



**THOMAS CARR  
COLLEGE**

# **YEAR 12**

# **SUBJECT INFORMATION**

*They will shine*

**2023**

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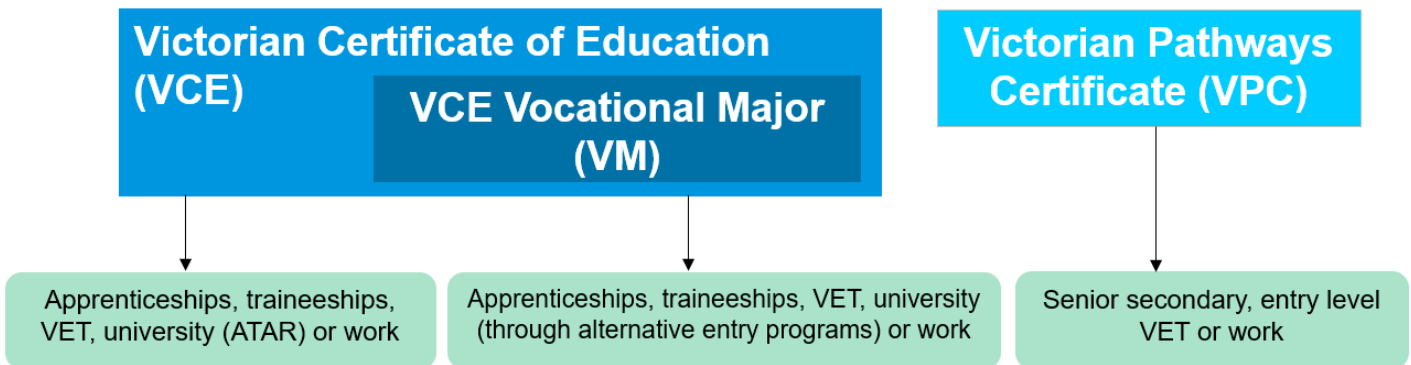
Further information about the VCE, VCE – Vocational Major, VET and Applied Learning pathways including access to the Study Designs of all the VCE subjects offered at Thomas Carr College please visit the [VCAA website](http://vcaa.vic.edu.au).

## INTRODUCTION

At Thomas Carr College we are committed to achieving improved learning outcomes for all students and establishing a learning and teaching program that incorporates a breadth, and depth of choices in the VCE subjects and Applied Learning pathways offered at Year 12 and within the senior school.

At the senior school level, this includes Religious Education and providing the option for our students to select from either one of the following senior secondary pathways:

- Victorian Certificate of Education (VCE)
- VCE Vocational Major (VM)
- Victorian Pathways Certificate (VPC)



### The Victorian Certificate of Education (VCE)

The Victorian Certificate of Education provides diverse pathways to further study or training at university or TAFE and to employment.

### VCE – Vocational Major (VM)

The VCE Vocational Major (VM) is a vocational and applied learning program within the VCE designed to be completed over a minimum of two years. It prepares students to move into apprenticeships, traineeships, further education and training, university (via non-ATAR pathways) or directly into the workforce.

Who is the VCE-VM for?

- Students in Year 11 and 12 who would benefit from an applied learning approach to teaching and assessment.
- Students who would benefit from the flexibility to combine Structured Workplace Learning (SWL) or an SBAT in their senior school program.
- Students who are not requiring a direct pathway to university via an ATAR.

### Victorian Pathways Certificate (VPC)

The Victorian Pathways Certificate is designed for a limited cohort of students in Years 11 and 12 who are not ready to undertake the VCE or the VCE Vocational Major for various reasons.

Who is the VPC for?

- Students in Year 11 and 12 who cannot participate in the VCE (including the Vocational Major).
- Students who have missed significant periods of school.
- Vulnerable students at risk of disengaging from their education.
- Students with additional needs.

**Note:** The Victorian Pathways Certificate (VPC) will be offered to targeted students who have been identified as not being ready to undertake the VCE or the VCE Vocational Major (VM).

This will be in consultation with parents and based on the learning needs of individual students.

## VCE Pathways

At Year 12 students selecting the VCE pathway will study FIVE subjects and Religious Education. This includes:

- ONE Unit 3 & 4 VCE English subject (English, English Language and/or Literature).
- Unit 3 & 4 Religion and Society (9 periods per cycle) OR Thomas Carr Religious Education (5 periods per cycle).
- Any combination of the listed VCE or VET subjects.

## Vocational Education and Training in School (VET) courses

VET can play an important role in senior secondary schooling. When you add VET to your VCE or VCE VM studies (in Year 11 and 12), you gain practical skills in an industry you are interested in.

VET courses:

- provide a nationally recognised qualification in a specific industry, or provide credit towards one contribute towards the completion of your VCE
- allow you to study through School-Based Apprenticeships and Traineeships, which are often paid positions.

Thomas Carr College Trade Training Centre will offer VET certificate courses in Carpentry, Bricklaying and Furniture Making.

The College is also part of the Wyndham VET cluster of schools offering a range of VET certificates for students in the cluster, a complete list can be found in the 2023 Wyndham VET Cluster Handbook which is also available to download from our College website.



## IMPORTANT CONTACTS

To learn more about the Year 12 VCE curriculum and learning pathways offered at Thomas Carr College, please refer to the below contacts. For all subject-specific questions please contact your subject teacher or the relevant Learning Area Leader.

For all the other questions related to the subject selection process and to learn more about the subjects offered at Years 12 including VCE options please contact Mrs Daniela Bombardieri-Szabo (Head of Learning and Teaching – Senior School).

For questions related to the College's Vocational pathways including our Applied Learning and VET programs, please contact Mr Casey Backhouse (Applied Learning & Vocational Training).

For information about Careers and other pathway options please contact Ms Cheryl-Anne White (Careers Team Leader).

Role	Name	Email
Deputy Principal: Staff and Learning Operations	Mr Andrew Bryson	<a href="mailto:andrew.bryson@thomascarr.vic.edu.au">andrew.bryson@thomascarr.vic.edu.au</a>
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Head of Learning AND Teaching: Senior School	Mrs Daniela Bombardieri-Szabo	<a href="mailto:daniela.bombardieriszabo@thomascarr.vic.edu.au">daniela.bombardieriszabo@thomascarr.vic.edu.au</a>
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Careers and Pathways	Ms Cheryl-Anne White	<a href="mailto:cherylanne.white@thomascarr.vic.edu.au">cherylanne.white@thomascarr.vic.edu.au</a>
Learning Area Leader: Religious Education	Mrs Catherine Doman	<a href="mailto:catherine.doman@thomascarr.vic.edu.au">catherine.doman@thomascarr.vic.edu.au</a>
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Learning Area Leader: Humanities	Ms Ashley Saliba	<a href="mailto:ashley.saliba@thomascarr.vic.edu.au">ashley.saliba@thomascarr.vic.edu.au</a>
Learning Area Leader: Mathematics	Mr Robert Peszko	<a href="mailto:robert.peszko@thomascarr.vic.edu.au">robert.peszko@thomascarr.vic.edu.au</a>
Learning Area Leader: Science/STEM	Ms Lucy Cassar	<a href="mailto:lucy.cassar@thomascarr.vic.edu.au">lucy.cassar@thomascarr.vic.edu.au</a>
Learning Area Leader: The Arts	Mr Jacob Levy	<a href="mailto:jacob.levy@thomascarr.vic.edu.au">jacob.levy@thomascarr.vic.edu.au</a>
Learning Area Leader: Health AND Physical Education	Mr Brad Gilham	<a href="mailto:brad.gilham@thomascarr.vic.edu.au">brad.gilham@thomascarr.vic.edu.au</a>
Learning Area Leader: Languages	Mrs Sugarti Febrinaldi	<a href="mailto:sugarti.febrinaldi@thomascarr.vic.edu.au">sugarti.febrinaldi@thomascarr.vic.edu.au</a>
Learning Area Leader: Technology	Mr Peter Murray	<a href="mailto:peter.murray@thomascarr.vic.edu.au">peter.murray@thomascarr.vic.edu.au</a>
Applied Learning & Vocational Training	Mr Casey Backhouse	<a href="mailto:casey.backhouse@thomascarr.vic.edu.au">casey.backhouse@thomascarr.vic.edu.au</a>

## **SUBJECT:** ACCOUNTING UNITS 3 & 4

### **COURSE OVERVIEW**

In Accounting students focus on the financial recording, reporting and decision-making processes of a sole proprietor trading business. Students study both theoretical, practical and ethical aspects of accounting. Financial data will be collected, recorded and analysed.

Students interpret reports and information presented in a variety of formats and suggest strategies to the owner to improve the performance of the business and use both manual and technological methods.

### **LEARNING FOCUS**

This unit focus on financial accounting for a trading business as operated by a sole trader and emphasises 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. The perpetual method of stock recording with the First In, First Out (FIFO) and Identified Cost (ICM) methods are used.

Students investigate the role and importance of budgeting for the business and undertake the practical completion of budgets for cash, profit and financial position. Students interpret accounting information from accounting reports and from graphical representations. They analyse the results to suggest strategies to the owner on how to improve the performance of the business. Where appropriate, the accounting procedures developed in each area of study should incorporate the application of accounting assumptions and the qualitative characteristics of accounting information.

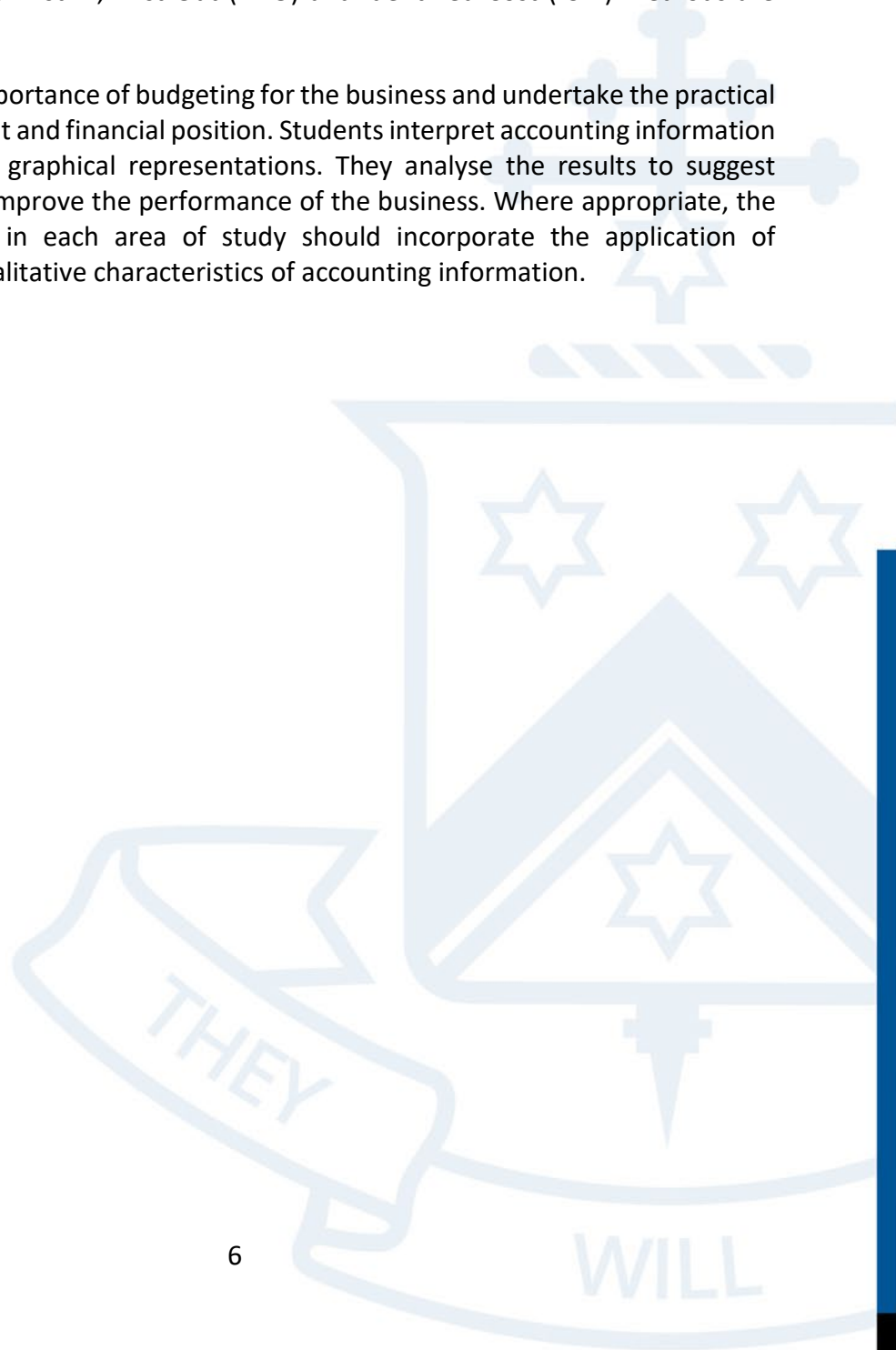
### **ASSESSMENT**

Students will complete:

- Balance Sheets
- Spread Sheets
- Income and Cash Flow Statements

### **FUTURE PATHWAYS**

University studies





## SUBJECT: APPLIED COMPUTING: DATA ANALYTICS UNITS 3 & 4

### COURSE OVERVIEW

Technology continues to evolve rapidly, providing opportunities for enterprising individuals to create new technologies and innovative uses for existing technologies. This study equips students with the knowledge and skills required to adapt to a dynamic technological landscape, including the ability to identify emerging technologies, envisage new uses for digital technologies and consider the benefits that these technologies can bring to society at a local and at a global level. VCE Applied

Computing facilitates student-centred learning that enables students to build capabilities in critical and creative thinking, and to develop communication and collaboration, and personal, social and information and communications technology (ICT) skills.

Students are provided with practical opportunities and choices to create digital solutions for real-world problems in a range of settings.

### LEARNING FOCUS

**Unit 3:** Data analytics in this unit 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.

**Unit 4:** Data Analytics in this unit 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.

### ASSESSMENT

Unit 3 School Assessed Coursework (SAC) 10%

Unit 4 School Assessed Coursework (SAC) 10%

Unit 3 and 4 School Assessed Task (SAT) 30%

End of year external Examination 50%

### FUTURE PATHWAYS

VCE Applied Computing provides a pathway to further studies in areas such as business analysis, computer science, cybersecurity, data analytics and data science, data management, games development, ICT, networks, robotics, software.

## **COURSE OVERVIEW**

VCE Biology enables students to investigate the processes involved in sustaining life at cellular, system and species levels. In undertaking this study, students develop an understanding that, in the dynamic and interconnected system of life, all change has consequences that may affect an individual, a species or the collective biodiversity of Earth. Students gain insights into how molecular and evolutionary concepts and key science skills underpin much of contemporary biology, and how society applies such skills and concepts to resolve problems and make scientific advancements.

In VCE Biology, students develop and enhance a range of inquiry skills including practical experimentation, research and analytical skills, problem-solving skills including critical and creative thinking, and communication skills. Students pose questions, formulate hypotheses, conduct investigations, and analyse and critically interpret qualitative and quantitative data. They assess the limitations of data, evaluate methodologies and results, justify their conclusions, make recommendations, and communicate their findings. Students use biological knowledge, scientific skills, and ethical understanding to investigate and analyse contemporary bioethical issues and communicate their views from an informed position.

## **LEARNING FOCUS**

### **Unit 3: How do cells maintain life?**

In this unit, students investigate the workings of the cell from several perspectives. They explore the relationship between nucleic acids and proteins as key molecules in cellular processes. Students 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 apply their knowledge of cellular processes through investigation of a selected case study, data analysis and/or a bioethical issue. Examples of investigation topics include, but are 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 the use of enzyme inhibitors such as pesticides and drugs; research into increasing efficiency of photosynthesis or cellular respiration or impact of poisons on the cellular respiration pathway.

### **Unit 4: How does life change and respond to challenges?**

In this unit students consider the continual change and challenges to which life on Earth has been, and continues to be, subjected to. They study the human immune system and the interactions between its components to provide immunity to a specific pathogen. Students consider how the application of biological knowledge can be used to respond to bioethical issues and challenges related to the disease. Students consider how evolutionary biology is based on the accumulation of evidence over time. They investigate the impact of various change events on a population's gene pool and the biological consequences of changes in allele frequencies. Students examine the evidence for relatedness between species and change in life forms over time using evidence from palaeontology, structural morphology, molecular homology and comparative genomics.

Students examine the evidence for structural trends in the human fossil record, recognising that interpretations can be contested, refined or replaced when challenged by new evidence. Students demonstrate and apply their knowledge of how life changes and responds to challenges through investigation of a selected case study, data analysis and/or bioethical issue. Examples of investigation topics include, but are not limited to: deviant cell behaviour and links to disease; autoimmune diseases; allergic reactions; development of immunotherapy strategies; use and application of bacteriophage therapy; prevention and eradication of disease; vaccinations; bioprospecting for new medical treatments; trends, patterns and evidence for evolutionary relationships; population and species changes over time in non-animal communities such as forests and microbiota; monitoring of gene pools for conservation planning; role of selective breeding programs in conservation of endangered species; or impact of new technologies on the study of evolutionary biology.



## ASSESSMENT

Students will be assessed against each Outcome using one type of assessment from the list below:

Each outcome consists of one of the following tasks:

- analysis and evaluation of a selected biological case study
- analysis and evaluation of generated primary and/or collated secondary data
- comparison and evaluation of biological concepts, methodologies and methods, and findings from three student practical activities
- analysis and evaluation of a contemporary bioethical issue.
- student-designed scientific investigation.

## FUTURE PATHWAYS

VCE Biology provides for continuing study pathways within the discipline and leads to a range of careers. Branches of biology include botany, genetics, immunology, microbiology, pharmacology and zoology.

In addition, biology is applied in many fields of endeavour including biotechnology, dentistry, ecology, education, food science, forestry, health care, horticulture, medicine, optometry, physiotherapy and veterinary science. Biologists also work in cross-disciplinary areas such as bushfire research, environmental management and conservation, forensic science, geology, medical research and sports science.



## **SUBJECT: BUSINESS MANAGEMENT UNITS 3 & 4**

### **COURSE OVERVIEW**

In Business Management students examines the ways in which people at various levels within a business organisation manage resources to achieve the objectives of the organisation. This includes the management of people and the operations system.

Students develop an understanding of the complexity, challenges and rewards that come from business change and how a business can best prepare themselves for the implementation and sustainability of the change.

### **LEARNING FOCUS**

Students identify the important roles managers play in planning, organising, leading and controlling the various areas of the business, and in the operations function. Various management theories are considered, and these are applied to real life business case studies. Students investigate how organisations are structured, the development of positive corporate culture, the application of management styles to various contexts, and skills necessary to be an effective manager in the 21<sup>st</sup> century.

Effective strategies are investigated to effectively manage an organisation most important resources, its employees. Two key aspects of this function are investigated; employee motivation and workplace relations. Students also study the concept of business change and the key strategies and theories needed to managing change effectively within a business.

### **ASSESSMENT**

Students will complete:

- Case study and structured questions

### **FUTURE PATHWAYS**

University studies



## **COURSE OVERVIEW**

VCE Chemistry enables students to investigate a range of chemical, biochemical and geophysical phenomena through the exploration of the nature of chemicals and chemical processes. Sustainability principles, concepts and goals are used to consider how useful materials for society may be produced with the least possible adverse effects on human health and the environment. In undertaking this study, students apply chemical principles to explain and quantify the behaviour of matter, as well as undertake practical activities that involve the analysis and synthesis of a variety of materials.

In VCE Chemistry, students develop and enhance a range of inquiry skills, such as practical experimentation, research and analytical skills, problem-solving skills including critical and creative thinking, and communication skills. Students pose questions, formulate hypotheses, conduct investigations, and analyse and critically interpret qualitative and quantitative data. They assess the limitations of data, evaluate methodologies and results, justify their conclusions, make recommendations and communicate their findings.

Students apply chemical knowledge, scientific skills, and critical and creative thinking to investigate and analyse contemporary chemistry-related issues and communicate their views from an informed position.

## **LEARNING FOCUS**

### **Unit 3: How can design and innovation help to optimise chemical processes?**

The global demand for energy and materials is increasing with world population growth. In this unit students investigate the chemical production of energy and materials. They explore how innovation, design and sustainability principles and concepts can be applied to produce energy and materials while minimising possible harmful effects of production on human health and the environment.

Students analyse and compare different fuels as energy sources for society, with reference to the energy transformations and chemical reactions involved, energy efficiencies, environmental impacts and potential applications. They explore food in the context of supplying energy in living systems. The purpose, design and operating principles of galvanic cells, fuel cells, rechargeable cells and electrolytic cells are considered when evaluating their suitability for supplying society's needs for energy and materials. They evaluate chemical processes with reference to factors that influence their reaction rates and extent. They investigate how the rate of a reaction can be controlled so that it occurs at the optimum rate while avoiding unwanted side reactions and by-products. Students conduct practical investigations involving thermochemistry, redox reactions, electrochemical cells, reaction rates and equilibrium systems.

Throughout the unit 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.

### **Unit 4: How are carbon-based compounds designed for purpose?**

Carbon is the basis not only of the structure of living tissues but is also found in fuels, foods, medicines, polymers and many other materials that we use in everyday life. In this unit students investigate the structures and reactions of carbon-based organic compounds, including considering how green chemistry principles are applied in the production of synthetic organic compounds. They study the metabolism of food and the action of medicines in the body. They explore how laboratory analysis and various instrumentation techniques can be applied to analyse organic compounds in order to identify them and ensure product purity.

Students conduct practical investigations related to the synthesis and analysis of organic compounds, involving reaction pathways, organic synthesis, identification of functional groups, direct redox titrations, solvent extraction and distillations.

Throughout the unit, 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.

## ASSESSMENT

Students will be assessed against each Outcome using one type of assessment from the list below:

Each outcome consists of one of the following tasks:

- comparison and evaluation of chemical concepts, methodologies and methods, and findings from at least two practical activities
- analysis and evaluation of primary and/or secondary data, including identified assumptions or data limitations, and conclusions
- problem-solving, including calculations, using chemistry concepts and skills applied to real-world contexts
- analysis and evaluation of a chemical innovation, research study, case study, socio-scientific issue, or media communication.

## FUTURE PATHWAYS

VCE Chemistry provides for continuing study pathways within the discipline and can lead to a range of careers. Branches of chemistry include organic chemistry, inorganic chemistry, analytical chemistry, physical chemistry and biochemistry.

In addition, chemistry is applied in many fields of human endeavour including agriculture, bushfire research, dentistry, dietetics, education, engineering, environmental science, forensic science, forestry, horticulture, medicine, metallurgy, meteorology, nursing, pharmacy, sports science, toxicology, veterinary science and viticulture.



## **SUBJECT: DRAMA UNITS 3 & 4**

### **COURSE OVERVIEW**

People tell stories, explore ideas, make sense of their worlds and communicate meaning through drama. Drama develops personal and social identity. VCE Drama connects students to the traditions of drama practice and, through the processes of devising and performing drama, allows them to explore, understand and respond to the contexts, narratives and stories that shape their worlds. The study requires students to be creative and critical thinkers.

Through work as solo and ensemble performers and engagement with the work of professional drama practitioners, students develop an appreciation of drama as an art form and develop skills of criticism and aesthetic understanding. VCE

Drama equips students with knowledge, skills and confidence to communicate as individuals and collaboratively in social and work-related contexts. The study of drama can provide pathways to training and tertiary study in acting, communication and drama criticism.

### **LEARNING FOCUS**

Units focus on the creation of non-naturalistic solo and ensemble performances from a variety of stimuli. Non-naturalistic performance styles and associated theatrical conventions are explored in the creation, development and presentation of a solo and ensemble performances. Students use and manipulate dramatic elements, expressive skills and performance styles to enhance performance. They select stagecraft and theatrical conventions as appropriate to the performance.

Students also document and evaluate stages involved in the creation, development and presentation of their performances. A professional performance that incorporates non-naturalistic performance style/s and production elements selected from the prescribed VCE Unit 3 Drama Playlist.

### **ASSESSMENT**

Coursework: Ensemble performance, solo performance and written report, and written evaluations.

Exams: Written and solo performance examination.

### **FUTURE PATHWAYS**

The study of drama provides students with pathways to further studies in fields such as acting, direction, playwriting, production design, production management and studies in drama criticism.

Students of drama gain considerable experience in performance which can be applied to several professional skills including public speaking, presentation, collaboration and interpersonal communication.

## **SUBJECT: ECONOMICS UNITS 3 & 4**

### **COURSE OVERVIEW**

In Economics students investigate the role of the market in allocating resources and examine the factors that affect the price and quantity traded for a range of goods and services. Students consider contemporary issues to explain the need for government intervention in markets and why markets might fail to maximise society's living standards.

Students develop an understanding of the macroeconomy. They investigate the factors that affect the level of aggregate demand and aggregate supply in the economy and apply theories to explain how changes in these variables might affect achievement of domestic macroeconomic goals and living standards.

### **LEARNING FOCUS**

Students investigate the role of the market in addressing the key economic questions of what and how much to produce, how to produce and for whom. Students consider the effects of decisions made by consumers and businesses on what, how and why goods and services are produced. Students investigate the key factors that affect the level of demand and supply in markets and how these might lead to changing prices.

Students also look at the role of Policymakers including the Australian Government and the Reserve Bank and how they influence living standards. Students also consider how the Australian Government utilities supply policies in the achievement of the domestic macroeconomic goals and living standards.

### **ASSESSMENT**

Students will complete:

- Case Study and Structured Questions

### **FUTURE PATHWAYS**

University studies





## SUBJECT: ENGLISH UNITS 3 & 4

### COURSE OVERVIEW

The study of English contributes to the development of literate individuals capable of critical and creative thinking, aesthetic appreciation and creativity. This study also develops students' ability to create and analyse texts, moving from interpretation to reflection and critical analysis.

Through engagement with texts from the contemporary world and from the past, and using texts from Australia and from other cultures, students studying English become confident, articulate and critically aware communicators and further develop a sense of themselves, their world and their place within it. English helps equip students for participation in a democratic society and the global community.

This study will build on the learning established through Victorian Curriculum English in the key discipline concepts of language, literature and literacy, and the language modes of listening, speaking, reading, viewing and writing.

### LEARNING FOCUS

In Unit 3, students read and respond to texts analytically and creatively. They analyse arguments and the use of persuasive language in texts.

In Unit 4, students compare the presentation of ideas, issues and themes in texts. They create an oral presentation intended to position audiences about an issue currently debated in the media.

### ASSESSMENT

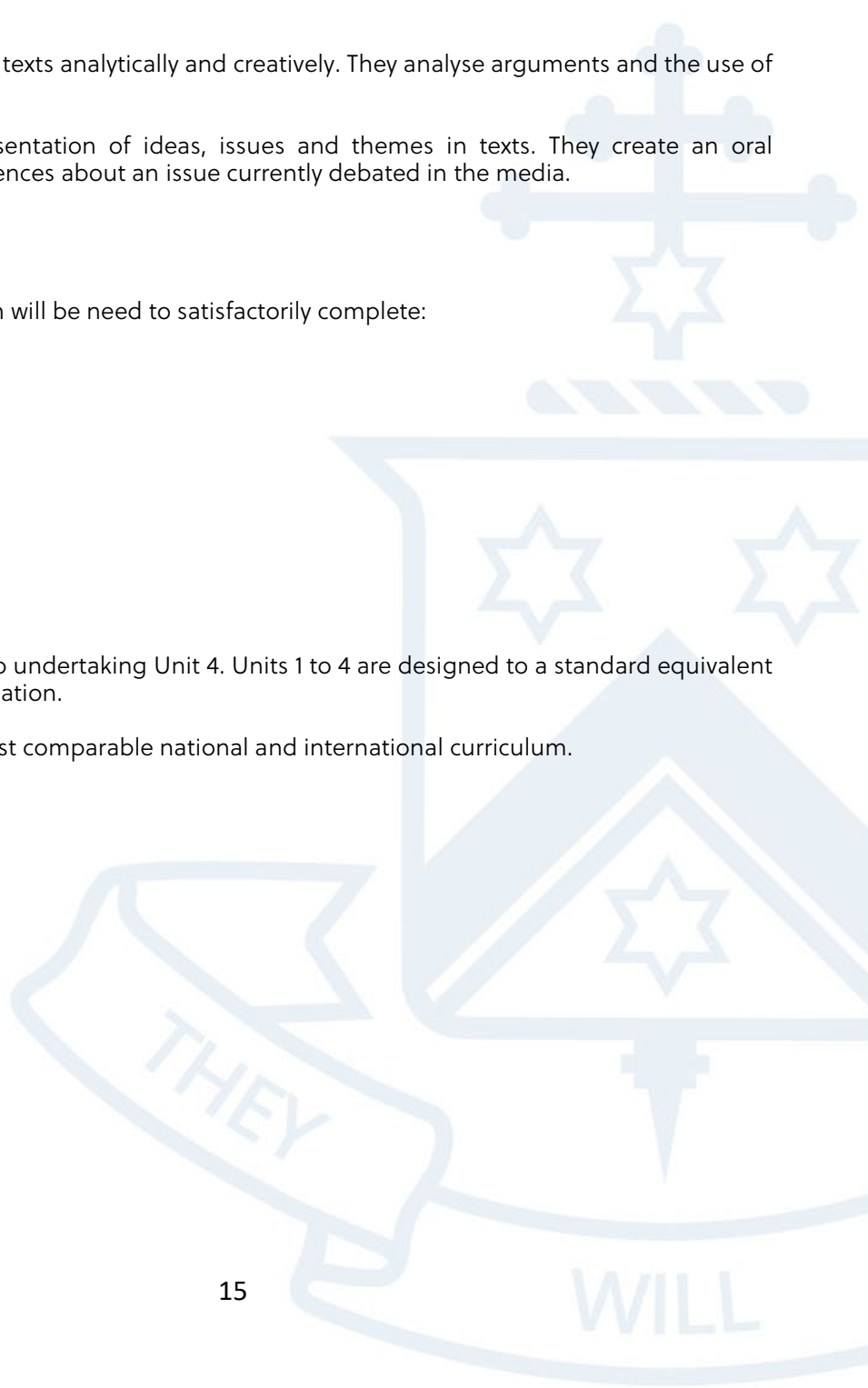
Students studying Units 3 and 4 English will be need to satisfactorily complete:

- text response essays
- creative response essays
- argument analysis essays
- oral presentations
- comparative responses
- end of year examinations

### FUTURE PATHWAYS

Students must undertake Unit 3 prior to undertaking Unit 4. Units 1 to 4 are designed to a standard equivalent to the final two years of secondary education.

All VCE studies are benchmarked against comparable national and international curriculum.



## **COURSE OVERVIEW**

The study of English Language enables students to further develop and refine their skills in reading, writing, listening to and speaking English. Students learn about personal and public discourses in workplaces, fields of study, trades and social groups. In this study students read widely to develop their analytical skills and understanding of linguistics. Students are expected to study a range of texts, including publications and public commentary about language in print and multimodal form. Students also observe and discuss contemporary language in use, as well as consider a range of written and spoken texts.

## **LEARNING FOCUS**

In Unit 3 In this unit 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.

In Unit 4 In this unit 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 television programs, poetry, letters and emails, transcripts of spoken interaction, songs, advertisements, speeches and bureaucratic or official documents.

## **ASSESSMENT**

Unit 3: AoS 1 – Informal Language

- Short Answer Test
- Analytical Commentary Essay

Unit 3: AoS 2: Formal Language

- Short Answer Test
- Analytical Commentary Essay

Unit 4: AoS 1 – Language Variation in Australian Society

- Expository Essay

Unit 4: AoS 2 – Individual and Group Identities

- Expository Essay

## **FUTURE PATHWAYS**

Knowledge of how language functions provides a useful basis for further study or employment in numerous fields such as arts, sciences, law, politics, trades and education. The study supports language-related fields such as psychology, the study of other languages, speech and reading therapy, journalism and philosophy.

It also supports study and employment in other communication-related fields, including designing information and communications technology solutions or programs.

## COURSE OVERVIEW

VCE Environmental Science enables students to explore the relationships between Earth's four systems. Students examine how past and current human activities affect the environment and how future challenges can be managed sustainably. In undertaking this study, students gain an understanding of the complexity of environmental decision-making, and how innovative responses to environmental challenges can reduce pressure on Earth's natural resources and ecosystem services.

## LEARNING FOCUS

In Unit 3, students focus on environmental management through the application of sustainability principles. They explore the value of all living things by examining the concept of biodiversity and the ecosystem services important for human health and well-being. 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 principles and environmental management strategies.

### Areas of Study:

1. When is maintaining biodiversity worth a sustained effort?
2. When is development sustainable?

In Unit 4, students explore different factors that contribute to Earth's climate and that can affect living things, human society and the environment at local, regional and global scales. Students 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.

### Areas of Study:

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

## ASSESSMENT

Each outcome consists of one of the following tasks:

- presentation of recommendations using evidence-based decision-making, including analysis and evaluation of primary data
- designed or practical response to a real or theoretical environmental issue or challenge
- analysis and evaluation of a case study, secondary data or media communication, with reference to sustainability principles and stakeholder perspectives
- application of Earth systems thinking in the evaluation of a response to an environmental scenario, case study, issue or challenge.

## FUTURE PATHWAYS

Environmental science has strong links that provide for continuing study pathways within the field and lead to a range of careers. Diverse areas of employment range from design, including landscape or building architecture, engineering and urban planning, environmental consultancy, advocacy and conservation research.

## SUBJECT: FOOD TECHNOLOGY UNITS 3 & 4

### COURSE OVERVIEW

Australia has a varied and abundant food supply, and food and cooking have become prominent in digital media and publishing. Globally, many people do not have access to a secure and varied food supply and many Australians, amid a variety of influences, consume food and beverage products that may harm their health.

This study examines the background to this abundance and explores reasons for our food choices. VCE Food Studies is designed to build the capacities of students to make informed food choices. Students develop their understanding of food while acquiring skills that enable them to take greater ownership of their food decisions and eating patterns.

This study complements and supports further training and employment opportunities in the fields of home economics, food technology, food manufacturing and hospitality.

### LEARNING FOCUS

**Unit 3** investigates the many roles and everyday influences of food. Students explore the science of food: our physical need for it and how it nourishes and sometimes harms our bodies. Students investigate the physiology of eating and appreciating food, and the microbiology of digestion. They also investigate the functional properties of food and the changes that occur during food preparation and cooking.

Focus influences on food choice: how communities, families and individuals change their eating patterns over time and how our food values and behaviours develop within social environments. Students inquire into the role of food in shaping and expressing identity and connectedness and the ways in which food information can be filtered and manipulated.

**Unit 4** debates global and Australian food systems focuses on issues about the environment, ecology, ethics, farming practices, the development and application of technologies, and the challenges of food security, food safety, food wastage, and the use and management of water and land.

Students research a selected topic, seeking clarity on current situations and points of view, considering solutions and analysing work undertaken to solve problems and support sustainable futures.

### ASSESSMENT

Area of Study 1: The science of food

Area of Study 2: Food choice, health and wellbeing

Area of Study 1: Environment and ethics

Area of Study 2: Navigating food information

Examination

### FUTURE PATHWAYS

Food Technology study provides students with the opportunity to engage in a range of learning activities. In addition to demonstrating their understanding and mastery of the content and skills specific to the study, students may also develop employability skills through their learning activities.

The nationally agreed employability skills are Communication; Planning and organising; Teamwork; Problem solving; Self-management; Initiative and Enterprise; Technology; and Learning.

## **SUBJECT: FOUNDATION MATHEMATICS UNITS 3 & 4**

### **COURSE OVERVIEW**

Foundation Mathematics Units 3 and 4 provide for the continuing mathematical development of students with respect to problems encountered in practical contexts in everyday life at home, in the community, at work and in study.

### **LEARNING FOCUS**

The areas of study for Units 3 and 4 are 'Algebra, number and structure', 'Data analysis, probability and statistics', 'Discrete mathematics' and 'Space and measurement'. All four areas of study are to be completed over the two units, and content equivalent to two areas of study covered in each unit. The selected content for each unit uses contexts present in students' other studies, work and personal or other familiar situations, and in national and international contexts, events and developments.

Students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, contemporary data displays, diagrams, plans, geometric objects and constructions, algebra, algorithms, measures, equations and graphs, with and without the use of technology.

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**

- Algebra, number and structure.

#### **Area of Study 2**

- Data analysis, probability and statistics.

#### **Area of Study 3**

- Discrete mathematics.

#### **Area of Study 4**

- Space and measurement.

### **ASSESSMENT**

#### **Outcomes**

1. Able to define and explain key concepts, and apply a range of related mathematical routines and procedures.
2. Able to apply mathematical processes to non-routine contexts.
3. Able to use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results, and carry out analysis.

To successfully complete Foundation Mathematics Units 3 and 4, students will need to demonstrate all outcomes in the School Assessed Coursework (SAC).

## Assessment

School-assessed Coursework for Unit 3 will contribute 40 per cent to the study score.

SAC 1: Mathematical investigation 1.

SAC 2: Mathematical investigation 2.

School-assessed Coursework for Unit 4 will contribute 20 per cent to the study score.

SAC 3: Mathematical investigation 3.

Each area of study is to be covered in at least one of the three mathematical investigations across Units 3 and 4.

## FUTURE PATHWAYS

Assumed knowledge and skills for Foundation Mathematics Units 3 and 4 are contained in Foundation Mathematics Units 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.





## SUBJECT: GENERAL MATHEMATICS UNITS 3 & 4

### COURSE OVERVIEW

General Mathematics Units 3 and 4 provides for the study of non-calculus and discrete mathematics topics. It is designed to be widely accessible and provide preparation for general employment, business or further study, in particular where data analysis, recursion and financial modelling, networks and matrices.

It is suitable for those students who aspire to do further study where a mathematics subject is required.

### LEARNING FOCUS

Unit 3 comprises Data analysis and Recursion and financial modelling, and Unit 4 comprises Matrices and Networks and Decision Mathematics.

In undertaking these units, 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.

#### Area of Study 1

- Data Analysis, probability and statistics

#### Area of Study 2

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

### ASSESSMENT

#### Outcomes

1. Able to define and explain key concepts, and apply a range of related mathematical routines and procedures.
2. Able to apply mathematical processes to non-routine contexts.
3. Able to use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results, and carry out analysis.

## Assessment

To successfully complete General Mathematics Units 3 and 4, students will need to demonstrate all outcomes in the School Assessed Coursework (SAC) listed below:

SAC 1: Application Task (Data Analysis)

SAC 2: Modelling / Problem Solving Task (Recursion and financial modelling)

SAC 3: Modelling / Problem Solving Task (Matrices)

SAC 4: Modelling / Problem Solving Task (Networks and decision mathematics)

## FUTURE PATHWAYS

The prior learning required for this subject is General Mathematics Unit1&2.

Students who have done only Mathematical Methods Units 1 and 2 will have had access to assumed key knowledge and key skills for General Mathematics Units 3 and 4 but may also need to undertake some supplementary study.

Students who have successfully completed General Mathematics Units 3 and 4 can undertake appropriate tertiary studies where mathematics is a prerequisite.



## **SUBJECT:** GEOGRAPHY UNITS 3 & 4

### **COURSE OVERVIEW**

In Geography students focus on two investigations of geographical change: change to land cover and change to land use. Students analyse the processes that result in changes to land cover and evaluate the impacts and responses resulting from these changes. Students assess the changes that have recently occurred, be underway or be planned for the near future.

Students also investigate the geography of human populations. They explore the patterns of population change, movement and distribution and how government, organizations and individuals respond to these changes.

### **LEARNING FOCUS**

Students investigate two major processes that are changing land cover in many regions of the world: melting glaciers and ice sheets and deforestation. They explore the distribution and causes of the two processes to develop a greater understanding of the changes to land cover produced by these processes.

Students investigate this change through fieldwork techniques and secondary sources. Students investigate the growth and decline in fertility and mortality and the impact this has in the short-term and long-term.

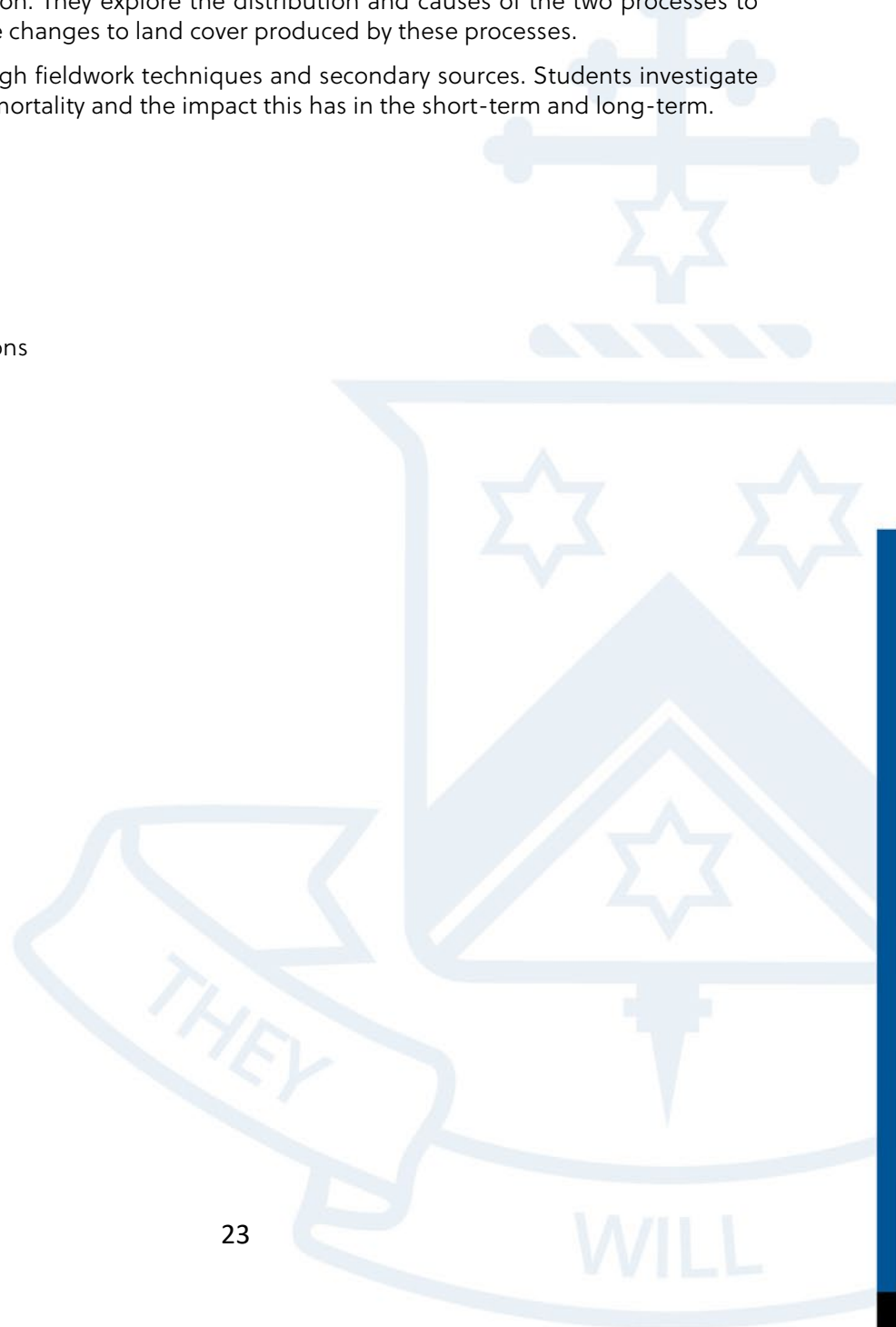
### **ASSESSMENT**

Students will complete:

- Fieldwork
- Case Study and Structured Questions

### **FUTURE PATHWAYS**

University studies.



## **SUBJECT: HEALTH AND HUMAN DEVELOPMENT UNITS 3 & 4**

### **COURSE OVERVIEW**

VCE Health and Human Development provides students with broad understandings of health and wellbeing that reach far beyond the individual. Students learn how important health and wellbeing is to themselves and to families, communities, nations and global society.

Students explore the complex interplay of biological, sociocultural and environmental factors that support and improve health and wellbeing and those that put it at risk. The study provides opportunities for students to view health and wellbeing, and development, holistically – across the lifespan and the globe, and through a lens of social equity and justice.

VCE Health and Human Development is designed to foster health literacy. As individuals and as citizens, students develop their ability to navigate information, to recognise and enact supportive behaviours, and to evaluate healthcare initiatives and interventions. Students take this capacity with them as they leave school and apply their learning in positive and resilient ways through future changes and challenges.

### **LEARNING FOCUS**

Students begin to explore health and wellbeing as a global concept and consider the benefits of optimal health and wellbeing and its importance as an individual and a collective resource. Students look at the fundamental conditions required for health improvement. They use this knowledge in their analysis and evaluation of variations in the health status of Australians. Students focus on health promotion and improvements in population health over time. Students look at various public health approaches as they research health improvements and evaluate successful programs.

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 conditions in which people live. Students study sustainability and human development and consider the health implications of increased globalisation and worldwide trends relating to climate change, digital technologies, world trade and the mass movement of people.

Students look at global action to improve health and wellbeing and human development, focusing on the United Nations' Sustainable Development Goals and the work of the World Health Organization. Students investigate the role of non-government organisations and Australia's overseas aid program. Students evaluate the effectiveness of health initiatives and programs and reflect on their capacity to take action.

### **ASSESSMENT**

The student's performance on each outcome is assessed using the following:

- case study analysis
- structured questions
- data analysis

### **FUTURE PATHWAYS**

This study offers students a range of pathways including further formal study in areas such as health promotion, community health research and policy development, humanitarian aid work, allied health practices, education, and the health profession.

## **SUBJECT: HISTORY: ANCIENTS UNITS 3 & 4**

### **COURSE OVERVIEW**

In Ancient History students explore the structures and a period of crisis in their history. Students assess life in ancient societies and the complex social, political and economic factors that shaped society during this time.

In studying how these civilisations existed, students can understand the complexities of human societies and how societies responded to dramatic crises and the disruption and upheaval this caused.

Studying Ancient History also highlights the importance of primary sources in being able to inquire about ancient civilisations.

### **LEARNING FOCUS**

In Ancient History, students will study Ancient Greece and Ancient Rome. Students investigate the daily life of peoples and how the existence of social hierarchies meant different individual experiences of history.

Students explore the economic features of trade, agriculture and industry. Students study major crises of war and significant leaders in depth to understand how the demise of Ancient Empires occurred.

In Ancient Greece, students focus on Athens, Sparta, Persian invaders, the Peloponnesian War and loss of power Athens experienced.

In Ancient Rome students focus on the development of hierarchical families, features of the Roman Republic, the Punic Wars, the dictatorship of Julius Caesar, Cleopatra's relationships and rule of Egypt and contributions of Augustus.

### **ASSESSMENT**

Students will complete:

- Evaluation of Historical Sources
- Historical Inquiry
- Short Answer Questions

### **FUTURE PATHWAYS**

University studies



## SUBJECT: HISTORY REVOLUTIONS: UNITS 3 & 4

### COURSE OVERVIEW

In Revolutions, students are introduced to the events, people, movements and ideas that drive political, economic and social change in our modern world, within the context of the French and Russian Revolutions. Students explore the events and factors that sparked these revolutions and analyse the way regimes and societies were eliminated and changed.

### LEARNING FOCUS

Students investigate the causes of the French and Russian Revolutions, with a focus on the revolutionary ideas, leaders, movements and events that occurred. Students investigate the weakness in the existing regimes and the extent to which these regimes were unable to respond to the changing political, economic and/or social scene.

Students examine the development of the new political order and the emerging society, and the challenges faced by the revolutionary governments, for example: political dissent, civil war, economic breakdown, wars of foreign intervention and resistance to revolutionary forces. Students delve into the debates that exist between historians, analysing historical commentaries, evaluating differing viewpoints and establishing through critical analysis, judgements regarding how successful revolutions and revolutionaries have been in bringing about change.

### ASSESSMENT

Students will complete:

- Evaluation of Historical Sources
- Historical Inquiry

### FUTURE PATHWAYS

University studies





## **COURSE OVERVIEW**

The study of Languages contributes to the overall education of students, most particularly in communication, but also in the areas of cross-cultural understanding, cognitive development, literacy and general knowledge.

It provides access to the culture of communities, which use the language, and promotes understanding of different attitudes and values within the wider Australian community and beyond.

## **LEARNING FOCUS**

Unit 3, students will focus on negotiating an agreeable outcome to resolve a personal issue, expressing their ideas, thoughts and responses in text styles such as personal, informative or imaginative writing. Students analyse and reflect on a selected subtopic to assist in identifying aspects suited to reflection, informing or storytelling.

Students consider the language and features of the types of text they encounter to ensure that their writing includes culturally appropriate content. Students need to extract information from three or more texts to identify and interpret key ideas and detail on the selected subtopic.

Unit 4, students will investigate and reflect aspects of culture and build their knowledge on a product or practice of Indonesian-speaking communities and relate how it can influence ways of individuals and communities interact. They will also persuade a point of view and evaluating ideas and opinions.

Topics studied for Units 3 and 4 are future aspirations, the role of women, environmental issues in Indonesia, and urban and rural lives.

## **ASSESSMENT**

### Unit 3

- Outcome 1: Participate in a spoken exchange in Indonesian to resolve a personal issue.
- Outcome 2: Interpret information from texts and write responses in Indonesian.
- Outcome 3: Express ideas in a personal, informative or imaginative piece of writing in Indonesian.

### Unit 4

- Outcome 1: Share information, ideas and opinions in a spoken exchange in Indonesian.
- Outcome 2: Analyse information from written, spoken and viewed texts for use in a written response in Indonesian.
- Outcome 3: Present information, concepts and ideas in evaluative or persuasive writing on an issue in Indonesian.
- Oral Examination
- Written Examination

## **FUTURE PATHWAYS**

Students need to have completed Units 1 and 2 Indonesian Second Language in order to choose to complete Units 3 and 4 Indonesian Second Language, due to the high demands of the subject.

Students who complete Units 3 and 4 Indonesian Second Language may choose to further their language studies at university or may wish to travel abroad to Indonesian for either work, travel, or study.

## **COURSE OVERVIEW**

The study of Languages contributes to the overall education of students, most particularly in the area of communication, but also in the areas of cross-cultural understanding, cognitive development, literacy and general knowledge.

It provides access to the culture of communities that use the language and promotes understanding of different attitudes and values within the wider Australian community and beyond.

## **LEARNING FOCUS**

During Unit 3, students will focus on negotiating an agreeable outcome to resolve a personal issue, expressing their ideas, thoughts and responses in text styles such as personal, informative or imaginative writing. Students analyse and reflect on a selected subtopic to assist in identifying aspects suited to reflection, informing or storytelling.

Students consider the language and features of the types of text they encounter to ensure that their writing includes culturally appropriate content. Students need to extract information from three or more texts to identify and interpret key ideas and detail on the selected subtopic.

Unit 4, students will investigate and reflect on aspects of culture and build their knowledge on a product or practice of Italian-speaking communities and relate how it can influence the ways of individuals and the communities interact. They will also persuade a point of view and evaluate ideas and opinions.

Topics studied for Units 3 and 4 are Immigration after World War II, the environment and sustainability, and Adolescents and Italian tourism.

## **ASSESSMENT**

### Unit 3

- Outcome 1: Participate in a spoken exchange in Italian to resolve a personal issue.
- Outcome 2: Interpret information from texts and write responses in Italian.
- Outcome 3: Express ideas in a personal, informative or imaginative piece of writing in Italian.

### Unit 4

- Outcome 1: Share information, ideas and opinions in a spoken exchange in Italian.
- Outcome 2: Analyse information from written, spoken and viewed texts for use in a written response in Italian.
- Outcome 3: Present information, concepts and ideas in evaluative or persuasive writing on an issue in Italian.
- Oral Examination
- Written Examination

## **FUTURE PATHWAYS**

Students must undertake Unit 3 prior to undertaking Unit 4. Italian is designed for students who will, typically, have studied the language for at least 200 hours prior to the commencement of Unit 1.

It is possible, however, that some students with less formal experience will also be able to meet the requirements successfully. Units 1 to 4 are designed to be of an appropriate standard for the final years of secondary education.

All VCE studies are benchmarked against comparable national and international curriculum.

## **SUBJECT:** LEGAL STUDIES UNITS 3 & 4

### **COURSE OVERVIEW**

In Legal Studies students examine the methods and institutions in the justice system and consider their appropriateness in determining criminal cases and resolving civil disputes. Students explore matters such as the rights available to an accused and to victims in the criminal justice system.

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.

### **LEARNING FOCUS**

Students investigate the key features and operation of parliament, and influences on law making. Students develop an understanding of the importance of the Constitution in their lives and on society as a whole and undertake a comparative analysis with another country. They learn of the importance of the role played by the High Court of Australia in interpreting and enforcing the Constitution and ensuring that parliaments do not act outside their areas of power.

Students examine the institutions that adjudicate criminal cases and civil disputes and investigate the processes and procedures followed in courtrooms and develop an understanding of the adversary system of trial and the jury system.

Students consider the extent to which court processes and procedures contribute to the effective operation of the legal system. They also consider reforms that could further improve its effective operation.

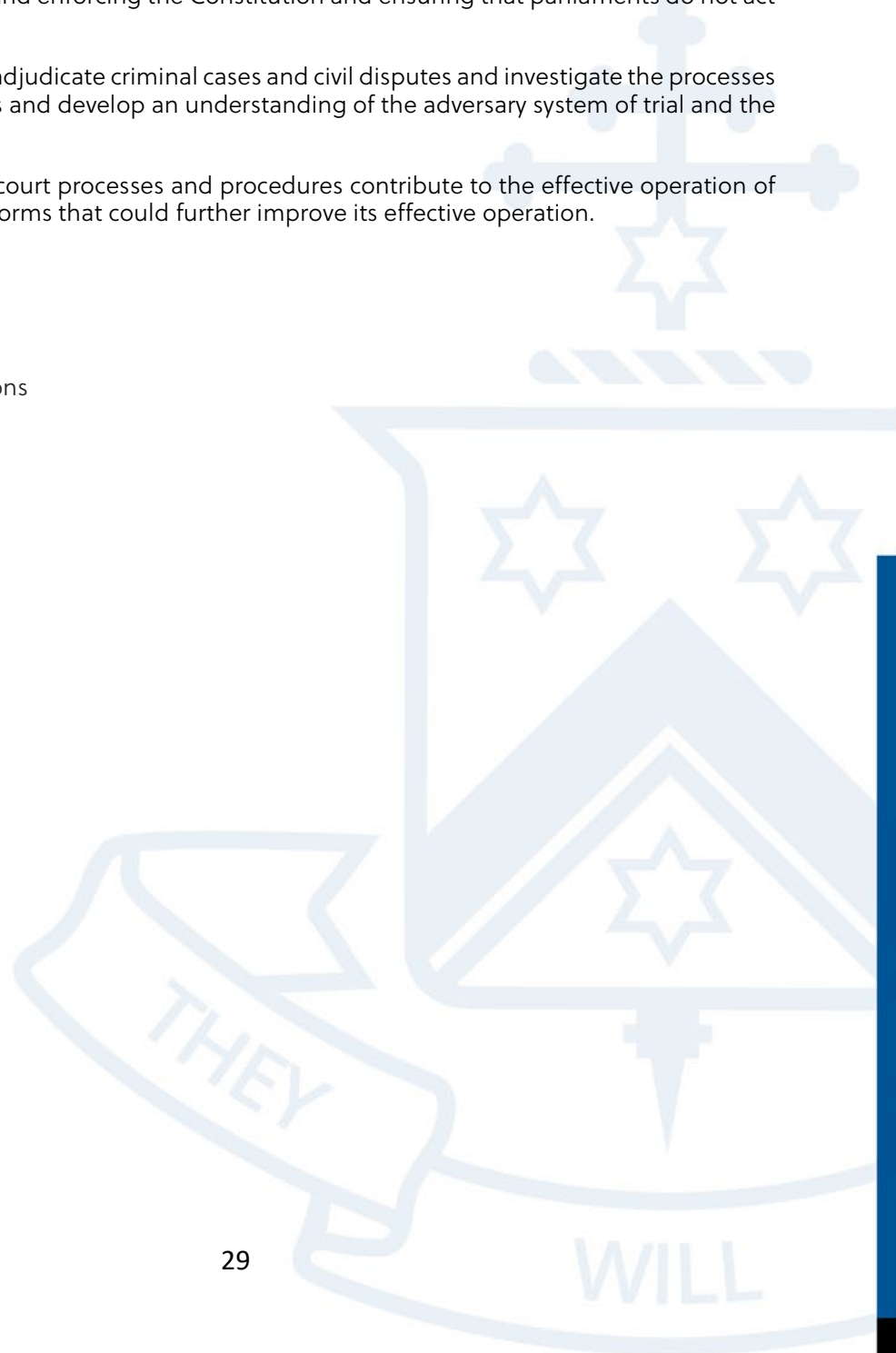
### **ASSESSMENT**

Students will complete:

- Case Study and Structured Questions

### **FUTURE PATHWAYS**

University studies



## **SUBJECT: ENGLISH LITERATURE UNITS 3 & 4**

### **COURSE OVERVIEW**

The study of VCE Literature fosters students' enjoyment and appreciation of the artistic and aesthetic merits of stories and storytelling and enables students to participate more fully in the cultural conversations that take place around them.

By reading and exploring a diverse range of established and emerging literary works, students become increasingly empowered to discuss texts. As both readers and writers, students extend their creativity and high order thinking to express and develop their critical and creative voices.

Throughout this study, students deepen their awareness of the historical, social and cultural influences that shape texts and their understanding of themselves as readers. Students expand their frameworks for exploring literature by considering literary forms and features, engaging with language, and refining their insight into authorial choices. Students immerse themselves in challenging fiction and non-fiction texts, discovering and experimenting with a variety of interpretations in order to develop their own responses.

### **LEARNING FOCUS**

In Unit 3, students begin by exploring Adaptations and Transformations. They 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.

Students move on to Developing an Interpretation by examining literary perspectives. First, they develop their own interpretations of a set text, analysing how ideas, views and values are presented in a text. Students then explore a supplementary reading that can enrich, challenge and/or contest the ideas and the views, values and assumptions of the set text to further enhance the students' understanding.

In Unit 4, students begin with Creative Responses to Texts. They 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 then move on to a Close Analysis of texts. They conduct 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.

### **ASSESSMENT**

Unit 3, Outcome 1:

- A written interpretation of a text, supported by close textual analysis, using a key passage.
- An analysis of how textual form influences meaning.

Unit 3, Outcome 2:

- Part A: An initial interpretation of the text's views and values within its historical, social and cultural context.
- Part B: A written response that compares/interweaves and analyses an initial interpretation with a subsequent interpretation, using a key moment from the text.

Unit 4, Outcome 1:

- A creative response to a text.
- A close analysis of a key passage from the original text, which includes reflections on connections between the creative response and the original text.

Unit 4, Outcome 2:

- A close analysis of a text, supported by an examination of textual details, based on a selection of passages.

## FUTURE PATHWAYS

Students who satisfactorily complete Units 3 and 4 of Literature have the option of completing further literary studies at university and beyond.

As active, critically aware citizens, students can go on to interpret and make effective use of the specialist language of diverse texts, including texts relevant to academic disciplines and to workplace situations.



## SUBJECT: MATHEMATICAL METHODS UNITS 3 & 4

### COURSE OVERVIEW

The study of Mathematical Methods (CAS) Units 3 and 4, can be taken alone or in conjunction with either Specialist Mathematics Units 3 and 4 or General Mathematics Units 3 and 4. Mathematical Methods (CAS) Units 3 and 4 provides for the study of simple elementary functions, transformations and combinations of these functions, algebra, calculus, probability and statistics, and their applications in a variety of practical and theoretical contexts.

### LEARNING FOCUS

Units 3 and 4 are designed to be taken as a sequence spanning Semester 1 and Semester 2. There is a clear progression of skills and knowledge from Unit 3 to Unit 4 in each area of study.

In undertaking these 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, algebraic manipulation, equations, graphs, differentiation, anti-differentiation, integration and inference across a range of different functions, with and without the use of technology.

#### Areas of Study

- Functions and graphs
- Algebra
- Calculus
- Probability and Statistics

### ASSESSMENT

#### Outcomes

1. Able to define and explain key concepts, and apply a range of related mathematical routines and procedures.
2. Able to apply mathematical processes to non-routine contexts.
3. Able to use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results, and carry out analysis.

#### Assessment

To successfully complete Mathematical Methods Units 3 and 4, students will need to demonstrate all Outcomes in the School Assessed Coursework (SAC) listed below:

- SAC 1: Application Task (Functions and graphs, Algebra)
- SAC 2: Modelling / Problem Solving Task (Calculus)
- SAC 3: Modelling / Problem Solving Task (Probability and Statistics)

### FUTURE PATHWAYS

The prior learning required for this subject is Mathematical Methods Units 1 and 2. On successful completion, students can undertake further study in, for example, science, technology, engineering and mathematics (STEM), humanities, economics and medicine.



## **SUBJECT: MEDIA STUDIES UNITS 3 & 4**

### **COURSE OVERVIEW**

VCE Media is a creative subject that provides students with the opportunity to analyse media concepts, forms and products in an informed and critical way. Students consider narratives, technologies and processes from various perspectives including an analysis of structure and features. They examine debates about the media's role in contributing to and influencing society.

Students integrate these aspects of the study through the individual design and production of their media representations, narratives and products, ultimately producing their own Media Production completing the School Assessed Task Outcome.

### **LEARNING FOCUS**

Analyse how the narratives are constructed and distributed, how we engage with them and consume them as the present-day audience, or an intended audience.

Research aspects of media form and experiment with media technologies and media production processes to inform and document the design of a media production.

Develop and document a media production design in a selected media form for a specified audience. Produce, refine and resolve a media product designed in Unit 3.

Discuss the issues of agency and control in the relationship between the media and its audience.

### **ASSESSMENT**

Unit 3: Media Narratives, written SAC.

Units 3 and 4: School Assessed Task (SAT Media Project) This includes the Pre-Production, Production & Post-production of the Media Project written, directed and created by the student.

Unit 4: Agency & Control in the Media, written SAC.

Examination.

The Media Project spans across unit 3 & unit 4 and can be in the form of a short film, podcast, print based media, or a hybrid format.

### **FUTURE PATHWAYS**

Media Studies provides students with the knowledge and skills needed in all aspects of media production. Whether this be further media studies at tertiary level or in the workplace. The skills taught include all aspects that relate to the creative side of pre-production, production and post-production when considering and creating a media production or product.

All media forms are examined and explored that exist in real world media career pathways... Film, podcast and radio, TV, internet-based media and applications, and print media.

## **SUBJECT: MUSIC PERFORMANCE UNITS 3 & 4**

### **COURSE OVERVIEW**

Music is an integral part of all cultures and societies, both contemporary and historical. VCE Music offers students opportunities to engage in the practice of performing, creating and studying music that is representative of diverse genres, styles and cultures. Students can specialise in one or more approaches to the study of music, depending on their VCE program overall and the post-VCE pathways they may be interested in following.

Students develop knowledge of stylistic, aesthetic and expressive qualities and characteristics of music and develop their ability to communicate their understanding through music making: performing, composing, arranging and/or improvising; and musicianship: aural perception, analysis and music language.

### **LEARNING FOCUS**

These units prepare students to present convincing performances of group and solo works. In these units, 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.

Students 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.

### **ASSESSMENT**

Units 3 and 4 School-assessed Coursework  
External end-of-year performance examination  
External end-of-year aural and written examination

### **FUTURE PATHWAYS**

Music Performance Units 3 and 4 is often the gateway to study Music at a Tertiary Institution. Alternatively, or in conjunction, students have the opportunity to study VETiS Music Industry.

## **SUBJECT: OUTDOOR AND ENVIRONMENTAL STUDIES UNITS 3 & 4**

### **COURSE OVERVIEW**

VCE Outdoor and Environmental Studies provides students with the skills and knowledge to safely participate in activities in outdoor environments and to respect and value diverse environments. The blend of direct practical experience of outdoor environments with theory-based study enables informed understanding of human relationships with nature.

Historically, humans have modified outdoor environments to meet survival, commercial, conservation and recreation needs. Outdoor environments have become places of adventure, relaxation, scientific study, social action and enterprise. Outdoor environments also provide space for connectedness with nature and opportunities for reflection upon the past, present and future. These varying values and approaches generate a range of impacts on outdoor environments and can result in pressures and tensions between user groups, leading to issues concerning the preservation and sustainability of outdoor environments.

Outdoor and Environmental Studies enables students to critically analyse these different relationships, effects and issues, providing the knowledge and skills to participate in and contribute to contemporary society.

### **LEARNING FOCUS**

Students focus on a range of impacts on outdoor environments in the context of the changing nature of human relationships with outdoor environments in Australia. Students consider a number of factors that influence relationships with outdoor environments. They also examine the dynamic nature of relationships between humans and their environment. Students are involved in experiences in outdoor environments, including in areas where there is evidence of human interaction.

Students examine the contemporary state of environments in Australia, consider the importance of healthy outdoor environments, and examine the issues relating to the capacity of outdoor environments to support the future needs of the Australian population.

Students examine the importance of developing a balance between human needs and the conservation of outdoor environments and consider the skills needed to be environmentally responsible citizens. They investigate current acts and conventions as well as management strategies for achieving and maintaining healthy and sustainable environments in contemporary Australian society.

### **ASSESSMENT**

The student's performance on each outcome is assessed using the following:

- a journal or report
- a case study
- data analysis
- structured questions

### **FUTURE PATHWAYS**

This study offers students a range of pathways including further formal study in areas where interaction with outdoor environments is central, such as natural resource management, nature-based tourism, outdoor leading and guiding, environmental research and policy, education, and agriculture.

## **SUBJECT: PHYSICAL EDUCATION UNITS 3 & 4**

### **COURSE OVERVIEW**

The study of VCE Physical Education enables students to integrate a contemporary understanding of the theoretical underpinnings of performance and participation in physical activity with practical application. Through engagement in physical activities, VCE Physical Education enables students to develop the knowledge and skills required to critically evaluate influences that affect their own and others' performance and participation in physical activity.

This study equips students with the appropriate knowledge and skills to plan, develop and maintain their involvement in physical activity, sport and exercise across their lifespan and to understand the physical, social, emotional and cognitive health benefits associated with being active.

### **LEARNING FOCUS**

Students 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.

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.

### **ASSESSMENT**

The student's performance on each outcome is assessed using the following:

- structured questions
- laboratory report
- case study analysis
- written report
- reflective folio

### **FUTURE PATHWAYS**

This study prepares students for employment and/or further study at the tertiary level or in vocational education and training settings in fields such as exercise and sport science, health science, education, recreation, sport development and coaching, health promotion and related careers.

## **COURSE OVERVIEW**

The study of VCE Physics involves collaboratively investigating, understanding and explaining the behaviour of physical phenomena in the Universe. A range of models, including mathematical models, are used to explore, simplify and predict how physical systems behave at varying scales from the very small (quantum and particle physics) through to the very large (astronomy and cosmology).

Beginning with classical ideas and considering their limitations, and then being introduced to more modern explanations of the world, provides a novel lens through which students experience the world around them, drawing on their natural curiosity and wonder.

## **LEARNING FOCUS**

Students study topics including gravitational, electric and magnetic fields and the way different objects move through these fields. Students also investigate how electricity is generated and delivered to homes and workplaces. Students also explore the properties of waves and particles as an introduction to quantum mechanics. Students also further develop their experimental skills by collaboratively designing, undertaking and reporting on an investigation of their choosing.

In Unit 3, students explore how fields are used to explain motion and electricity by being asked:

- How do things move without contact?
- How are fields used to move electricity energy?
- How fast can things go?

In Unit 4, students explore how two contradictory models can be used to explain both light and matter by being asked:

- How can waves explain the behaviour of light?
- How are light and matter similar?

## **ASSESSMENT**

Students will be required to complete three SACs in each semester and an end of year exam. The SAC tasks could include research tasks, data analysis, experimental activities and descriptions of how the physics concepts apply to a range of real-world situations.

Each assessment task involves both individual and collaborative aspects.

## **FUTURE PATHWAYS**

Students can continue to study Physics at the tertiary level, careers counsellors can provide more information. Physics is also important in many areas of engineering and the medical sciences.

## SUBJECT: PRODUCT DESIGN AND TECHNOLOGY: TEXTILES UNITS 3 & 4

### COURSE OVERVIEW

Designers play an important part in our daily lives. They determine the form and function of the products we use and transform ideas into drawings and plans for the creation of products that fulfil human needs and wants.

Students also consider sustainability issues. Students consider the consequences of product design choices and develop skills to critically analyse existing products and develop their own creative solutions.

Moreover, VCE Product Design and Technology informs sustainable behaviours and develops technical skills enabling students to present multiple solutions to everyday life situations.

### LEARNING FOCUS

This study enables students to:

- use design thinking and develop their understanding of product development.
- explore and determine characteristics and properties of materials that make them suitable for use and to examine methods of sourcing, processing, producing and assembling materials and social, economic, ethical, legal and environmental implications.
- use risk assessment to apply appropriate, efficient and safe methods of working with materials, tools, equipment and machines.
- apply project management techniques of time and sequence, and choose appropriate processes, analyse and evaluate the appropriateness of production activities and product design.
- understand sustainability and the responsibility the designer must address social, environmental and economic considerations when designing and creating for the needs of the broader community.

**Please note there is a materials levy for this subject.**

### ASSESSMENT

- SACS 20% Unit 3 Outcome 1, 2, Unit 4 Outcome 1
- SAT 50% Unit 3 Outcome 3, Unit 4 Outcome 2 & 3
- Examination – 30%

### FUTURE PATHWAYS

Career pathways in design such as industrial, transport, service, interior and exhibition, engineering, fashion, furniture, jewelry, textile and ceramics, at both professional and vocational levels.



## **SUBJECT: PRODUCT DESIGN AND TECHNOLOGY: WOOD UNITS 3 & 4**

### **COURSE OVERVIEW**

Designers play an important part in our daily lives. They determine the form and function of the products we use and transform ideas into drawings and plans for the creation of products that fulfil human needs and wants.

Students also consider sustainability issues. Students consider the consequences of product design choices and develop skills to critically analyse existing products and develop their own creative solutions.

Moreover, VCE Product Design and Technology informs sustainable behaviours and develops technical skills enabling students to present multiple solutions to everyday life situations.

### **LEARNING FOCUS**

This study enables students to:

- use design thinking and develop their understanding of product development.
- explore and determine characteristics and properties of materials that make them suitable for use and to examine methods of sourcing, processing, producing and assembling materials and social, economic, ethical, legal and environmental implications.
- use risk assessment to apply appropriate, efficient and safe methods of working with materials, tools, equipment and machines.
- apply project management techniques of time and sequence, and choose appropriate processes, analyse and evaluate the appropriateness of production activities and product design.
- understand sustainability and the responsibility the designer must address social, environmental and economic considerations when designing and creating for the needs of the broader community.

**Please note there is a materials levy for this subject.**

### **ASSESSMENT**

- SACS 20% Unit 3 Outcome 1, 2, Unit 4 Outcome 1
- SAT 50% Unit 3 Outcome 3, Unit 4 Outcome 2 & 3
- Examination – 30%

### **FUTURE PATHWAYS**

Career pathways in design such as industrial, transport, service, interior and exhibition, engineering, fashion, furniture, jewelry, textile and ceramics, at both professional and vocational levels.

## **COURSE OVERVIEW**

Within Unit 3 students investigate the contribution that classical and contemporary research has made to the understanding of the functioning of the nervous system and to the understanding of biological, psychological and social factors that influence learning and memory. 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 stress as a psychobiological process, including emerging research into the relationship between the gut and the brain in psychological functioning and how mechanisms of learning and memory lead to the acquisition of knowledge and the development of new and changed behaviours.

Students consider models to explain learning and memory as well as the interconnectedness of brain regions involved in memory. The use of mnemonics to improve memory is explored, including Aboriginal and Torres Strait Islander peoples' use of place as a repository of memory.

In Unit 4, students explore the demand for sleep and the influences of sleep on mental wellbeing. They consider the biological mechanisms that regulate sleep and the relationship between rapid eye movement (REM) and non-rapid eye movement (NREM) sleep across the life span. They also study the impact that changes to a person's sleep-wake cycle and sleep hygiene have on a person's psychological functioning and consider the contribution that classical and contemporary research has made to the understanding of sleep.

Students consider ways in which mental wellbeing may be defined and conceptualised, including social and emotional wellbeing (SEWB) as a multidimensional and holistic framework to wellbeing. They explore the concept of mental wellbeing as a continuum and apply a biopsychosocial approach, as a scientific model, to understand specific phobia. They explore how mental wellbeing can be supported by considering the importance of biopsychosocial protective factors and cultural determinants as integral to the wellbeing of Aboriginal and Torres Strait Islander peoples.

## **LEARNING FOCUS**

### **Unit 3 - How does experience affect behaviour and mental processes?**

Students investigate 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 stress as a psychobiological process, including emerging research into the relationship between the gut and the brain in psychological functioning.

Students investigate how mechanisms of learning and memory lead to the acquisition of knowledge, the development of new and changed behaviours. They consider models to explain learning and memory as well as limitations of memory as illustrated through memory disorders and the fallibility of memory. Mnemonic devices are explored as a way to improve memory, including Aboriginal and Torres Strait Islander peoples use of memory code systems.

### **Unit 4 - How is mental wellbeing supported and maintained?**

In this unit students explore the demand for sleep and the influences of sleep on mental wellbeing. They consider the biological mechanisms that regulate sleep and the relationship between REM and NREM sleep across the lifespan. The impact that sleep deprivation, both partial and total, has on person's psychological functioning is also studied.

Students explore the concept of mental wellbeing on a continuum and apply a biopsychosocial approach, as a scientific model, to analyse mental wellbeing. They use specific phobia to illustrate how the development and management of a mental health 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.

## ASSESSMENT

- School Assessed Coursework – Unit 3 16%
- School Assessed Coursework – Unit 4 24%
- End of Year VCAA External Examination 60%

School Assessed Coursework can include tasks of type:

- analysis and evaluation of a selected psychological case study or experiment.
- analysis and evaluation of generated primary and/or collated secondary data.
- comparison and evaluation of psychological concepts, methodologies and methods, and findings from three student practical activities.
- analysis and comparison of two or more contemporary media texts.
- a student-designed scientific investigation involving the generation of primary data related to mental processes and psychological functioning is undertaken. The design, analysis and findings of the investigation are presented in a scientific poster format.

## FUTURE PATHWAYS

VCE Psychology provides for continuing study pathways within the discipline and leads to various careers.

Opportunities may involve working with children, adults, families, and communities in various settings such as academic and research institutions, management and human resources, and government, corporate and private enterprises. Fields of applied psychology include educational, environmental, forensic, health, sport, and organisational psychology.

Specialist fields of psychology include counselling and clinical contexts, as well as neuropsychology, social psychology, and developmental psychology. Psychologists also work in cross-disciplinary areas such as medical research or as part of ongoing or emergency support services in educational, institutional, and industrial settings.

## **SUBJECT: RELIGIOUS EDUCATION (THOMAS CARR COLLEGE)**

### **COURSE OVERVIEW**

The world is the primary context and place of God's self-disclosure to all of humanity. It is in the lived reality of our daily lives that we are called to experience God as Creator, Jesus as Saviour and the Holy Spirit as guide.

The Catholic school is part of the world and part of the community of the Church, inviting all the members of the school community to search for God in the world and to live a life framed by the words and actions of Jesus.

### **LEARNING FOCUS**

The 5 periods a cycle Year 12 School-Based Religious Education program is the alternative to the 9 periods a cycle VCE Unit 3 & 4 Religion and Society. This school based Religious Education subject provides an alternative to students who do not wish to pursue higher studies in Religious Education and can be selected regardless of your Year 12 pathway.

A study score is therefore not provided for students who wish to study Thomas Carr Religious Education and will not contribute to an overall ATAR.

In this subject, students will consider how art, music and film can provide powerful and provocative opportunities to express spirituality, faith and religion as people seek meaning in their lives.

This subject covers three distinct units studied over consecutive terms:

- Religion in Art
- Religion in Music
- Religion in Film.

Students will analyse, explore, and reinterpret art, music and film through the lens of their faith. They will consider how even the most unlikely movies, art works, and music can provide profound yet accessible commentaries on faith and values and can help them draw close to the divine.

### **ASSESSMENT**

The primary purpose of assessment is to assist in improved teaching and learning. Students will undertake Formative Assessment Tasks:

- Assessment Task 1 – Visual Artwork
- Assessment Task 2 – Creative Musical Response
- Assessment Task 3 – Film Comparison Analysis
- Assessment Task 4 – Meditation Session.

### **FUTURE PATHWAYS**

Students develop the critical thinking skills essential for understanding religious and ethical issues.

Further study in Theology or Religious Education can be completed.

## **SUBJECT: RELIGIOUS AND SOCIETY UNITS 3 & 4**

### **COURSE OVERVIEW**

In Religion and Society, students undertake an open and objective study of religion, without partiality towards any one religion, and its impact on individuals as well as its interactions with society in the past and the present.

Students study specific religious traditions or denominations in societies where multiple worldviews coexist and consider the experiences of members as they engage with their religious tradition to understand different aspects of spirituality, individually and communally, within their society.

The beliefs, practices, principles, and codes of religions provide ways in which individuals can answer questions about the meaning and purpose of life. In Religion and Society, religion is defined as a community organised around beliefs, spiritualities and/or phenomenon, which relate to the ultimate reality and the consequent beliefs, practices, principles, and codes for behaviour. Adherence to beliefs, practices, principles, and codes can form an important part of individual identity.

Students can determine membership of said religion and the transmission of meaning, both individual and collective, from generation to generation. Within each religious tradition, groups and individuals exhibit diversity of commitment and belief; some people do not identify with the generalised portrayal of their religious tradition, whereas others become strict adherents.

Religious traditions continue to develop, thrive and evolve over time through the participation and contribution of members and through interactions with society. While others have declined, disappeared or parts of them have been assimilated into other religions or traditions, which allows their ideas to live on in some form.

Throughout history, religion and society have interacted with each other in broad ways in response to a range of important issues. Religion initiates changes to society and vice versa, and the consequences of these dynamic processes are part of the scope of this study.

Please note that students who undertake VCE Religion and Society Units 3 and 4, 9 periods per cycle, will not undertake the 5 periods per cycle Thomas Carr Religious Education.

### **LEARNING FOCUS**

During Unit 3, students study the purposes of religion generally and consider the religious beliefs developed by one or more than one religious tradition or denomination in response to the big questions of life. Students study how particular beliefs within the Catholic tradition may be expressed through the other aspects of religion, exploring how this is intended to foster meaning for adherents. Students consider the interaction between significant life experience and religion.

In Unit 4, students explore challenges against religious traditions generally over time, then study challenge, and change for the Catholic tradition. Religious traditions are in a constant state of development as members apply their talents and faith to extend the intellectual and aesthetic nature of the beliefs, of the expression of those beliefs and of the application to their lives.

In the interaction of religious traditions and society there are also opportunities for development from significant challenges including the needs and insights of their membership, and of people and groups within wider society. These challenges and the religious tradition are influenced by broader contexts such as changing economic, political and social conditions.

## ASSESSMENT

Students complete a total of five School Assessed Coursework (SAC) tasks throughout the year.

During Semester 1 students focus on SAC's that, correspond to Unit 3 and during Semester 2, students focus on SAC's that correspond to Unit 4.

- Unit 3 Outcome 1: Analyse the nature and purpose of religion and religious beliefs (40 marks)
- Unit 3 Outcome 2: Examine how beliefs and their expression in other aspects of religion are intended to respond to the search for meaning (30 marks)
- Unit 3 Outcome 3: Analyse the interplay between religious beliefs and their expression through related aspects and significant life experience (30 marks)
- Unit 4 Outcome 1: Analyse and compare stances and supporting responses taken by religions as they are challenged (50 marks)
- Unit 4 Outcome 2: Discuss the interactions within the Catholic tradition and between the Catholic tradition and wider society in relation to a significant challenge and evaluate the influence of the stances and responses on these interactions. (50 marks)
- End of year examination.

## FUTURE PATHWAYS

There are a number of tertiary study options for students who have studied VCE Religion and Society Units 3 and 4. The list below is not a comprehensive one but provides students an idea of the direct, and indirect, pathways that are open to them on completion of their VCE.

- Education
- Counselling
- History
- Journalism
- Law
- Media Studies
- Politics
- Psychology
- Social Work
- Sociology
- Theology

A high study score in this subject will contribute to an ATAR score, which could award entry into a wide variety of Humanities and Social Sciences subjects.



## SUBJECT: SPECIALIST MATHEMATICS UNITS 3 & 4

### COURSE OVERVIEW

The study of Specialist Mathematics Units 3 and 4 is intended for those with strong interests in mathematics and those who wish to undertake further study in mathematics and related disciplines.

Specialist Mathematics Units 3 and 4 are normally taken in conjunction with Mathematical Methods and is intended to extend and further develop concepts from Mathematical Methods.

### LEARNING FOCUS

Units 3 and 4 are designed to be taken as a sequence spanning Semester 1 and Semester 2. There is a clear progression of skills and knowledge from Unit 3 to Unit 4 in each area of study.

In undertaking these 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, algebraic manipulation, equations, graphs, differentiation, anti-differentiation, integration and inference across a range of different functions, with and without the use of technology.

#### Areas of Study

- Functions and graphs
- Algebra
- Calculus
- Vectors
- Mechanics
- Probability and Statistics

### ASSESSMENT

#### Outcomes

1. Able to define and explain key concepts, and apply a range of related mathematical routines and procedures.
2. Able to apply mathematical processes to non-routine contexts.
3. Able to use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results, and carry out analysis.

#### Assessment

To successfully complete Specialist Mathematics Units 3 and 4, students will need to demonstrate all outcomes in the School Assessed Coursework (SAC) listed below:

- SAC1: Application Task (Functions and graphs and one other area of study)
- SAC2: Modelling / Problem Solving Task (TBA)
- SAC3: Modelling / Problem Solving Task (Probability or Mechanics)

### FUTURE PATHWAYS

The prior learning required for this subject is Specialist Mathematics Units 1 & 2.

On successful completion, students can continue to study Mathematics and related disciplines at university level.

## **SUBJECT:** STUDIO ARTS UNITS 3 & 4

### **COURSE OVERVIEW**

VCE Studio Arts encourages and supports students to recognise their individual potential as art makers and presents a guided process to assist their understanding and development of art making. The study establishes effective art practices through the application of an individual design process to assist the student's production of a folio of artworks.

The theoretical components of this study are an important basis for studio practice as it offers students a model for inquiry that can support their art making practices.

### **LEARNING FOCUS**

In Unit 3 the student uses an exploration proposal to define an area for the development of a visual design process that is based on their individual concepts. The exploration proposal underpins the student's working process and is used as a reference for the development and reflection of the design process. This enables the student to establish an understanding about how to generate a range of potential directions for the production of possible future artworks.

In Unit 4 students develop their finished artworks based on selected directions. Students evaluate the use of materials, techniques and aesthetics. This unit also investigates aspects of artists' involvement in the art industry, focusing on a variety of exhibition spaces and the methods and considerations involved in the preparation, presentation and conservation of artworks.

Students examine a range of environments for the presentation of artworks exhibited in contemporary settings. Students are expected to visit at least two different exhibition spaces in their current year of study.

### **ASSESSMENT**

- A folio including design exploration, focus statements and finished artworks
- Written Outcome theory tasks
- End of Year Examination

### **FUTURE PATHWAYS**

Employability skills gained from this study include: communication, planning, organising and teamwork skills. As well as problem solving, self-management and initiative skills.

This study can also lead to a range of tertiary and vocational studies, such as those associated with multimedia, fine art, graphic and fashion design, the music industry, film and television, theatre and advertising.

## SUBJECT: SYSTEMS ENGINEERING UNITS 3 & 4

### COURSE OVERVIEW

VCE Systems Engineering promotes innovative systems thinking and problem-solving skills through the application of the systems engineering process. The study is based on integrated mechanical and electro-technological engineered systems.

The study provides opportunities for students to learn about and engage with systems from a practical and purposeful perspective. Students gain knowledge and understanding about technological systems and their applications.

The study provides a rigorous academic foundation and a practical working knowledge of design strategies, production processes and evaluation practices. People with these skills, and the ability to apply systems engineering processes, are in increasing demand as participants in teams that are engaged with complex and multidisciplinary projects.

### LEARNING FOCUS

Unit 3 & 4 focuses on enabling students to:

- develop an understanding of how technologies have transformed people's lives and can be used to solve challenges associated with climate change, efficient energy generation and use, security, health, education and transport
- deepen their knowledge of new developments and innovations in technological systems
- develop skills in the safe, efficient and effective use of tools, equipment, materials, machines and processes, including digital technologies.
- critically engage in risk management processes
- extend knowledge of project management and develop problem-solving and analytical skills
- use virtual and physical modelling to develop designs

**Please note there is a materials levy for this subject.**

### ASSESSMENT

The student's level of achievement in Units 3 and 4 will be determined by School-assessed Coursework (SAC), a School-assessed Task (SAT) and external assessment as specified in the VCE study design.

- Units 3 and 4 School-assessed Coursework: 20 per cent
- Units 3 and 4 School-assessed Task: 50 per cent
- End-of-year examination: 30 per cent.

### FUTURE PATHWAYS

VCE Systems Engineering integrates aspects of designing, planning, producing, testing and evaluating in a project management process. It prepares students for careers in engineering, manufacturing and design through a university or TAFE vocational study pathway, employment, apprenticeships and traineeships.

This study provides a rigorous academic foundation and a practical working knowledge of design strategies, production processes and evaluation practices.

People with these skills, and the ability to apply systems engineering processes, are in increasing demand as participants in teams that are engaged with complex and multidisciplinary projects.

## **SUBJECT: VISUAL COMMUNICATION DESIGN UNITS 3 & 4**

### **COURSE OVERVIEW**

The Visual Communication Design study examines the way visual language can be used to convey ideas, information and messages in the fields of communication, environmental and industrial design. Students employ a design process to generate and develop visual communications.

The design process provides a structure to organise design thinking and is shaped by considerations of aesthetics and functionality, as well as social, environmental and economic factors. Students develop the skills to manipulate and organise design elements, design principles, selected media, materials and production methods when creating visual communications.

Students have the opportunity to investigate the work and practices of Australian and international designers from a variety of social, cultural, historical and contemporary contexts.

### **LEARNING FOCUS**

Students create formal design briefs that allow them to explore the materials, methods, media and direction they are most interested in pursuing. In Unit 3 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, materials and the application of design elements and design principles can create effective visual communications for specific audiences and purposes.

Having completed their brief and generated ideas in Unit 3, students continue the design process in Unit 4 by developing and refining concepts for each need stated in the brief. 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 with their target audience.

### **ASSESSMENT**

- Analysis in practice (SAC)
- Professional Practice (SAC)
- Folio (SAT)
- The Pitch (SAT)
- Written Examination

### **FUTURE PATHWAYS**

At the conclusion of this course, the students are able to pursue a career in Design by applying to study at a tertiary institute or university.

There are many different fields of design and many courses available.

## SUBJECT: VET SMALL BUSINESS

### COURSE OVERVIEW

The VCE VET Small Business program aims to provide participants with the knowledge, skills, and competency that will enhance their training and employment prospects within small business contexts across a range of industry sectors.

### LEARNING FOCUS

The VCE VET Small Business program comprises one certificate II with VCE VET credit at Units 1 to 4 level, including a Units 3 and 4 sequence. Certificates II are typically completed over two years.

The identified units of competency in the VCE VET Small Business program have been selected for recognition purposes and may vary from the qualification packaging rules.

Students must achieve twelve units of competency to gain 22480VIC Certificate II in Small Business (Operations/Innovation), including:

- eight core units of competency
- four elective units of competency

Units 1 to 4		
<b>Year 1</b>		
BSBWHS201	Contribute to health and safety of self and others	20
VU22520	Contribute to small business operations and innovation	50
VU22521	Develop elementary skills for small business environments	50
VU22522	Follow small business policies and procedures	40
VU22523	Undertake basic market research and promotion for a small business product or service	60
<b>Year 2</b>		
BSBINN201	Contribute to workplace innovation	35
FNSFLT301	Be MoneySmart	40
SITXCCS006	Provide service to customers	25
VU22524	Participate in small business quality processes	25
VU22525	Assist with the presentation of public activities and events	25
VU22526	Follow procedures for routine financial activities of a small business	20
VU22527	Contribute to small business planning	40
<b>Total Sample Program Hours:</b>		<b>430</b>

### ASSESSMENT

Students will be assessed in a variety of ways that can include but are not limited to:

- Oral Presentations (Podcast, video, performance)
- Portfolio of collected works
- a visual presentation, such as a graphic organiser, concept/mind map or annotated poster.
- Research and Investigation reports

### FUTURE PATHWAYS

The Certificate II in Small Business Operations and Innovation does not offer a scored program so will not directly contribute to a student's ATAR. It does however count towards a Unit 3 and 4 sequence which is important to achieving the Vocational Major

## **SUBJECT:** LITERACY (VOCATIONAL MAJOR)

### **COURSE OVERVIEW**

Literacy comprises of two units, Reading and Writing as well as Oracy. The Reading and Writing unit enables students to develop the skills and knowledge to read and write a range of texts on everyday subject matters which include some unfamiliar aspects or material.

At this level students, once they have identified the audience and purpose of the text, use the writing process to produce texts that link several ideas or pieces of information. In reading, students identify how, and if, the writer has achieved his or her purpose and express an opinion on the text taking into account its effectiveness.

At the end of the unit students will be able to read, comprehend and write a range of texts within a variety of contexts. The Oracy unit develops a student's ability to respond to spoken language in familiar and unfamiliar contexts and engaging in both familiar and unfamiliar material.

### **LEARNING FOCUS**

The Reading and Writing Unit encompasses eight (8) learning outcomes that engage students in reading and writing for both personal enjoyment and civic participation.

The Oracy Unit covers self-expression, knowledge, transfer of knowledge and exploring ideas and problem solving through the use of spoken language.

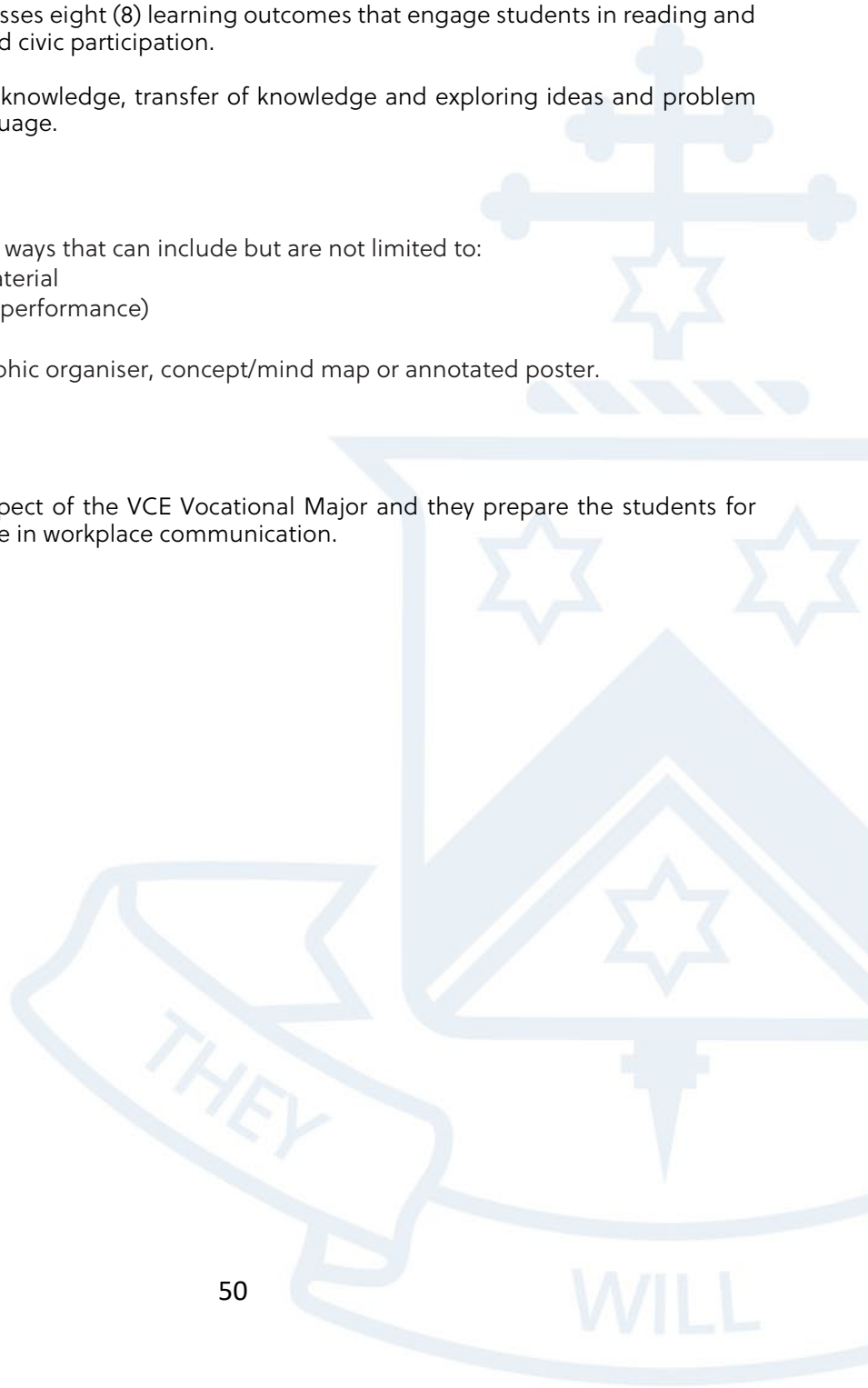
### **ASSESSMENT**

Students will be assessed in a variety of ways that can include but are not limited to:

- Structured response to stimulus material
- Oral Presentations (Podcast, video, performance)
- Portfolio of collected works
- a visual presentation, such as a graphic organiser, concept/mind map or annotated poster.

### **FUTURE PATHWAYS**

The Literacy units are a compulsory aspect of the VCE Vocational Major and they prepare the students for further study and to successfully engage in workplace communication.





## **SUBJECT:** NUMERACY (VOCATIONAL MAJOR)

### **COURSE OVERVIEW**

Numeracy empowers students to use mathematics to make sense of the world and apply mathematics in a context for a social purpose. Numeracy gives meaning to mathematics, where mathematics is the tool (knowledge and skills) to be applied efficiently and critically. Numeracy involves the use and application of a range of mathematical skills and knowledge that arise in a range of different contexts and situations.

Numeracy enables students to develop logical thinking and reasoning strategies in their everyday activities. It develops students' problem-solving skills, and allows them to make sense of numbers, time, patterns and shapes for everyday activities like cooking, gardening, sport and travel.

Through the applied learning principles Numeracy students will understand the mathematical requirements for personal organisation matters involving money, time and travel. They can then apply these skills to their everyday lives to recognise monetary value, understand scheduling and timetabling, direction, planning, monetary risk and reward.

### **LEARNING FOCUS**

Unit 1 and 2 Numeracy explores eight (8) areas of study across two units and allows students to develop their problem-solving skills by understanding how the different numeracies are used in a variety of contexts.

- Area of Study 1: Number
- Area of Study 2: Shape
- Area of Study 3: Quantity and measures
- Area of Study 4: Relationships.
- Area of Study 5: Dimension and direction
- Area of Study 6: Data
- Area of Study 7: Uncertainty
- Area of Study 8: Systematics

#### **Outcome 1: Numeracy in Context**

Students develop a range of different numeracy skills and capabilities in order to make sense of their daily personal, public and vocational lives.

#### **Outcome 2: Problem-Solving Cycle**

Students use their knowledge and understanding to select, interpret and use the four stages of the mathematical problem-solving cycle, using a range of both informal and formal mathematical processes, representations, and conventions

#### **Outcome 3: Mathematical Toolkit**

Students develop their skills of both analogue and digital technologies with the ability to identify and use a range of appropriate mathematical tools to solve and communicate mathematical problems embedded in practical contexts.

## ASSESSMENT

Assessments can include but are not limited to:

- Investigations and Projects
- Presentations (poster, report)
- Portfolio

## FUTURE PATHWAYS

Successful completion of Unit 1 and 2 Numeracy will lead students onto Unit 3 and 4 Numeracy



## **SUBJECT:** PERSONAL DEVELOPMENT SKILLS (VOCATIONAL MAJOR)

### **COURSE OVERVIEW**

VM Personal Development Skills enables students to explore and address important social challenges and questions. Who am I? What is community? How can we improve the health and wellbeing of individuals? What are my goals as an individual and as part of a community? How do I seek and critique reliable information? How do I build meaningful connections with others? What actions can be taken to respond to issues that affect us as a society?

Through independent and collaborative activities, PDS builds the capacity of students to set personal goals and participate in their communities with confidence, respect, safety and resilience.

### **LEARNING FOCUS**

Personal Development Skills at year 11, focuses on the health and wellbeing of the individual, developing an understanding of a student's sense of self and the importance of connecting with community.

#### **Unit 1: Healthy Individuals**

##### **Area of Study 1: Personal identity and emotional intelligence**

Students develop their knowledge and skills to be able to explain and discuss key concepts relating to personal identity and emotional intelligence, and apply learnt strategies when working independently or collaboratively on a relevant activity.

##### **Area of Study 2: Community health and wellbeing**

Students develop their skills and understanding to be able to plan and implement an individual or group activity to improve health and wellbeing, and evaluate the effectiveness of the activity by using learnt tools and techniques for monitoring progress.

##### **Area of Study 3: Promoting a healthy life**

Students explore and analyse the impact of technology on health and wellbeing at an individual and community level, and apply knowledge and skills to plan, implement and evaluate an individual or group health promotion activity

#### **Unit 2: Connecting with Community**

##### **Area of Study 1: What is community?**

Students develop the knowledge to describe concepts relating to citizenship and community (local, national and/or global), analyse the factors that influence the formation of community and apply strategies to promote community participation in an individual or group activity.

##### **Area of Study 2: Community cohesion**

Students apply their knowledge and understanding to identify issues and challenges within the community, analyse different perspectives of diverse groups and apply problem-solving strategies when working independently or collaboratively on a community-based activity.

### Area of Study 3: Engaging and supporting community

Students apply their understanding to discuss the concept of engagement as an approach to address community issues, analyse features of effective community engagement and work independently or collaboratively to design, implement and evaluate a community engagement activity.

### ASSESSMENT

Students will be assessed in a variety of ways that can include but are not limited to:

- Oral Presentations (Podcast, video, performance).
- Portfolio of collected works.
- a visual presentation, such as a graphic organiser, concept/mind map or annotated poster.
- Research and Investigation reports.

### FUTURE PATHWAYS

Successful completion of Units 1 and 2 Personal Development Skills will provide a pathway into Units 3 and 4 Personal Development Skills and is a compulsory study of the VCE Vocational Major.



## **SUBJECT: WORK RELATED SKILLS (VOCATIONAL MAJOR)**

### **COURSE OVERVIEW**

Students preparing to transition to the workforce and to further education are best placed for success when they have confidence, self-awareness and the skills to interpret relevant information and make informed decisions about their future goals.

In Work Related Skills, students will develop the knowledge, skills and experiences to be active and engaged citizens and future members of the workforce, with the ability to communicate effectively, advocate for themselves and be adaptable to change

### **LEARNING FOCUS**

Work Related Skills in year 11 explores a student's career goals, future careers and the transferrable skills and capabilities required to be successful in the workplace through four Areas of Study across the two units.

#### **Unit 1: Careers and Learning for the Future**

##### **Area of Study 1: Future careers**

Students develop the skills and knowledge to identify and discuss likely employment growth areas using credible data and apply findings to develop strategies to improve future career prospects.

##### **Area of Study 2: Presentation of career and education goals**

Students consolidate their knowledge and understanding of future careers and their personal aspirations, skills and capabilities.

Students will develop strategies for conducting research and presenting their research findings, seek feedback and refine their goals through self-reflection

#### **Unit 2: Workplace skills and Capabilities**

##### **Area of Study 1: Skills and capabilities for employment and further education**

Students employ their knowledge and understanding to be able to identify and evaluate individual aptitudes and interests as they relate to broad industry groups, and identify evidence of personal core skills, attributes and capabilities required by an industry of choice.

##### **Area of Study 2: Transferable skills and capabilities**

Students investigate the role of ongoing education, training and development for essential and specialist skills, and how these skills can be applied across different jobs and industries.

Students will apply strategies to promote their unique skills and capabilities through writing job applications and participating in mock interviews.

### **ASSESSMENT**

Students will be assessed in a variety of ways that can include but are not limited to:

- Oral Presentations (Podcast, video, performance).
- Portfolio of collected works.
- a visual presentation, such as a graphic organiser, concept/mind map or annotated poster.
- Research and Investigation reports.

### **FUTURE PATHWAYS**

Successful completion of Units 1 and 2 Work Related Skills will provide a pathway into Units 3 and 4 Work Related Skills and is an integral part of the VCE Vocational Major.