Study 1: Why is maintaining biodiversity worth a sustained effort?
Area of Study 2: When is development sustainable?

Unit 4: How can climate change and impacts of human energy use be managed?

Students explore different factors that contribute to the variability of Earth's climate and that can affect living things, human society and the environment at local, regional and global scales. They compare sources, availability, reliability and efficiencies of renewable and non-renewable energy resources in order to evaluate the suitability and consequences of their use in terms of upholding sustainability principles. They analyse various factors that are involved in responsible environmental decision-making and consider how science can be used to inform the management of climate change and the impacts of energy production and use.
Measurement of environmental indicators often involves uncertainty. Students develop skills in data interpretation, extrapolation and interpolation and test predictions. They recognise the limitations of contradictory, provisional and incomplete data derived from observations and models. They explore relationships and patterns in data and make judgments about accuracy and validity of evidence.

Area of Study 1: How can we respond to climate change?
Area of Study 2: What might be a more sustainable mix of energy sources?
Area of Study 3: How is scientific inquiry used to investigate contemporary environmental challenges?

Prerequisites
None.

Methods of Assessment

- Presentation of recommendations that draws on evidence-based decision-making, and analysis and evaluation of data
- Response to real or theoretical environmental issue or challenge
- Analysis or evaluation of a case study
- Communication of the design, analysis and findings of scientific investigation in an appropriate format
- External end-of-year examination

Geography – Unit 1 and 2

Unit 1: Hazards and Disasters

This unit investigates how people have responded to specific hazards and disasters. Hazards represent the potential to cause harm to people and or the environment, whereas disasters are serious disruptions of the functionality of a community at any scale.

Students examine the processes involved with hazards and hazards events, considering their causes and impacts, human responses to the hazards event and the interconnections between human activities and natural phenomena, including the impact of climate change.

Area of Study 1: Characteristics of hazards
Area of Study 2: Responses to hazards and disasters

Unit 1: Tourism Issues and Challenges

Students investigate the characteristics of tourism: where it has developed, its various forms, how it has changed and continues to change and its impacts on people, places and the environment, issues and challenges of ethical tourism. Students select contrasting examples of tourism from within Australia and elsewhere in the world to support their investigations. The scale of tourism movement since the 1950s and its predicted growth has had and continues to have a significant impact on local, regional and national environments, economies and cultures. The travel and tourism industry is directly responsible for a significant number of jobs globally and generate a considerable portion of the global GDP.

Area of Study 1: Characteristics of Tourism
Area of Study 2: Impacts of Tourism: Issues and Challenges

Prerequisites

None

Methods of Assessment

- Multi-media presentations
- Tests
- Data analysis tasks
- Case study analysis
- End-of-semester examination

Geography – Unit 3 and 4

Unit 3: Changing the Land

This unit focuses on two investigations of geographical change: change to land cover and change to land use. Students firstly investigate two major processes that are changing land cover in many regions of the world: melting glaciers and ice caps, and deforestation. Thy investigate the distribution of the two processes. They select one location for each of the processes to develop a greater understanding of the changes produced by this land cover change and its impacts.

Students then investigate at a local scale land use change using appropriate fieldwork and geospatial technologies and data analytical skills. They explore the reasons for and impacts of this change.

Area of Study 1: Land Cover Change
Area of Study 2: Land Use Change

Unit 4: Human Population

Students investigate the geography of human populations. They explore the patterns of population change, movement, and distribution and how governments, organisations and individuals have responded to those changes in different parts of the world.

Students investigate the interconnection between the reasons for population change. They evaluate strategies developed in response to population issues and challenges, in both a growing population trends of a country and an ageing population trend of another country, in different parts of the world.

Area of Study 1: Population Dynamics
Area of Study 2: Population issues and challenges

Prerequisites

There are no prerequisites for Year 12 students, however, the study of Geography Units 1and 2 is highly recommended.

Methods of Assessment

- Multi-media presentations
- Tests
- Data analysis tasks
- Case study analysis
- External end-of-year examination

Health and Human Development – Unit 1 and 2

Unit 1: Understanding health and wellbeing

This unit examines health and wellbeing as a concept with varied and evolving perspectives and definitions. It takes the view that health and wellbeing are subject to a wide range of contexts and interpretations, with different meanings depending on individual perspective. As a foundation to the understanding of health, students should investigate the World Health Organisation's (WHO) definition and explore other interpretations. They learn that 'wellbeing' is a complex combination of all dimensions of health, characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged.

Area of Study 1: Health perspectives and influences
Area of Study 2: Health and nutrition
Area of Study 3: Youth health and wellbeing

Unit 2: Managing health and development

This Unit investigates transitions in health and wellbeing and development from lifespan and societal perspectives. Students study changes and expectations that are part of the progression from youth to adulthood. This Unit promotes the application of health literacy skills through an examination of adulthood as a time of increasing independence and responsibility, involving the establishment of long-term relationships, possible considerations of parenthood and management of health-related milestones and changes.

Area of Study 1: Developmental transitions
Area of Study 2: Health care in Australia

Prerequisites

None.

Methods of Assessment

- Multi-media presentations
- Tests
- Data analysis tasks
- Posters
- Case study analysis
- End-of-semester examination

Health and Human Development – Unit 3 and 4

Unit 3: Australia's health in a globalised world

This unit examines health, wellbeing and illness as multidimensional, dynamic and subject to different interpretations and contexts. Students begin to explore health and wellbeing as a global concept and to take a broader approach to inquiry. As they consider the benefits of optimal health and wellbeing and its importance as an individual and a collective resource, their thinking extends to health as a universal right. Students look at the fundamental conditions required for health improvement, as stated by the World Health Organization (WHO). They use this knowledge as background to their analysis and evaluation of variations in the health status of Australians. Area of Study 2 focuses on health promotion and improvements in population health over time. Students look at various public health approaches and the interdependence of different models as they research health improvements and evaluate successful programs. While the emphasis is on the Australian health system, the progression of change in public health approaches should be seen within a global context.

Area of study 1: Understanding health and wellbeing
Area of study 2: Promoting health and wellbeing

Unit 4: Health and human development in a global context

This unit examines health and wellbeing, and human development in a global context. Students use data to investigate health status and burden of disease in different countries, exploring factors that contribute to health inequalities between and within countries, including the physical, social and economic conditions in which people live. Students build their understanding of health in a global context through examining changes in burden of disease over time and studying the key concepts of sustainability and human development. They consider the health implications of increased globalisation and worldwide trends relating to climate change, digital technologies, world trade and the mass movement of people. Area of Study 2 looks at global action to improve health and wellbeing and human development, focusing on the United Nations' (UN's) Sustainable Development Goals (SDGs) and the work of the World Health Organization (WHO). Students also investigate the role of non-government organisations and Australia's overseas aid program. Students evaluate the effectiveness of health initiatives and programs in a global context and reflect on their capacity to take action.

Area of Study 1: Health and wellbeing in a global context
Area of Study 2: Health and sustainable development goals

Prerequisites

None.
Accelerated students must generally demonstrate successful completion of Units 1 and 2.

Methods of Assessment

- Tests
- Oral presentations
- Data analysis and case study analysis
- External end-of-year examination

History – Unit 1 and 2

Unit 1: Modern History – Change and Conflict

Students investigate the nature of social, political, economic and cultural change in the later part of the 19th century and the first half of the 20th century. Modern History provides students with an opportunity to explore the significant events, ideas, individuals and movements that shaped the social, political, economic and technological conditions and developments that have defined the modern world.

Students will focus on the events, ideologies, individuals and movements of the period that led to the end of empires and the emergence of new nation states before and after World War One; the consequences of World War One; the emergence of conflict; and the causes of World War Two. They investigate the impact of the treaties which ended the Great War which redrew the maps of Europe and its colonies, breaking up the former empires of the defeated nations, such as the partitioning of the German, Austro-Hungarian and Ottoman Empires. They consider the aims, achievements and limitations of the League of Nations. Students focus on the social life and cultural expression in the late nineteenth century and the first half of the twentieth century, and their relation to the technological, political and economic changes

Area of Study 1: Ideology and conflict
Area of Study 2: Social and cultural change

Unit 2: Modern History – the changing world order

Students investigate the nature and impact of the Cold War and challenges and changes to social, political and economic structures and systems of power in the second half of the twentieth century and the first decade of the twenty-first century.

Students investigate the causes of the Cold War in the decades that followed World War Two. They analyse the significant contribution of events, ideologies and individuals, and the consequences for nations and people in the period 1945 – 1991. While the USA and the USSR never engaged in direct armed conflict, they opposed each other in a range of international conflicts and proxy wars such as those in Berlin, Korea, Angola, Cuba and Vietnam. The reasons for the end of this long-running period of ideological conflict and the collapse of the USSR in 1991, as well as exploring the legacy of communism and/or socialism in the post-Soviet era and the emergence of democracy in new nations are also studied. There is also a focus how traditional ideas, values and political systems were challenged and changed by individuals and groups in a range of contexts during the second half of the twentieth century and first decade of the twenty-first century. Students also consider the extent to which ideas, values and political systems remained the same and/or change was resisted. Students explore the causes of significant political and social events and movements, and their consequences for nations and people.

Area of Study 1: Causes course and consequences of the Cold War
Area of Study 2: Challenge and change

Prerequisites

None.

Methods of Assessment

- Historical inquiry
- Analysis of primary sources
- Analysis of historical interpretations
- Essay
- End-of-semester examination

History – Revolutions - Unit 3 and 4

Unit 3 and 4: History – Revolutions (Two choices from American, Chinese, French and Russian)

Students investigate the significant historical causes and consequences of political revolution. They learn that revolutions represent great ruptures in time and are a major turning point which brings about the collapse and destruction of an existing political order resulting in a pervasive change to society. Students examine how causes of social upheaval are due to the interplay of ideas, events, individuals and popular movements. They consider how the consequences of immense political change have a profound effect on the political and social structures of the post-revolutionary society. Students study the dramatically accelerated processes of national upheaval whereby the new order attempts to create political and social change and transformation based on a new ideology.

They appreciate that progress in a post-revolutionary society is not guaranteed or inevitable and that post-revolutionary regimes are often threatened internally by civil war and externally by foreign threats. In a particular historical time and location, students examine how the challenges faced by changed societies can result in a compromise of revolutionary ideals and extreme measures of violence, oppression and terror.

Area of Study 1: Unit 3 and Unit 4 Causes of revolution
Area of Study 2: Unit 3 and Unit 4 Consequences of revolution

Prerequisites

None.

Methods of Assessment

- Historical inquiry
- Analysis of primary sources
- Analysis of historical interpretations
- Essay
- External end-of-year examination

Italian – Unit 1 and 2

Unit 1: Italian

Students develop an understanding of the language and culture/s of Italian-speaking communities through the study of three or more topics from prescribed themes (VCAA). Each area of study in the unit must focus on a different subtopic. Students access and share useful information on the topics and subtopics through Italian and consolidate and extend vocabulary and grammar knowledge and language skills. They focus on analysing cultural products or practices including visual, spoken or written texts. Cultural products or practices can be drawn from a diverse range of texts, activities and creations. These may include: stories, poems, plays, novels, songs, films, photographs, artworks, architecture, technology, food, clothing, sports and festivals. Students apply acquired knowledge of Italian culture and language to new contexts. Students reflect on the interplay between language and culture, and its impact on the individual's language use in specific contexts and for specific audiences.

Area of Study 1: Interpersonal communication
Area of Study 2: Interpretive communication
Area of Study 3: Presentational communication

Unit 2: Italian

Students develop an understanding of aspects of language and culture through the study of three or more topics from prescribed themes. Each area of study must focus on a different subtopic. Students analyse visual, spoken and written texts. They access and share useful information on the topics and subtopics through Italian and consolidate and extend vocabulary, grammar knowledge and language skills. Cultural products or practices can be used to demonstrate how culture and perspectives may vary between communities. Students reflect on the interplay between language and culture, and its impact on meaning, understanding and the individual's language use in specific contexts and for specific audiences.

Area of Study 1: Interpersonal communication
Area of Study 2: Interpretive communication
Area of Study 3: Presentational communication

Prerequisites

Students need to have studied Year 10 Italian or equivalent.

Methods of Assessment

- Personal, imaginative, persuasive, informative and evaluative written responses
- Class and interview-style oral presentations
- Evaluation of opposing arguments as well as interpreting written and visual texts
- Interpretation of authentic aural samples
- End-of-semester examination

Italian – Unit 3 and 4

Unit 3: Italian

Students develop an understanding of the language and culture/s of Italian-speaking communities through the study of multiple themes and topics. Students access and share useful information on the topics and subtopics through Italian and consolidate and extend vocabulary and grammar knowledge and language skills. They focus on analysing cultural products or practices including visual, spoken or written texts. Cultural products or practices are drawn from a diverse range of texts, activities and creations. These may include: stories, poems, plays, novels, songs, films, photographs, artworks, architecture, technology, food, clothing, sports and festivals. Students apply their acquired knowledge of Italian culture and language to new contexts. They will reflect on the interplay between language and culture, and its impact on the individual's language use in specific contexts and for specific audiences.

Area of Study 1: Interpersonal communication
Area of Study 2: Interpretive communication
Area of Study 3: Presentational communication

Unit 4: Italian

Students develop an understanding of aspects of language and culture through the study of multiple themes and topics. Students analyse visual, spoken and written texts. They access and share useful information on the topics and subtopics through Italian and consolidate and extend vocabulary, grammar knowledge and language skills. They appreciate that cultural products or practices can be used to demonstrate how culture and perspectives may vary between communities. Students reflect on the interplay between language and culture, and its impact on meaning, understanding and the individual's language use in specific contexts and for specific audiences.

Area of Study 1: Interpersonal communication
Area of Study 2: Interpretive communication
Area of Study 3: Presentational communication

Prerequisites
Students need to have studied Units 1 and 2 Italian.

Methods of Assessment

- Personal, imaginative, persuasive, informative and evaluative written responses
- Class and interview style oral presentations
- Evaluate opposing arguments as well as interpreting written and visual texts
- Interpreting authentic aural samples
- End-of-semester examination

Legal Studies – Unit 1 and 2

Unit 1: Guilt and Liability

Criminal law and civil law aim to achieve social cohesion and protect the rights of individuals. Criminal law is aimed at maintaining social order and infringing criminal law can result in charges. Civil law deals with the infringement of a person's or group's rights and breaching civil law can result in litigation. Students develop an understanding of legal foundations, such as the different types and sources of law and the existence of a court hierarchy in Victoria. Students investigate key concepts of criminal law and civil law and apply these to actual and/or hypothetical scenarios to determine whether an accused may be found guilty of a crime, or liable in a civil dispute. In doing so, students develop an appreciation of the way in which legal principles and information are used in making reasoned judgments and conclusions about the culpability of an accused, and the liability of a party in a civil dispute.

Area of Study 1: Legal foundations
Area of Study 2: The presumption of innocence
Area of Study 3: Civil liability

Unit 2: Sanctions, Remedies and Rights

Criminal law and civil law aim to protect the rights of individuals. When rights are infringed, a case or dispute may arise which needs to be determined or resolved, and sanctions or remedies may be imposed. This unit focuses on the enforcement of criminal law and civil law, the methods and institutions that may be used to determine a criminal case or resolve a civil dispute, and the purposes and types of sanctions and remedies and their effectiveness. Students undertake a detailed investigation of two criminal cases and two civil cases from the past four years to form a judgment about the ability of sanctions and remedies to achieve the principles of justice. Students develop their understanding of the way rights are protected in Australia and in another country, and possible reforms to the protection of rights. They examine a significant case in relation to the protection of rights in Australia.

Area of Study 1: Sanctions
Area of Study 2: Remedies
Area of Study 3: Rights

Prerequisites

None.

Methods of Assessment

- Folios
- Structured questions
- Essays / Reports (written and multimedia)
- Case studies
- Class presentations
- End-of-semester examination

Legal Studies – Unit 3 and 4

Unit 3: Rights and Justice

The Victorian justice system, which includes the criminal and civil justice systems, aims to protect the rights of individuals and uphold the principles of justice: fairness, equality and access. In this unit students examine the methods and institutions in the justice system and consider their appropriateness in determining criminal cases and resolving civil disputes. Students consider the Magistrates' Court, County Court and Supreme Court within the Victorian court hierarchy, as well as other Victorian legal institutions and bodies available to assist with cases. Students explore matters such as the rights available to an accused and to victims in the criminal justice system, the roles of the judge, jury, legal practitioners and the parties, and the ability of sanctions and remedies to achieve their purposes. Students investigate the extent to which the principles of justice are upheld in the justice system. They discuss recent reforms from the past four years and recommended reforms to enhance the ability of the justice system to achieve the principles of justice. Throughout this unit, students apply legal reasoning and information to actual and/or hypothetical scenarios.

Area of Study 1: The Victorian criminal justice system
Area of Study 2: The Victorian civil justice system

Unit 4: The People and the Law

The study of Australia's laws and legal system involves an understanding of institutions that make and reform our laws, and the relationship between the Australian people, the Australian Constitution and law-making bodies. In this unit, students explore how the Australian Constitution establishes the law-making powers of the Commonwealth and State parliaments and protects the Australian people through structures that act as a check on parliament in law-making. Students develop an understanding of the significance of the High Court in protecting and interpreting the Australian Constitution. They investigate parliament and the courts, and the relationship between the two in law-making, and consider the roles of the individual, the media and law reform bodies in influencing law reform. Throughout this unit, students apply legal reasoning and information to actual scenarios.

Area of Study 1: The people and the Australian constitution
Area of Study 2: The people, the parliament and the courts

Prerequisites

None.

Methods of Assessment

- Folios
- Structured questions
- Essays/reports (written and multimedia)
- Case studies
- Class presentations
- External end-of-year examination

Literature – Unit 1 and 2

Unit 1:

In this unit students consider how language, structure and stylistic choices are used in different literary forms and types of text. They consider both print and non-print texts, reflecting on the contribution of form and style to meaning. Students reflect on the degree to which points of view, experiences and contexts shape their own and others' interpretations of text. Students closely examine the literary forms, features and language of texts. They begin to identify and explore textual details, including language and features, to develop a close analysis response to a text. Further, students explore the concerns, ideas, style and conventions common to a distinctive type of literature seen in literary movements or genres. Examples of these groupings include literary movements and/or genres such as modernism, epic, tragedy and magic realism, as well as more popular, or mainstream, genres and subgenres such as crime, romance and science fiction. Students explore texts from the selected movement or genre, identifying and examining attributes, patterns and similarities that locate each text within that grouping.

Area of Study 1: Reading practices
Area of Study 2: Exploration of literary movements and genres

Unit 2:

Students explore the voices, perspectives and knowledge of Aboriginal and Torres Strait Islander authors and creators. They consider the interconnectedness of place, culture and identity through the experiences, texts and voices of Aboriginal and Torres Strait Islander peoples, including connections to Country, the impact of colonisation and its ongoing consequences, and issues of reconciliation and reclamation. Further, in Area of Study 2, students focus on the text in its historical, social and cultural context, reflecting on representations of a specific time, period and/or culture with a text. By experimenting with textual structures and language features, students understand how imaginative texts are informed by close analysis.

Area of Study 1: Voices of Country
Area of Study 2: The text in its context

Prerequisites

None.

Methods of Assessment

- Close analysis of selected passages
- Creative writing pieces
- Essays
- End-of-semester examination

Literature – Unit 3 and 4

Unit 3:

Students focus on how the form of a text contributes to its meaning. Students explore the form of a set text by constructing a close analysis of that text. They then reflect on the extent to which adapting the text to a different form, and often in a new or reimagined context, affects its meaning, comparing the original with the adaptation. By exploring an adaptation, students also consider how creators of adaptations may emphasise or minimise viewpoints, assumptions and ideas present in the original text. Further, in interpreting a set text Students first develop their own interpretations of a set text, analysing how ideas, views and values are presented in a text, and the ways these are endorsed, challenged and/or marginalised through literary forms, features and language. These student interpretations should consider the historical, social and cultural context in which a text is written and set.

Area of Study 1: Adaptations and transformations
Area of Study 2: Developing interpretations

Unit 4:

Students focus on the imaginative techniques used for creating and recreating a literary work. Students use their knowledge of how the meaning of texts can change as context and form change to construct their own creative transformations of texts. They learn how authors develop representations of people and places, and they develop an understanding of language, voice, form and structure. Students draw inferences from the original text in order to create their own writing. In their adaptation of the tone and the style of the original text, students develop an understanding of the views and values explored. Further, with close analysis of texts, students focus on a detailed scrutiny of the language, style, concerns and construction of texts. Students attend closely to textual details to examine the ways specific passages in a text contribute to their overall understanding of the whole text. Students consider literary forms, features and language, and the views and values of the text. They write expressively to develop a close analysis, using detailed references to the text.

Area of Study 1: Creative responses to texts
Area of Study 2: Close analysis of texts

Prerequisites

Literature or English Units 1 and 2.

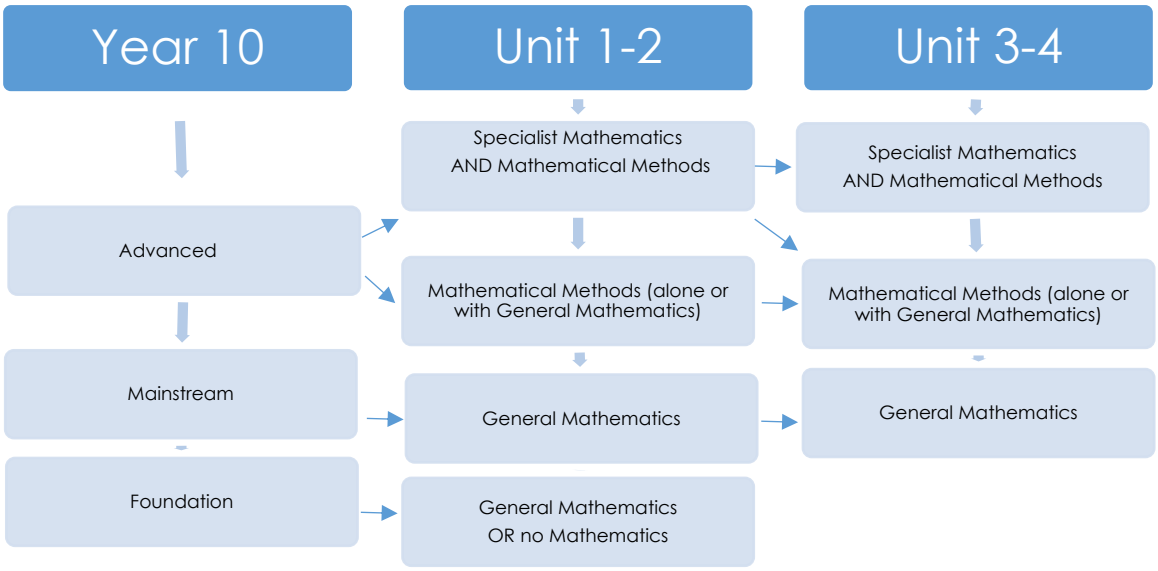
Methods of Assessment

- Oral analysis and report
- Creative writing pieces
- Essays and close analysis of texts
- External end-of-year examination

Mathematics

Choosing an appropriate Mathematics course at the end of Year 10 2022

The following Table illustrates the complexity of Mathematics pathways in the VCE.



For entry into Mathematical Methods Unit1 and 2 and Specialist Mathematics Unit 1 and 2, please refer to the recommended entry scores below. Each student in Year 10 will be given a recommendation regarding the most suitable Mathematics pathway before the subject selection process into Year 11.

Recommendation for Year 11	**Criteria**
No Mathematics at VCE	Test Average and Examination below 25%
General Mathematics Unit 1 and 2	Test Average and Examination above 25%
Mathematical Methods Unit 1 and 2	Test Average and Examination above 70%
Specialist Mathematics Unit 1 and 2	Test Average and Examination above 85%
Acceleration* General Mathematics Unit 3 and 4 in Year 11	Test Average and Examination above 80% Students need to demonstrate a strong commitment to their studies. Applications will be considered individually.

*Please note that each student is considered individually, and recommendations are made at the Faculty's discretion.

General Mathematics – Unit 1 and 2

A readily accessible course, General Mathematics Units 1 and 2 caters for a range of student interests, provides preparation for the study of VCE General Mathematics at Unit 3 and 4 level and contains assumed knowledge and skills for these Units.
In undertaking their studies, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists, tables and matrices, diagrams and geometric constructions, algorithms, algebraic manipulation, recurrence relations, equations and graphs, with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic, financial and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout each Unit as applicable.

Unit 1: General Mathematics

Area of Study 1: Data analysis, probability and statistics (types of data, data distributions, centre, spread and comparison of data sets)
Area of Study 2: Algebra and structure (number patterns and recursion)
Area of Study 3: Functions, relations and graphs (linear graphs and models)
Area of Study 4: Discrete mathematics (matrices)

Unit 2: General Mathematics

Area of Study 1: Data analysis, probability and statistics (investigating relationships between two numerical variables, scatterplots and lines of good fit)
Area of Study 2: Discrete mathematics (graphs and networks)
Area of Study 3: Functions relations and graphs (direct and inverse variation, transformations and modelling)
Area of Study 4: Space and measurement (measurement, similarity, trigonometry and Pythagoras).

Prerequisites

None.

Methods of Assessments

- Topic tests
- Modelling and problem-solving tasks
- End-of-semester examination

General Mathematics – Unit 3 and 4

General Mathematics Unit 3 and 4 focuses on real-life application of mathematics and consists of the areas of study 'Data analysis, probability and statistics' and 'Discrete mathematics'. Unit 3 comprises *Data analysis* and *Recursion and financial modelling*, and Unit 4 comprises *Matrices* and *Networks and decision mathematics*.

Assumed knowledge and skills for General Mathematics Units 3 and 4 are contained in General Mathematics Unit 1 and 2, and will be drawn on, as applicable, in the development of related content from the areas of study, and key knowledge and key skills for the outcomes of General Mathematics Unit 3 and 4.

Students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists, tables and matrices, diagrams, networks, algorithms, algebraic manipulation, recurrence relations, equations and graphs. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic statistical and financial functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout each unit as applicable.

Unit 3: Data analysis, probability and Statistics

- Data analysis
- Investigating data distributions
- Investigating association between two variables
- Investigating and modelling linear associations
- Investigating and modelling time series data

Unit 4: Discrete Mathematics

- Recursion and financial modelling
- Matrices
- Networks and decision mathematics

Prerequisites

None aside from assumed knowledge from General Mathematics Unit 1-2.

Methods of Assessments

- Data analysis application task
- Recursion and financial modelling problem-solving task
- Matrices problem-solving task
- Graphs and relations problem-solving task
- External end-of-year examination

Mathematical Methods – Unit 1 and 2

Unit 1: Mathematical Methods

Mathematical Methods Unit 1 and 2 provides an introductory study of simple elementary functions of a single real variable, algebra, calculus, probability and statistics and their applications in a variety of practical and theoretical contexts. The Units are designed as preparation for Mathematical Methods Unit 3 and 4 and contain assumed knowledge and skills for these units.

The focus of Unit 1 is the study of simple algebraic functions, and the areas of study are 'Functions, relations and graphs', 'Algebra, number and structure', 'Calculus' and 'Data analysis, probability and statistics'. At the end of Unit 1, students are expected to have covered the content outlined in each area of study, with the exception of 'Algebra, number and structure' which extends across Unit 1 and 2. This content should be presented so there is a balanced and progressive development of skills and knowledge from each of the four areas of study with connections between and across the areas of study being developed consistently throughout both Units.

Students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algorithms, algebraic manipulation, equations, graphs and differentiation, with and without the use of technology.

Unit 2: Mathematical Methods

The focus of Unit 2, following on from Unit 1, is the study of simple transcendental functions, the calculus of polynomial functions and related modelling applications. In undertaking this Unit, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algorithms, algebraic manipulation, equations, graphs, differentiation and anti-differentiation, with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout the Unit as applicable.

Unit 1 and 2:

Area of Study 1: Functions, relations and graphs
Area of Study 2: Algebra, number and structure
Area of Study 3: Calculus
Area of Study 4: Data analysis, probability and statistics

Prerequisites

Students need to have studied Year 10 Mainstream or Advanced Mathematics (Year 10 elective Applied Mathematics is also highly encouraged)

Methods of Assessment

- Topic tests
- Modelling and problem-solving tasks
- End-of-semester examination

Mathematical Methods – Unit 3 and 4

Unit 3 and 4:

Mathematical Methods Unit 3 and 4 extends the introductory study of simple elementary functions from Unit 1 and 2, to include combinations of these functions, algebra, calculus, probability and statistics, and their applications in a variety of practical and theoretical contexts. Units 3 and 4 consist of the areas of study 'Algebra, number and structure', 'Data analysis, probability and statistics', 'Calculus', and 'Functions, relations and graphs', which must be covered in progression from Unit 3 to Unit 4, with an appropriate selection of content for each of Unit 3 and Unit 4.

Assumed knowledge and skills for Mathematical Methods Unit 3 and 4 are contained in Mathematical Methods Unit 1 and 2, and will be drawn on, as applicable, in the development of related content from the Areas of Study, and key knowledge and key skills for the outcomes of Mathematical Methods Unit 3 and 4, hence completing Unit 1 and 2 is compulsory.

For Unit 3 a selection of content would typically include the areas of study 'Functions, relations and graphs' and 'Algebra, number and structure', applications of derivatives and differentiation, and identifying and analysing key features of the functions and their graphs from the 'Calculus' area of study. For Unit 4, a corresponding selection of content would typically consist of remaining content from 'Functions, relations and graphs', 'Algebra, number and structure' and 'Calculus' Areas of Study, and the study of random variables, discrete and continuous probability distributions, and the distribution of sample proportions from the 'Data analysis, probability and statistics' Area of Study. For Unit 4, the content from the 'Calculus' area of study would be likely to include the treatment of anti-differentiation, integration, the relation between integration and the area of regions specified by lines or curves described by the rules of functions, and simple applications of this content, including probability distributions of continuous random variables.

Students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algorithms, algebraic manipulation, equations, graphs, differentiation, anti-differentiation, integration and inference, with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout each unit as applicable.

Area of Study 1: Functions, relations and graphs
Area of Study 2: Algebra, number and structure
Area of Study 3: Calculus
Area of Study 4: Data analysis, probability and statistics

Prerequisites

Mathematical Methods Unit 1 and 2.

Methods of Assessment

- Functions and calculus application task
- Functions and calculus problem-solving task
- Probability and statistics problem-solving task
- External end-of-year examination

Specialist Mathematics – Unit 1 and 2

Specialist Mathematics Unit 1 and 2 provides a course of study for students who wish to undertake an in-depth study of mathematics, with an emphasis on concepts, skills and processes related to mathematical structure, modelling, problem-solving, reasoning and proof. This study has a focus on interest in the discipline of mathematics and investigation of a broad range of applications, as well as development of a sound background for further studies in mathematics and mathematics-related fields.

Mathematical Methods Unit 1 and 2 and Specialist Mathematics Unit 1 and 2, taken in conjunction, provide a comprehensive preparation for Specialist Mathematics Unit 3 and 4. Study of Specialist Mathematics Unit 3 and 4 also assumes concurrent study or previous completion of Mathematical Methods Unit 3 and 4.

At the end of Unit 1, concepts from the two Areas of Study will be further developed and used in Units 2, 3 and 4. Students are expected to be able to apply techniques, routines and processes involving rational, real and complex arithmetic, sets, lists, tables and matrices, diagrams, graphs, logic gates and geometric constructions, algorithms, algebraic manipulation, recurrence relations, equations and graphs, with and without the use of technology. They are expected to be able to construct proofs and develop and interpret algorithms to solve problems. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment is incorporated throughout each unit as applicable.

Unit 1: Specialist Mathematics

Area of Study 1: Algebra, Number and Structure

- Proof and number
- Graph theory
- Logica and algorithms

Area of Study 2: Discrete mathematics

- Sequences and series
- Combinatorics
- Matrices

Unit 2: Specialist Mathematics

Area of Study 1: Data analysis, probability and statistics

- Simulation, sampling and sampling distributions

Area of Study 2: Space and measurement

- Trigonometry
- Transformations
- Vectors in the plane

Area of Study 3: Algebra, Number and Structure

- Complex numbers

Area study 4: Functions, relations and graphs

Prerequisites

These Units need to be studied in conjunction with Mathematical Methods Unit 1 and 2. Students need to have studied Year 10 Mainstream or Advanced Mathematics.

Methods of Assessments

- Topic tests
- Modelling and problem-solving tasks
- End-of-semester examination

Specialist Mathematics – Unit 3 and 4

Specialist Mathematics Unit 3 and 4 consists of six Areas of Study. The development of course content should highlight mathematical structure, reasoning and proof and applications across a range of modelling contexts with an appropriate selection of content for each Unit 3 and Unit 4. The selection of content for Unit 3 and Unit 4 should be constructed so there is a balanced and progressive development of knowledge and skills with connections among the Areas of Study being developed as appropriate across Unit 3 and Unit 4.

Specialist Mathematics Unit 3 and 4 assumes familiarity with the key knowledge and key skills from Mathematical Methods Unit 1 and 2; the key knowledge and key skills from Specialist Mathematics Unit 1 and 2; and concurrent study or previous completion of Mathematical Methods Unit 3 and 4. Together these cover the assumed knowledge and skills for Specialist Mathematics Unit 3 and 4, which are drawn on as applicable in the development of content from the Areas of Study and key knowledge and key skills for the outcomes.

For Unit 3 a selection of content would typically include content from the 'Discrete mathematics', 'Functions, relations and graphs', 'Algebra, number and structure', 'Space and measurement' and 'Calculus' areas of study. In Unit 4 the corresponding selection of content would typically consist of the remaining content from the 'Discrete mathematics', 'Calculus', and 'Space and measurement' Areas of Study and the content from the 'Data analysis, probability and statistics' Area of Study.

Students are expected to be able to apply techniques, routines and processes involving rational, real and complex arithmetic, sets, lists, tables and vectors, diagrams and geometric constructions, algorithms, algebraic manipulation, equations, graphs, differentiation, anti-differentiation and integration and inference, with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout each unit as applicable.

Area of Study 1: Discrete Mathematics (logic and proof)
Area of Study 2: Functions, relations and graphs
Area of Study 3: Algebra, number and structure (complex numbers)
Area of Study 4: Calculus
Area of Study 5: Space and management (Vectors and Vector calculus)
Area of Study 6: Data analysis, Probability and statistics (confidence interval and hypothesis testing)

Prerequisites

Mathematical Methods Unit 1 and 2 and Specialist Mathematics Unit 1 and 2.
This course needs to be taken in conjunction with Mathematical Methods Unit 3 and 4.

Methods of Assessment

- Vectors and complex numbers application task
- Mechanics problem-solving task
- Calculus problem-solving task
- External end-of-year examination

Media – Unit 1 and 2

Unit 1: Media forms, representations and Australian stories

Students develop an understanding of audiences and the core concepts underpinning the construction of representations and meaning in different media forms. They explore codes and conventions and the construction of meaning in media products. Students analyse how representations, narrative and media codes and conventions contribute to the construction of the media realities audiences engage with and read. Students gain an understanding of audiences as producers and consumers of media products. They develop research skills to investigate and analyse selected narratives focusing on the influence of media professionals on production genre and style. Students develop an understanding of the features of Australian and non-fictional narratives in different media forms. Students also work in a range of media forms to develop and produce representations.

Area of Study 1: Media representations
Area of Study 2: Media forms in production
Area of Study 3: Australian stories

Unit 2: Narrative across media forms

Students further develop an understanding of the concept of narrative in media products and forms in different context. Narratives in both traditional and newer forms include film, television, sound, photography, and interactive digital forms. Students analyse the influence of developments in media technologies on individuals and society, examining in a range of media forms the effects of media convergence. Students undertake production activities to design and create narratives that demonstrate an awareness of the structures and media codes and conventions appropriate to corresponding media forms.

Area of Study 1: Narrative, style and genre
Area of Study 2: Narratives in production
Area of Study 3: Media and change

Prerequisites

The Arts expectations: students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.

Methods of Assessment

- Structured questions for research and evaluation
- Extended responses
- Practical submissions
- End-of-semester examination

Media – Unit 3 and 4

Unit 3: Media narratives and pre-production

Students explore stories that circulate in society through media narratives. They consider the use of media codes and conventions to structure meaning, and how this construction is influenced by the social, cultural, ideological and institutional contexts of production, distribution, consumption and reception. Students use the pre-production stage of the media production process to design a production for a specified audience. They explore and experiment with media technologies to develop skills in their selected media form. Students undertake pre-production processes appropriate to their selected media form and develop written and visual documentation to support the production and post-production of a media product in Unit 4.

Area of study 1: Narrative and ideology
Area of study 2: Media production development
Area of study 3: Media production design

Unit 4: Media production and issues in the media

Students focus on the production and post-production stages of the media production process, bringing the media production design created in Unit 3 to its realisation. They refine their media production in response to feedback and through personal reflection, documenting iterations of their production as they work towards completion. Students explore the relationship between the media and audiences, focusing on the opportunities and challenges afforded by current developments in the media industry. They consider the nature of communication between the media and audiences, explore the capacity of the media to be used by governments, institutions and audiences, and analyse the role of the Australian government in regulating the media.

Area of Study 1: Media production
Area of Study 2: Agency and control in and of the media

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required. Accelerated students must generally demonstrate successful completion of Unit 1 and 2.

Methods of Assessment

- Structured questions
- Essays
- Research portfolio
- Production exercises
- Media production
- Essays
- External end-of-year examination.

Music - Unit 1 and 2

Unit 1: Organisation of music

Students explore and develop their understanding of how music is organised. By performing, creating, analysing and responding to music works that exhibit different approaches, students explore and develop their understanding of the possibilities of musical organisation. They prepare and perform ensemble and/or solo musical works to develop technical control, expression and stylistic understanding of their chosen instrument/sound source. At least two works should be associated with their study of approaches to music organisation. They create (arrange, compose or improvise) short music and the processes they have studied. They develop knowledge of music language concepts as they analyse and respond to a range of music, becoming familiar with the ways music creators treat elements of music and concepts and use compositional devices to create works that communicate their ideas.

Area of Study 1: Performing
Area of Study 2: Creating
Area of Study 3: Analysing and responding

Unit 2: Effect in music

Students focus on the way music can be used to create an intended effect. By performing, analysing and responding to music works/examples that create different effects, students explore and develop their understanding of the possibilities of how effects can be created. Through creating their own music, they reflect this exploration and understanding. Students prepare and perform ensemble and/or solo musical works to develop technical control, expression and stylistic understanding using their chosen instrument/sound source. They should perform at least one work to convey a specified effect ad demonstrate this in performance. They create (arrange, compose or improvise) short music exercises that reflect their understanding of the organisation of music and the processes they have studied.

As they analyse and respond to a wide range of music, they become familiar with the ways music creators treat elements and concepts of music and use compositional devices to create works that communicate their ideas. They continue to develop their understanding of common musical language concepts by identifying, recreating and notating these concepts.

Area of Study 1: Performing
Area of Study 2: Creating
Area of Study 3: Analysing

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required. **Students should be enrolled in lessons on at least one chosen instrument, either through the School or externally.**

Methods of Assessment

- Performances of at least two works, including at least one ensemble/group work
- Structured questions/presentations
- Aural, oral, written and practical tasks
- Composition and/or improvisation exercises
- End-of-semester examination

Music – Unit 3 and 4

Unit 3: Music Contemporary Performance

This unit prepares students to present convincing performances of group and solo works. Students select a program of group and solo works representing a range of styles and diversity of character for performance. They develop instrumental techniques that enable them to interpret the works and expressively shape their performances. They also develop an understanding of performance conventions they can use to enhance their performances. Students develop skills in unprepared performance, aural perception and comprehension, transcription, music theory and analysis. The focus for analysis in Area of Study 3 is works and performances by Australian musicians.

Area of Study 1: Performance
Area of Study 2: Preparing for performance
Area of Study 3: Music language

Unit 4: Music Performance

Students refine their ability to present convincing performances of group and solo works. Students select group and solo works that complement works selected in Unit 3. They further develop and refine instrumental and performance techniques that enable them to expressively shape their performance and communicate their understanding of the music style of each work. Students continue to develop skills in aural perception and comprehension, transcription, theory, analysis and unprepared performance. Students continue to study ways in which Australian performers interpret works that have been created since 1910 by Australian composers/songwriters.

Area of Study 1: Performance
Area of Study 2: Preparing for performance
Area of Study 3: Music language

Prerequisites

The Arts expectations: students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.
Accelerated students must generally demonstrate successful completion of Units 1 and 2.

Methods of Assessment

- Structured questions
- Performance
- External end-of-year examination

Physical Education – Unit 1 and 2

Unit 1: Bodies in motion

Students explore how the musculoskeletal and cardiorespiratory systems work together to produce movement. Through practical activities students explore the relationships between the body systems and physical activity, sport and exercise, and how the systems adapt and adjust to the demands of the activity. They explore how the capacity and functioning of each system acts as an enabler or barrier to movement and participation in physical activity. Using a contemporary approach, students evaluate the social, cultural and environmental influences on movement. They consider the implications of the use of legal and illegal practices to improve the performance of the musculoskeletal and cardiorespiratory systems, evaluating perceived benefits and describing potential harms. They also recommend and implement strategies to minimise the risk of illness or injury to each system.

Area of Study 1: How does the musculoskeletal system work to produce movement?
Area of Study 2: How does the cardiorespiratory system function at rest and during physical activity?

Unit 2: Physical activity, sport and society

Students are introduced to types of physical activity and the role participation in physical activity and sedentary behaviour plays in their own health and wellbeing as well as in other people's lives in different population groups. Through a series of practical activities, students experience and explore different types of physical activity promoted in their own and different population groups. They explore a range of factors that influence and facilitate participation in regular physical activity. They collect data to determine perceived enablers of and barriers to physical activity and the ways in which opportunities for participation in physical activity can be extended in various communities, social, cultural and environmental contexts. Students investigate individual and population-based consequences of physical inactivity and sedentary behaviour. They then create and participate in an activity plan that meets the physical activity and sedentary behaviour guidelines relevant to the particular population group being studied. Students study and apply the social-ecological model and/or the Youth Physical Activity Promotion Model to critique a range of individual- and settings-based strategies that are effective in promoting participation in some form of regular physical activity.

Area of Study 1: What are the relationships between physical activity, sport, health and society?
Area of Study 2: What are the contemporary issues associated with physical activity and sport?

Prerequisites

None.

Methods of Assessment

- Structured Questions
- Assessment Tasks
- Written Plan and Reflective Portfolio
- Multimedia presentation
- Practical laboratory report
- End-of-semester examination

Physical Education – Unit 3 and 4

Unit 3: Movement skills and energy for physical activity

This unit introduces students to the biomechanical and skill acquisition principles used to analyse human movement skills and energy production from a physiological perspective. Students use a variety of tools and techniques to analyse movement skills and apply biomechanical and skill acquisition principles to improve and refine movement in physical activity, sport and exercise. They use practical activities to demonstrate how correct application of these principles can lead to improved performance in physical activity and sport. Students investigate the relative contribution and interplay of the three energy systems to performance in physical activity, sport and exercise. In particular, they investigate the characteristics of each system and the interplay of the systems during physical activity. Students explore the causes of fatigue and consider different strategies used to postpone fatigue and promote recovery.

Area of Study 1: How are movement skills improved?
Area of Study 2: How does the body produce energy?

Unit 4: Training to improve performance

In this unit students analyse movement skills from a physiological, psychological and sociocultural perspective, and apply relevant training principles and methods to improve performance within physical activity at an individual, club and elite level. Improvements in performance, in particular fitness, depend on the ability of the individual and/or coach to gain, apply and evaluate knowledge and understanding of training. Students analyse skill frequencies, movement patterns, heart rates and work to rest ratios to determine the requirements of an activity. Students consider the physiological, psychological and sociological requirements of training to design and evaluate an effective training program.
Students participate in a variety of training sessions designed to improve or maintain fitness and evaluate the effectiveness of different training methods. Students critique the effectiveness of the implementation of training principles and methods to meet the needs of the individual and evaluate the chronic adaptations to training from a theoretical perspective.

Area of Study 1: What are the foundations of an effective training program?
Area of Study 2: How is training implemented effectively to improve fitness?

Prerequisites

None.
Accelerated students must generally demonstrate successful completion of Units 1 and 2.

Methods of Assessment

- Practical laboratory report
- Data analysis
- Case study analysis
- Written reports
- Tests
- External end-of-year examination

Physics – Unit 1 and 2

Unit 1: How is energy useful to society?

Students examine some of the fundamental ideas and models used by physicists to enhance their ability to understand and explain energy. Models used to understand light, thermal energy, radioactivity, nuclear processes and electricity are explored. Students apply these physics ideas to contemporary societal issues: communication, climate change and global warming, medical treatment, electrical home safety and Australian energy needs. In the three different Areas of Study, students study light using the wave model and thermal energy using a particle model forming an understanding of the fundamental physics ideas of reflection, refraction and dispersion. They build on their understanding of energy to explore energy that derives from the nuclei of atoms and learn about the properties of the radiation from the nucleus and effects of radiation on human cells and tissues and apply this understanding to the use of radioisotopes in medical therapy. They develop conceptual models to analyse electrical phenomena and undertake practical investigations of circuit components.

Area of Study 1: How are light and heat explained?
Area of Study 2: How is energy from the nucleus utilised?
Area of Study 3: How can electricity be used to transfer energy?

Unit 2: What do experiments reveal about the physical world?

Students explore the power of experiments in developing models and theories. They investigate a variety of phenomena by making their own observations and generating questions, which in turn lead to experiments. In the three different Areas of Study, students describe and analyse graphically, numerically and algebraically the energy and motion of an object, using specific physics terminology and conventions. Selecting from eighteen options, they explore the related physics and use this physics to form a stance, opinion or solution to a contemporary societal issue or application. They adapt or design and then conduct a scientific investigation to generate appropriate primary qualitative and/or quantitative data, organise and interpret the data and reach and evaulute a conclusion in response to the research question.

Area of Study 1: How is motion understood?
Area of Study 2: Options: how does physics inform contemporary issues and applications in society?
Area of Study 3: How do physicists investigate questions?

Prerequisites

None.

Methods of Assessment

- Report of practical activities, explanation of a device, physics phenomenon, and student-designed or adapted investigation
- Modelling activity – design, construction, testing and evaluation of a device
- Reflective learning journal
- Media response
- Data analysis
- Tests
- End-of-semester examination

Physics – Unit 3 and 4

Unit 3: How do fields explain motion and electricity?

Students explore the importance of energy in explaining and describing the physical world. They examine the production of electricity and its delivery to homes. Students consider the field model as a construct that has enabled an understanding of why objects move when they are not apparently in contact with other objects. Applications of concepts related to fields include the transmission of electricity over large distances and the design and operation of particle accelerators. They explore the interactions, effects and applications of gravitational, electric and magnetic fields. Students use Newton's laws to investigate motion in one and two dimensions and are introduced to Einstein's theories to explain the motion of very fast objects. They consider how developing technologies can challenge existing explanations of the physical world, requiring a review of conceptual models and theories. Students design and undertake investigations involving at least two continuous independent variables.

Area of Study 1: How do things move without contact?
Area of Study 2: How are fields used to move electrical energy?
Area of Study 3: How fast can things go?

Unit 4: How can two contradictory models explain both light and matter?

A complex interplay exists between theory and experiment in generating models to explain natural phenomena including light. Wave theory has classically been used to explain phenomena related to light; however, continued exploration of light and matter has revealed the particle-like properties of light. On very small scales, light and matter – which initially seem to be quite different – have been observed as having similar properties. Students explore the use of wave and particle theories to model the properties of light and matter. They examine how the concept of the wave is used to explain the nature of light and explore its limitations in describing light behaviour. Students investigate light further by using a particle model to explain its behaviour. A wave model is also used to explain the behaviour of matter which enables students to consider the relationship between light and matter. Students learn to think beyond the concepts experienced in everyday life to study the physical world from a new perspective. Students design and undertake investigations involving at least two continuous independent variables.

Area of Study 1: How can waves explain the behaviour of light?
Area of Study 2; How are light and matter similar?
Area of Study 3: Practical investigation

Prerequisites
No prerequisites exist for Year 12 students, however, the study of Physics Units 1 and 2 is highly recommended.

Methods of Assessment

- Report of practical activities, explanation of a device, physics phenomenon, and student-designed investigation
- Design, construction, testing and evaluation of a device
- Reflective learning journal
- Tests
- External end-of-year examination

Psychology – Unit 1 and 2

Unit 1: How are behaviour and mental processes shaped?

Students examine the complex nature of psychological development, including situations where psychological development may not occur as expected. They examine the contribution that classical and contemporary knowledge from Western and non-Western societies, including Aboriginal and Torres Strait Islander peoples has made to an understanding of psychological development to the the development of psychological model and theories used to predict and explain the development of thoughts, emotions and behaviours. They investigate the structure and functioning of the human brain and the role it plays in mental processes and behaviour and explore brain plasticity and the influence that brain damage may have on a person's psychological functions. A student-directed research investigation into contemporary psychological research is undertaken in Area of Study 3 which involves the exploration of research, methodology and methods, as well as the application of critical and creative thinking to evaluate the validity of a research study by analysing secondary data. T

Area of Study 1: What influences psychological development?
Area of Study 2: How are mental processes and behaviour influenced by the brain?
Area of Study 3: how does contemporary psychology conduct and validate psychological research?

Unit 2: How do external factors influence behaviour and mental processes?

Students evaluate the role social cognition plays in a person's attitudes, perception of themselves and relationships with others. They explore a variety of factors and contexts that can influence the behaviour of individuals and groups, recognising that different cultural groups have different experiences and values. They are encouraged to consider Aboriginal and Torres Strait Islander people's experiences within Australian society and how these experiences may affect psychological functions. Students examine the contribution that classical and contemporary research has made to the understanding of human perception and why individuals and groups behave in specific ways. They investigate how perception of stimuli enables a person to interact with the world around them and how their perception of stimuli can be distorted. A student-adapted or designed scientific investigation is undertaken in Area of Study 3 involving the generation of primary data and is related to internal and external factors that influence behaviour and mental processes.

Area of Study 1: How are people influenced to behave in particular ways?
Area of Study 2: What influences a person's perception of the world?
Area of Study 3: How do scientific investigations develop our understanding of influences on perception and behaviour?

Prerequisites

None.

Methods of Assessment

- Response to an investigation into contemporary psychological research
- Report of a student-adapted or designed investigation using a selected format
- Analysis and evaluation of an experiment or case study
- Other assessments such as reflective annotations in a logbook, media analysis, response to a psychological issue or ethical dilemma, data analysis
- End-of-semester examination

Psychology – Unit 3 and 4

Unit 3: How does experience affect behaviour and mental processes?

The nervous system influences behaviour and the way people experience the world. Students examine both macro-level and micro-level functioning of the nervous system to explain how the human nervous system enables a person to interact with the world around them. They explore how stress may affect a person's psychological functioning and consider the causes and management of stress. Students investigate how mechanisms of memory and learning lead to the acquisition of knowledge, the development of new capacities and changed behaviour. They consider the limitations and fallibility of memory and how memory can be improved. Students examine the contribution that classical and contemporary research has made to the understanding of the structure and function of the nervous system, and to the understanding of biological, psychological and social factors that influence learning and memory.

Area of Study 1: How does the nervous system enable psychological functioning?
Area of Study 2: How do people learn and remember?

Unit 4: How is wellbeing developed and maintained?

Consciousness and mental health are two of many psychological constructs that can be explored by studying the relationship between the mind, brain and behaviour. Students examine the nature of consciousness and how changes in levels of consciousness can affect mental processes and behaviour. They consider the role of sleep and the impact that sleep disturbances may have on a person's functioning. Students explore the concept of a mental health continuum and apply a biopsychosocial approach, as a scientific model, to analyse mental health and disorder. They use specific phobia to illustrate how the development and management of a mental disorder can be considered as an interaction between biological, psychological and social factors. Students examine the contribution that classical and contemporary research has made to the understanding of consciousness, including sleep, and the development of an individual's mental functioning and wellbeing.

Area of Study 1: How do levels of consciousness affect mental processes and behaviour?
Area of Study 2: What influences mental wellbeing?
Area of Study 3: Practical investigation

Prerequisites

None.

Methods of Assessment

- Report of practical activities and student-designed practical investigation
- Comparative analysis
- Research evaluation
- Visual presentation / flow chart
- Data analysis
- Reflective learning journal
- Structured questions
- External end-of-year examination

Religion and Society - Unit 1 and 2

Unit 1: The Role of Religion in Society

Students explore the origins of religion and its role in the development of society, identifying the nature and purpose of religion over time. They investigate the contribution of religion generally to the development of human society. They also focus on the role of religious traditions over time in shaping personal and group identity. Students examine how individuals, groups and new ideas have affected and continue to affect religious traditions. The unit provides an opportunity for students to understand the complex relationships that exist between individuals, groups, new ideas and religious traditions broadly and in the Australian society in which they live. A range of examples is studied throughout the unit.

Area of Study 1: The nature and purpose of religion
Area of Study 2: Religion through the Ages
Area of Study 3: Religion in Australia

Unit 2: Religion and Ethics

How do we know what is good? How do we make decisions in situations where it is unclear what is good or not good? Do we accept what society defines as good? Do we do what feels right? Or do we rely on a definition of what is good from a religious tradition? What are the principles that guide decision making? Ethics is concerned with discovering the perspectives that guide practical moral judgment. Studying ethics involves identifying the arguments and analysing the reasoning, and any other influences behind these perspectives and moral judgments. An important influence on ethical perspective is the method of ethical decision-making, made up of concepts, principles and theories.
Ethical questions that demand practical moral judgment are raised at the personal, family, local, wider community, national and global level. Family, community and traditional connections tie people together and provide an ethical background to guide what individuals choose to do, approving of some choices and disapproving of others.
Students study in detail various methods of ethical decision-making in at least two religious traditions and their related philosophical traditions. They explore ethical issues in societies where multiple worldviews coexist, in the light of these investigations.

Area of Study 1: Ethical decision making and moral judgement
Area of Study 2: Religion and ethics
Area of Study 3: Ethical issues in society

Prerequisites
None.

Methods of Assessment

- Reports / essays / annotated charts
- Debates
- Role-plays
- identification / written exercises
- End-of-semester examination

Religion and Society – Unit 3 and 4

Unit 3: The search for meaning

Over time and across cultures humanity has sought to understand the why and how of existence. In this quest for meaning humans have consistently posed big questions of life such as: Where did we come from? Is there someone or something greater than us – an ultimate reality? What is the purpose of our existence? How should we live? Is there anything beyond death? In response to this search for meaning, students explore how various spiritual, religious, philosophical, scientific and ideological worldviews have been developed. They consider how religion has developed answers in the form of a truth narrative: various beliefs and other aspects that have offered ways of establishing meaning, not only for human existence but also for all that exists.

Students study the purposes of religion generally and then consider the religious beliefs developed by a religious tradition or religious denomination in response to the big questions of life. They also consider the interaction between significant life experiences and religion. In Unit 3-4, religious traditions or denominations are selected from Buddhism, Christianity, Hinduism, Islam, Judaism and Sikhism.

Area of Study 1: Responding to the search for meaning
Area of Study 2: Expressing meaning
Area of Study 3: Significant life experiences, religious beliefs and faith

Unit 4: Religion, Challenge and Change

Students focus on the interaction over time of religious traditions and the societies of which they are a part. They consider how for much of human history, religion has been a truth narrative, offering a means for finding answers to the big questions of life. Students examine the dynamic process of engagement and negotiation between religious traditions and denominations, with members individually and collectively, as well as with other key institutions in wider society associated with power, authority and credibility. They explore how religious traditions as living institutions that participate in and contribute to wider societies – both positively and negatively. They stimulate and support society, acting as levers for change themselves and embracing or resisting forces for change within society. Students explore challenges for religious traditions or religious denominations generally over time and then undertake a study of challenge and change for a religious tradition or religious denomination.

Area of Study 1: Challenge and response
Area of Study 2: Interaction of religion and society

Prerequisites
None.

Methods of Assessment
Assessment may consist of:

- An essay
- A case study or report
- Analytical exercise
- Structured questions
- Extended response
- External end-of-year examination

Systems Engineering – Unit 1 and 2

Unit 1: Mechanical Systems

In this area of study, students learn about fundamental mechanical engineering principles and the components required when producing an operational system. Students learn fundamental principles of how mechanisms and simple mechanical systems provide movement and mechanical advantage, and how the specific components of a system or an entire mechanical system can be represented diagrammatically. Using the systems engineering process students research, design and plan a mechanical system. They consider relevant factors that influence the creation and use of their system and document their findings and process.

Area of Study 1: Mechanical system design
Area of Study 2: Producing and evaluating mechanical systems

Unit 2: Electrotechnological systems

Students study fundamental electrotechnological engineering principles. 'Electrotechnological' encompasses systems that include electrical/electronic circuitry including microelectronic circuitry. Through the application of the systems engineering process, students create operational electrotechnological systems, which may also include mechanical components or electro-mechanical subsystems. While this unit contains fundamental physics and theoretical understanding of electrotechnological systems and how they work, the focus is on the creation of electrotechnological systems, drawing heavily upon design and innovation processes. Electrotechnology is a creative field that responds to, and drives rapid developments and change brought about through technological innovation. Contemporary design and manufacture of electronic equipment involves increased levels of automation and inbuilt control through the inclusion of microcontrollers and other logic devices. Students explore some of these emerging technologies. Students study fundamental electrotechnological principles including applied electrical theory, standard representation of electronic components and devices, elementary applied physics in electrical circuits and mathematical processes that can be applied to define and explain the electrical characteristics of circuits.

Area of Study 1: Electrotechnological systems design
Area of Study 2: Producing and evaluating electrotechnological systems

Prerequisites
None.

Methods of Assessment

- Folio
- Production work
- Practical demonstrations
- End-of-semester examination

Systems Engineering – Unit 3 and 4

Unit 3: Integrated and controlled systems

Students study engineering principles used to explain physical properties of integrated systems and how they work. Students design and plan an operational, mechanical and electrotechnological integrated and controlled system. They learn about the technologies used to harness energy sources to provide power for engineered systems. Students commence work on the creation of an integrated and controlled system using the systems engineering process. This production work has a strong emphasis on innovation, designing, producing, testing and evaluating. Students manage the project, taking into consideration the factors that will influence the creation and use of their integrated and controlled system. Students' understanding of fundamental physics and applied mathematics underpins the systems engineering process, providing a comprehensive understanding of mechanical and electrotechnological systems and how they function. Students learn about sources and types of energy that enable engineered technological systems to function. Comparisons are made between the use of renewable and non-renewable energy sources and their impacts. Students develop their understanding of technological systems developed to capture and store renewable energy and technological developments to improve the credentials of non-renewables.

Area of Study 1: Integrated and controlled systems design
Area of Study 2: Clean energy technologies

Unit 4: Systems control

Students complete the creation of the mechanical and electrotechnological integrated and controlled system they researched, designed, planned and for which they commenced production in Unit 3. Students investigate new and emerging technologies, consider reasons for their development and analyse their impacts. Students continue producing their mechanical and electrotechnological integrated and controlled system using the systems engineering process. Students develop their understanding of the open-source model in the development of integrated and controlled systems and document its use fairly. They effectively document the use of project and risk management methods throughout the creation of the system. They use a range of materials, tools, equipment and components. As well as testing, diagnosing and analysing the performance of the system, students evaluate their process and the system. Students expand their knowledge of emerging developments and innovations through their investigation and analysis of a range of engineered systems. They analyse a specific emerging innovation, including its impacts.

Area of Study 1: Producing and evaluating integrated and controlled systems
Area of Study 2: New and emerging technologies

Prerequisites

None. However, some additional preparatory work would be advisable for students entering Units 3 and 4 without completing Units 1 and 2.

Methods of Assessment

- Multimedia/simulation presentation
- Folio
- Brochure
- Report
- Production work
- Oral presentation

Theatre Studies – Unit 1 and 2

Unit 1: Pre-modern theatre styles and conventions

Students creatively and imaginatively work in production roles with scripts from the pre-modern era of theatre (prior to 1920s), focusing on at least three distinct theatre styles and their conventions. They study innovations in theatre production in this era and apply this knowledge to their own works. Students develop knowledge and skills about theatre production processes including dramaturgy, planning, development and performance to an audience, and apply this knowledge and skills to their own work. Theatre styles from this era include Ancient Greek, Ancient Roman, liturgical drama, Commedia dell'Arte, Elizabethan, Restoration comedies and dramas, neo-classical, Naturalism/Realism, Beijing Opera, Noh, Banraku and Kabuki and other traditional indigenous theatre forms. They begin to develop skills of performance and analysis and apply these to an analysis of a play in performance.

Area of Study 1: Exploring pre-modern theatre styles and conventions
Area of Study 2: Interpreting scripts
Area of Study 3: Analysing a play in performance

Unit 2: Modern theatre styles and conventions

Students focus on at least three distinct theatre styles, studying innovations in theatre production in the modern era (1920s to present) and apply this knowledge to their own works. They develop knowledge and skills about theatre production processes and apply this to their own work. They study safe and ethical working practices in theatre production and develop skills in performance analysis which they apply to the analysis of a play in performance. Theatre styles from the modern era include Epic theatre, Constructivist theatre, Theatre of the Absurd, Political and Feminist theatre, Expressionism, Eclectic and Experimental theatres, Musical theatre, Physical, Verbatim, Theatre-in-education and Immersive/interactive theatre.

Area of Study 1: Exploring modern theatre styles and conventions
Area of Study 2: Interpreting scripts
Area of Study 3: Analysing and evaluating a theatre production

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.

Methods of assessment

- Interpretation of scripts through the application of at least two production roles: actor, director and/or designer (concept/design - costume, makeup, props, set, lighting, sound).
- Oral/visual/media reports and /or presentations
- Structured questions
- End-of-semester examination

Theatre Studies – Unit 3 and 4

Unit 3: Producing theatre

Students develop an interpretation of a script through the three stages of the theatre production process; planning, development and presentation. They specialise in two production roles, working collaboratively, creatively and imaginatively to realise the production of a script. They use knowledge developed during this process to analyse and evaluate the ways that work in production roles can be used to interpret script excerpts previously unstudied. Students develop knowledge and apply elements of theatre composition, and safe and ethical working practices in the theatre. Students attend a performance selected from the prescribed Theatre Studies Unit 3 Playlist and analyse and evaluate the interpretation of the script in the performance. The Playlist is published annually on the VCAA website.

Area of Study 1: Staging theatre
Area of Study 2: Interpreting a script
Area of Study 3: Analysing and evaluation theatre

Unit 4: Presenting an interpretation

Students study a scene and an associated monologue. They initially develop an interpretation of the prescribed scene. This work includes exploring theatrical possibilities and using dramaturgy across the three stages of the production process. Students then develop a creative and imaginative interpretation of the monologue that is embedded in the specified scene. To realise their interpretation, they work in production roles as an actor and director, or as a designer. Students' work is supported through analysis of a performance they attend, which must be selected from the VCE Theatre Studies Unit 4 Playlist. Students analyse acting, direction and design and the use of theatre technologies, as appropriate to the production. In conducting their work, students develop knowledge in and apply safe and ethical theatre practices.

Area of Study 1: Researching and presenting theatre possibilities
Area of Study 2: Interpreting a monologue
Area of Study 3: Analysing and evaluating a performance

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.

Methods of assessment

- Interpretation of scripts through the application of at least two production roles: actor, director and/or designer (concept/design - costume, makeup, props, set, lighting, sound).
- Oral/visual/media reports and /or presentations
- Structured questions
- End-of-year external monologue and written examination

Visual Communication Design – Unit 1 and 2

Unit 1: Introduction to visual communication design

This unit focuses on using visual language to communicate messages, ideas and concepts. This involves acquiring and applying design thinking skills as well as drawing skills to create messages, ideas and concepts, both visible and tangible. Students practise their ability to draw what they observe and they use visualisation drawing methods to explore their own ideas and concepts. Students develop an understanding of the importance of presentation drawings to clearly communicate their final visual communications. Through experimentation and exploration of the relationship between design elements and design principles, students develop an understanding of how they affect the visual message and the way information and ideas are read and perceived. Students review the contextual background of visual communication through an investigation of design styles. This research introduces students to the broader context of the place and purpose of design. Students are introduced to the importance of copyright and intellectual property and the conventions for acknowledging sources of inspiration. In this unit students are introduced to four stages of the design process: research, generation of ideas, development of concepts and refinement of visual communications.

Area of Study 1: Drawing as a means of communication
Area of Study 2: Design elements and design principles
Area of Study 3: Visual communications in context

Unit 2: Applications of visual communication within design fields

This unit focuses on the application of visual communication design knowledge, design thinking and drawing methods to create visual communications to meet specific purposes in designated design fields. Students use presentation drawing methods that incorporate the use of technical drawing conventions to communicate information and ideas associated with the environmental or industrial fields of design. They also investigate how typography and imagery are used in these fields as well as the communication field of design. They apply design thinking skills when exploring ways in which images and type can be manipulated to communicate ideas and concepts in different ways in the communication design field. Students develop an understanding of the design process as a means of organising their thinking about approaches to solving design problems and presenting ideas. In response to a brief, students engage in the stages of research, generation of ideas and development and refinement of concepts to create visual communications.

Area of Study 1: Technical drawing in context
Area of Study 2: Type and imagery in context
Area of Study 3: Applying the design process

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.

Methods of Assessment

- Structured questions and short answer responses
- Folio of visual communications
- End-of-semester examination

Visual Communication Design – Unit 3 and 4

Unit 3: Design thinking and practice

In this unit, students gain an understanding of the process designers employ to structure their thinking and communicate ideas with clients, target audiences, other designers and specialists. Through practical investigation and analysis of existing visual communications, students gain insight into how the selection of methods, media and materials, and the application of design elements and design principles, can create effective visual communications for specific audiences and purposes. They investigate and experiment with the use of manual and digital methods, media and materials to make informed decisions when selecting suitable approaches for the development of their own design ideas and concepts.

Students use their research and analysis of the process of visual communication designers to support the development of their own designs. They establish a brief for a client and apply design thinking through the design process. Design from a variety of historical and contemporary design fields is considered by students to provide directions, themes or starting points for investigation and inspiration for their own work. Students use observational and visualisation drawings to generate a wide range of design ideas and apply design thinking strategies to organise and evaluate their ideas. The brief and research underpin the developmental and refinement work undertaken in Unit 4.

Area of Study 1: Analysis and Practice in Context
Area of Study 2: Design Industry Practice
Area of Study 3: Developing a brief and generating ideas

Unit 4: Visual communication design development, evaluation and presentation

The focus of this unit is on the development of design concepts and two final presentations of visual communications to meet the requirements of the brief. This involves applying the design process twice to meet each of the stated communication needs. Having completed their brief and generated ideas in Unit 3, students continue the design process by developing and refining concepts for each communication need stated. They utilise a range of digital and manual two and three-dimensional methods, media and materials. They investigate how the application of design elements and design principles creates different communication messages and conveys ideas to the target audience. As students revisit stages to undertake further research or idea generation when developing and presenting their design solutions, they develop an understanding of the iterative nature of the design process. Ongoing reflection and evaluation of design solutions against the brief assists students with keeping their endeavours focused.

Area of study 1: Development, refinement and evaluation
Area of study 2: Final presentations

Prerequisites

Students are to discuss their suitability for this subject with the current VCE Arts subject teacher. Enrolled VCE Arts students are expected to demonstrate a commitment to their chosen art form both in and out of the classroom. Participation in evening assessment performances and/or afterschool studio enrichment activities may be required.

Methods of Assessment

- Folio of visual communications
- Responses to questions
- External end-of-year examination

Contacts

Before making decisions about course composition and balance, students and parents may wish to seek advice from relevant staff. Students are not guaranteed entry into any VCE subject of their choosing and selections will be considered according to proven work ethic, learning progress and final results. Class size limits apply and students submitting selections late or not showing appropriate commitment to their subjects may be precluded from certain subjects.

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