



**Victorian Certificate of Education**

**VCE**

**Units 1, 2, 3, 4**

**2017**

**Course Selection Handbook**

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**RINGWOOD SECONDARY COLLEGE**

## YEAR 11 AND 12 (VCE 2017)

Year 11 and 12 are important decision-making times in your life as a student. It is a time when you will be required to choose a course and to make decisions about the direction of your schooling. Year 11 students should note that decisions about your Year 11 course may affect the programs that you can do in Year 12, so it is important that you begin to think carefully about the available studies.

For students coming into Year 12, you have already made important decisions regarding the direction your programs will take you. You will need to think about whether these programs lead in the direction you want, into tertiary study or employment.

For enquiries about Year 11 and 12 courses, or about the VCE in general, please contact one of the following people:

Mr James Barut	(Assistant Principal)
Mrs Cathy Menz	(Head of Senior School)
Mr Matt Saunders	(Year 12)
Ms Natalie Kosnar	(Year 12)
Ms Anna Urbano	(Year 11)
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**ULTIMATELY IT IS THE STUDENT'S RESPONSIBILITY TO MAKE  
USE OF ALL THE RESOURCES AVAILABLE**

## **RINGWOOD SECONDARY COLLEGE**

### **V.C.E. UNIT DESCRIPTIONS**

#### **ACCOUNTING Unit 1**

This unit focuses on accounting and financial management of a small business. The unit introduces the fundamental processes of gathering, recording, reporting, analysing, interpreting and evaluating financial information for use by the individual in a small business. Information and communications technology will be introduced in the carrying out of accounting procedures. The single entry recording of financial information for sole-proprietorship service businesses will be used and reporting is restricted to the cash basis.

#### **ACCOUNTING Unit 2**

This unit focuses on the accounting and financial operation of a small business. The unit introduces an accounting system based on single entry recording, the cash method of revenue and expense recognition and reporting using the modified cash approach and the accrual method. Credit transactions are also covered, as well as subsidiary records. Some double entry recording may be taught. Both sole proprietor service and trading businesses will be covered. Students are required to use information and communications technology to complete accounting procedures.

#### **ACCOUNTING Unit 3**

This unit focuses on financial accounting for a single activity trading business as operated by a sole trader and emphasises the role of accounting as an information system. Students are introduced to the double entry system of recording using the accrual basis of accounting. The perpetual method of stock recording with the First In, First Out (FIFO) method is used. Accounting principles and the qualitative characteristics of accounting information are applied.

#### **ACCOUNTING Unit 4**

This unit extends the recording and reporting processes from Unit 3 and the use of financial and non-financial information to assist management in decision making. The unit also covers the accrual reporting and recording system for a trading business using the perpetual inventory recording system. The role and importance of budgeting is considered and budgets are prepared for a variety of areas. Evaluation and analysis of financial information is also undertaken and used to suggest strategies for the business owner.

# **BIOLOGY**

## **Unit 1: Unity and diversity**

In this unit students examine the cell as the structural and functional unit of the whole organism. Students investigate the needs of individual cells, how specialised structures carry out cellular activities and how the survival of cells depends on their ability to maintain a dynamic balance between their internal and external environments. Though there are many observable differences between living things, they have many fundamental features and biological processes in common. Students explore the diversity of organisms and look for patterns of similarities and differences. They investigate how the structure and functioning of interdependent systems in living things assist in maintaining their internal environment. They relate differences in individual structures and systems to differences in overall function.

## **Unit 2: Organisms and their environment**

The rich diversity of Australian ecosystems provides a variety of contexts for students to study the relationships between living things and their environment. Students investigate particular sets of biotic and abiotic factors that operate in different places in the biosphere, and how these factors influence the kinds of organisms that live there. Students examine how organisms in their particular habitats are part of the integrated and naturally self-sustaining systems in which energy flows and matter is cycled between the living and non-living components of the environment. Students investigate how features possessed by organisms affect their fitness and reproductive success, in relation to their habitats. They consider how species are affected by changes in environmental conditions, whether natural or human-induced.

## **Unit 3: Signatures of life**

In this unit students consider the molecules and biochemical processes that are indicators of life. Students investigate the significant role of proteins in cell functioning; how technological advances have enabled scientists to determine differences in the molecular structure of proteins, how the structure of a protein relates to its function in an organism's tissues, and how technological advances have given rise to applications such as the design of proteins for specific purposes. Students investigate how cells communicate with each other at molecular level in regulating cellular activities; how they recognise 'self' and 'non-self' in detecting possible agents of attack; and how physical barriers and immune responses can protect the organism against pathogens.

## **Unit 4: Continuity and change**

In this unit students examine evidence for evolution of life forms over time. Students study how genes are transmitted from generation to generation, by examining meiosis and patterns of inheritance, including pedigree analysis. Students consider the relationship between heritable variations and the environment in accounting for changes to species over time, and for speciation and extinction. Students examine the interrelationships between biological, cultural and technological evolution. Students investigate emerging technological applications and the implications of advances in molecular genetics. The ability to apply technologies that can change the genetic composition of individual organisms and species, including humans, raises controversial issues for individuals and society. Students examine these issues and consider their implications from a variety of perspectives.

**Entry:** There are no prerequisites for Units 1, 2 and 3. Students must undertake Unit 3 prior to undertaking Unit 4.

**Assessment** (For all units): Satisfactory completion. A student must demonstrate achievement of the two Outcomes specified for each unit.

**Levels of achievement** (For Year 12):

Unit 3 School-assessed Coursework(SACs) - 20%

Unit 4 School-assessed Coursework(SACs) - 20%

End-of-year examination - 60%

### **BUSINESS MANAGEMENT Unit 1 – Small Business Management** (All VCAL students will complete Unit 1 Business Management)

Unit 1 provides students with an understanding of the general business concepts which apply to the management of organisations of varying sizes. A study of decisions and planning to be undertaken prior to commencing a business will also be covered; as well as a look at on-going activities which sustain an ethical small business and promote its growth. Here, one option will be completed, such as management of staff. Students undertake a practical assessment involving the planning and running of their own small business.

### **BUSINESS MANAGEMENT Unit 2 – Communication, Marketing & Public Relations**

Unit 2 focuses on the importance of effective communication in achieving business objectives. It includes communication both internally and externally to business with special attention to the functions of marketing and public relations. Students develop knowledge of fundamental aspects of business communication and are introduced to skills related to its effective use in different contexts. An investigation into current marketing and public relations campaigns and a practical marketing activity are completed.

### **Industry & Enterprise Unit 2**

(All VCAL students will complete Unit 2 Industry and Enterprise)

In this unit students consider the development of enterprising behavior, leadership and innovation in workplaces and different industry sectors. We will investigate enterprise in work and community settings, and look at successful entrepreneurs and leaders. Students will then consider these concepts in relation to a particular industry, and the way a significant change issue such as Globalisation, technology or the environment has impacted on Australian industry. There may be an opportunity for some structured workplace learning as part of this Unit.

### **BUSINESS MANAGEMENT Unit 3 – Large-Scale Organisations**

In Unit 3 students investigate how large-scale organisations operate. Students examine the context in which they conduct their business, focus on aspects of their internal environment and then look at the operations management function. Students develop an understanding of the complexity and challenge of managing large organisations and have the opportunity to compare theoretical perspectives with practical applications.

### **BUSINESS MANAGEMENT Unit 4 – Managing People and Change**

Unit 4 continues the examination of corporate management. It commences with a focus on the human resource management function. Students learn about key aspects of this function and strategies used to most effectively manage human resources. The unit concludes with analysis of the management of change. Students learn about key change management processes and

strategies and are provided with the opportunity to apply these to a contemporary issue of significance.

## **CHEMISTRY Unit 1**

The Big Ideas of Chemistry. This unit examines the Periodic Table as a unifying framework for studying the chemistry of the elements. This involves examining the relationship between an element's position in the Periodic Table and its chemical and physical properties, electron configuration, oxidant strength and tendency to form a particular bond type. The study also involves examining the structure of the atom and how atoms bond, including models for metallic, ionic and covalent bonding. Students are introduced to fundamental ideas such as empirical and molecular formulae and the mole concept. The chemistry of alkanes and alkenes is also investigated and they are introduced to “smart materials” such as polymers, nano materials, alloys, fibres, ceramics, biopolymers, films and coatings.

## **CHEMISTRY Unit 2**

Environmental Chemistry. This unit focuses on the studies of water and the interaction between living things and the gases of the atmosphere. Students explore the special properties of water and relate the properties to chemical bonding characteristics. Students investigate chemical reactions that take place in aqueous solution by undertaking practical activities on precipitation, acid-base and redox reactions. They use equations to represent reactions and calculate the amount of reactants and products involved. They will also study the concepts of solubility, concentration and pH in relation to pollution and water quality. Students also investigate the behaviour of gases and perform calculations involving gas laws. The vital roles of oxygen, carbon dioxide and nitrogen through studies of the carbon and nitrogen cycles. Students also explore state, national and global issues associated with the impact of human activities on the atmosphere.

Assessment in this unit consists of topic tests, practical work and a semester examination.

## **CHEMISTRY Unit 3**

**Area of Study 1:** Analytical Chemistry: Investigation of different analytical techniques used to determine identity of unknown species.

**Area of Study 2:** Organic Chemistry: Students investigate organic reaction pathways and the chemistry of organic molecules eg. DNA including their role in the human body; biochemical fuels, forensic analysis, design and medicines.

## **CHEMISTRY Unit 4**

**Area of Study 1:** Industrial Chemistry: Focuses on factors that affect the rate and extent of chemical reactions. They then apply their understanding to the industrial production of chemicals.

**Area of Study 2:** Supplying and using Energy: Focuses on the use and evaluation of different energy resources.

## **CLASSICAL STUDIES – Unit 1 Mythical Worlds**

This unit explores the nature of myths and legends. By focusing on the form and function of myths and legends and the way they are represented, students develop an understanding of the universality of human experience. Ideas, such as the concept of hero, that were of concern to the classical world are also of interest to the modern world. The ways in which myths and legends are represented in oral tradition, art, architecture, drama and literature are explored to gain an understanding of the conventions of representing myths and legends. **Students are required to:** become familiar with the myths and legends studied; prepare a communication

exercise, prepare a profile on an archaeological site and analyse the way a myth is portrayed in different works.

## **CLASSICAL STUDIES - Unit 2 Classical Imaginations**

This unit explores the emergence of classical societies and their cultures from mythological to historical explanations of their world. As the societies emerged they developed a variety of ways to structure their world and artistic and literary forms to express the culture of their society. **Students are required to:** prepare time lines relevant to the events and works studied; participate in a dramatic presentation, analyse selected works, prepare an essay and a profile of an individual involved in change.

## **CLASSICAL STUDIES - Unit 3 & 4 Classical Worlds**

These units explore the ancient societies of Greece, specifically Athens, in the fifth and fourth century BCE, which is called the 'Classical Period'. This period represents a high point of development of various forms of cultural expression in ancient Greece, which continue to influence the culture of Western society. Many of the ideas, issues and values that preoccupied classical societies also preoccupy modern society. **Students are required to:** respond to short answer and extended answer questions on an individual text, and write a comparative essay on the ideas, issues and values of two classical texts.

## **DANCE**

VCE Dance develops students' physical skills, personal movement vocabulary, and application of choreographic and analytical principles. Students create and perform their own dance works as well as studying the dance works of others through performance and analysis. They consider influences on the expressive intention and movement vocabulary of their own dances and also on works created by choreographers working in a range of styles, genres and traditions. Influences on aspects of production in dance works are also studied.

### **Unit 1 & 2**

In each unit, students are required to undertake systematic dance training to build physical skills and develop their ability to execute safely a diverse range of expressive body actions. Students develop and refine their choreographic skills by exploring personal and learnt movement vocabularies, and ways in which movement can be created and arranged to communicate the expressive intention of the dance-maker. Students perform choreographed or learnt solo and group dance works using different dance-making processes. They also study ways in which ideas are communicated through the skilled performance of their own and others' dances.

## **DRAMA**

The study of Drama focuses on the creation and performance of characters and stories in naturalistic and non-naturalistic ways. Students draw on a range of stimulus material and play-making techniques to develop and present devised work. Students also explore a range of performance styles and conventions, dramatic elements and stagecraft. They use performance and expressive skills to explore and develop role and character. They analyse the development of their own work and performances by other drama practitioners.

## **Unit 1**

This unit focuses on the creation of an ensemble performance. This means you will work with others, in a small group, to create a play from scratch, rehearse and refine it together and share the responsibility for its presentation (everything from acting, to making the costumes and directing the play). By creating an ensemble performance you will also be exploring the performance styles and theatrical conventions of non-naturalistic forms of presentation. This process involves assignments, evaluation and a stagecraft folio. As part of this unit you will see and review at least one professional performance.

## **Unit 2**

This unit focuses on the use of stimulus material and resources from a variety of sources to create and develop character/s within a solo performance. Students complete two solo performances. For a short solo performance they develop practical skills of researching, creating, presenting, documenting and analysing a solo performance work. In the development of a second solo performance, they devise, rehearse and perform an extended solo performance in response to a prescribed structure.

## **ECONOMICS Unit 1**

This unit looks at economic decision making and economic issues of importance to the Australian economy in the 21<sup>st</sup> century. Those issues include employment and unemployment, inflation, the distribution of income and wealth and workplace relations. At the end of the unit, the student should be able to explain how economic decisions are made in the Australian economy and apply economic decision making to solve economic problems. The student should also be able to use the tools and methods of economics to analyse and evaluate contemporary Australian economic issues.

## **ECONOMICS Unit 2**

This unit examines Australia's external relationships and economic issues of importance in the global economy in the 21<sup>st</sup> century. Areas of study include economic globalisation, Asian economics, global distribution of income and wealth and economics in transition. At the end of the unit, students should be able to apply economic concepts, skills and knowledge to the Australian economy in the global context and explain the reasons for the emergence of globalisation and evaluate the impact.

## **ECONOMICS Unit 3**

The Australian economy is a contemporary market capitalist economy. In such an economy, the principal means of allocating scarce resources is the price mechanism. Students examine the factors that affect the price and quantity traded in individual markets. Students investigate the importance of competition and analyse the degree of market power in different industries and how this affects the efficiency of resource allocation. Students also come to appreciate that markets will not always lead to the most efficient allocation of resources. Through an examination of market failure, students are able to explain situations where the market does not operate freely and discuss the role of government in the allocation of resources.

The federal government has a range of macroeconomic goals, which they monitor with appropriate statistical indicators. Some of these goals are explicitly stated while others are inherent in the actions that are taken. Students examine five key economic goals which may vary in importance from time to time and which are pushed for economic, political and social reasons. Through a detailed study of these goals and an examination of the trend in these goals over the last four years, students develop an understanding of the role that each goal plays in improving living standards.

Growth in Australia is dependent upon its international relationships. Students examine the role of trade with international households, businesses, governments and other groups, and the importance of international movement of capital for Australia's living standards.

The benefits of economic growth are not always shared equally and the living standards of some may increase by more than others. Students examine the reasons for income inequality and the social costs and benefits, and the impact on living standards associated with inequity.

#### **ECONOMICS Unit 4**

The federal government attempts to influence the achievement of its economic goals using a range of policies. The government can influence the level of aggregate demand in the economy by relying upon its demand management policies. In recent years, the primary aggregate demand management tool has been monetary policy whereby the Reserve Bank of Australia alters the cost and availability of credit in the economy. Students learn how changes in interest rates will affect inflation, the rate of unemployment and the rate of economic growth. Students also develop an understanding of how the federal government alters the composition and magnitudes of its receipts and expenditure to influence directly and indirectly the components of aggregate demand. Budgetary policy may also be used to target or influence the achievement of external stability and equity in the distribution of income. The relationship between the two macroeconomics demand policies is analysed in terms of their impact upon domestic economic goals.

The government also aims to improve living standards through effective management of the supply side of the economy. The productive capacity of the economy needs to be expanded to meet growing demand. Students investigate how the government has utilised fiscal policy to influence aggregate supply directly in the economy. The role of microeconomics reform in promoting competition, efficiency and expanding the productive capacity is also evaluated in terms of its impact on domestic and international economic goals. Students apply the language, theories and tools of economics to develop a critical perspective about the role of aggregate supply policies in the current government policy mix.

#### **ENGLISH**

The College caters for a wide range of English skills amongst its students. Four English courses are offered at Year 11 and four at Year 12.

#### **ENGLISH Unit 1**

This unit encourages the extension of language skills through developing the capacity to speak and write effectively for a range of purposes and audiences. **Students are required to:** undertake activities which assist them to plan and organise their work, monitor their progress, develop confidence and competence in writing for a range of purposes and audiences in a variety of forms; enjoy, comprehend and develop critical appreciation of a range of texts;

develop and refine personal responses to texts and express responses effectively in a variety of forms; consider critically a range of material and respond to it effectively from a personal point of view; extend their capacities to communicate clearly both orally and in writing.

## **ENGLISH Unit 2**

This unit encourages the extension of language skills through developing the capacity to speak and write effectively for a range of purposes and audiences. **Students are required to:** undertake activities which assist them to: plan and organise their work, monitor their progress, and set and review goals for improving their use of language; develop confidence and competence in writing for a range of purposes and audiences in a variety of forms; enjoy, comprehend and develop critical appreciation of a range of texts; develop and refine personal responses to texts and express responses effectively in a variety of forms; consider critically a range of material and respond to it effectively from a personal point of view; extend their capacities to communicate clearly both orally and in writing.

## **ENGLISH Unit 3**

This unit focuses on reading and responding both orally and in writing to a range of texts – persuasive, autobiographical and imaginative. Students are required to analyse how the authors of texts create meaning, and the different ways in which texts can be interpreted. Students develop their confidence and competence in creating their own written texts by exploring ideas suggested by their reading within a chosen Context study, and their ability to explain choices they have made as authors.

## **ENGLISH Unit 4**

This unit focuses on reading and responding in writing to a range of texts. Students are required to analyse how authors create meaning through different structural devices, and provide their own interpretation. Students demonstrate their confidence and competence in creating their own written texts suggested by their reading within a chosen Context study, and explain the creative choices they have made as authors.

The end of year exam focuses on the three areas of study in Units 3 and 4, and contributes 50% of the final assessment.

## **ENGLISH LANGUAGE Unit 1**

This course is a sociolinguistic study, the grammatical structures of language and their use in societal interaction. In this unit, students consider the way language is organised so that its users have the means to make sense of their experiences and to interact with others. Students explore the various functions of language and the nature of language as a highly elaborate system of signs. The relationship between speech and writing as the dominant modes of language and the impact of situational and cultural contexts on language choices are also considered. Students investigate children's ability to acquire language, and the stages of language acquisition across a range of subsystems.

## **ENGLISH LANGUAGE Unit 2**

This course is a sociolinguistic study – the grammatical structures of language and their use in societal interaction. In this unit, students focus on language change. Languages are dynamic and change is an inevitable and a continuous process. Students consider factors contributing to

change over time in the English language and factors contributing to the spread of English. They explore texts from the past, and contemporary texts, considering how all subsystems of language are affected – phonetics and phonology, morphology and lexicology, syntax, discourse and semantics. Attitudes to language change vary considerably and these are also considered. In addition to developing an understanding of how English has been transformed over the centuries, students explore the various possibilities for the future.

### **ENGLISH LANGUAGE Unit 3**

This course is a sociolinguistic study – the grammatical structures of language and their use in societal interaction. In this unit students investigate English language in the Australian social setting, along a continuum of informal and formal registers. They consider language as a means of societal interaction, understanding that through written and spoken texts we communicate information, ideas, attitudes, prejudices and ideological stances. Students examine the stylistic features of formal and informal language in both spoken and written modes: the grammatical and discourse structure of language; the choice and meanings of words within texts; how words are combined to convey a message; the purpose in conveying a message; and the particular context in which a message is conveyed. The end of year exam combines Units 3 and 4 and contributes 50% of the final assessment.

### **ENGLISH LANGUAGE Unit 4**

This course is a sociolinguistic study – the grammatical structures of language and their use in societal interaction. In this unit, students focus on the role of language in establishing and challenging different identities. Many varieties of English exist 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 varieties also play a role in constructing users' social and cultural identities. Students examine both print and digital texts to consider the ways different identities are constructed. The end of year exam combines Units 3 and 4 and contributes 50% of the final assessment..

### **ENGLISH AS AN ADDITIONAL LANGUAGE (EAL) Unit 1**

This unit is designed for students who are of non-English speaking background and who have been in Australia for less than 6 years. Within the unit, there is greater flexibility to build language skills required to undertake further units of English (EAL).

This unit encourages the extension of language skills through developing the capacity to speak and write effectively for a range of purposes and audiences. **Students are required to:** This unit focuses on reading and responding both orally and in writing to a range of texts – persuasive, autobiographical and imaginative. Students are required to analyse how the authors of texts create meaning, and the different ways in which texts can be interpreted. Students develop their confidence and competence in creating their own written texts by exploring ideas suggested by their reading within a chosen Context study, and their ability to explain choices they have made as authors.

### **ENGLISH AS AN ADDITIONAL LANGUAGE (EAL) Unit 2**

This unit is designed for students who are eligible for Unit 1 English (EAL) and require language support. This unit encourages the extension of language skills through developing the capacity to speak and write effectively for a range of purposes and audiences. **Students**

**are required to:** This unit focuses on reading and responding in writing to a range of texts. Students are required to analyse how authors create meaning through different structural devices, and provide their own interpretation. Students demonstrate their confidence and competence in creating their own written texts suggested by their reading within a chosen Context study, and explain the creative choices they have made as authors. The end of year exam focuses on the three areas of study in Units 3 and 4, and contributes 50% of the final assessment.

### **ENGLISH AS AN ADDITIONAL LANGUAGE (EAL) Unit 3**

This unit is designed for students who are of non-English speaking background and who have been in Australia for less than 7 years. This unit encourages the extension of language skills through developing the capacity to speak and write effectively for a range of purposes and audiences. **Students are required to:** maintain an organised collection of their course work in a workbook which includes goals set by students for the improvement of their language use; undertake the study of texts reflecting critically on each text as a whole, and express their opinions orally and in writing discuss and respond to issues presented in the media, critically evaluating the language used in the presentation, and present a point of view on an issue studied, orally and in writing; study the features of effective writing and produce a range of writing in different genres, in a specific context.

### **ENGLISH AS AN ADDITIONAL LANGUAGE (EAL) Unit 4**

This unit is designed to complete the English component for students who are eligible for English (EAL) unit 3.

This unit encourages the extension of language skills through developing the capacity to speak and write effectively for a range of purposes and audiences. **Students are required to:** maintain an organised collection of their course work in a workbook which includes goals set by students for the improvement of their language use; undertake the study of texts reflecting critically on each text as a whole, and express their opinions orally and in writing; study the features of effective writing and produce a range of writing in different genres, in a specific context.

### **LITERATURE Unit 1**

This unit focuses on the ways literacy texts represent human experiences and the reading practices students develop to deepen their understanding of a text. **Students are required to:** discuss how personal responses to literature are developed and justify their own responses to one or more texts; analyse and respond, both critically and creatively to the ways in which one or more texts reflect or comment on the interests and ideas of individuals and particular groups in society; analyse the construction of a film, television or multimedia radio text and comment on the ways it represents an interpretation of ideas and experiences.

### **LITERATURE Unit 2**

This unit focuses on students critical and creative responses to texts. **Students are required to:** reflect upon their own background and experience in developing their response to the representation of social and cultural concerns and values from a past era; analyse and respond critically and creatively to the ways in which a text reflects or comments on the ideas and concerns of individuals or groups; produce a comparative piece of interpretative writing with a particular focus, for example, form of the text, author, time in history or social or cultural context.

### **LITERATURE Unit 3**

This unit focuses on the ways writers construct their work and how meaning is created for and by the reader. Students consider how the form of the text (such as poetry, prose, drama, non-print or combinations of these) affects meaning and generates different expectations in readers, the ways texts represent views and values and comment on human experience, and the social, historical and cultural contexts of literary works. **Students are required to:** analyse how meaning changes when the form of a text changes; analyse, interpret and evaluate the views and values of a text in terms of the ideas, social conventions and beliefs that the text appears to endorse, challenge or leave unquestioned; evaluate views of a text and make comparisons with their own interpretation.

### **LITERATURE Unit 4**

This unit focuses on students' creative and critical responses to texts. Students consider the context of their responses to texts as well as the concerns, the style of the language and the point of view in their re-created or adapted work. In their responses, students develop an interpretation of a text and learn to synthesise the insights gained by their engagement with various aspects of a text into a cogent, substantiated response. **Students are required to:** respond imaginatively to a text, and comment on the connections between the text and the response; to critically analyse features of a text, relating them to an interpretation of the text as a whole.

## **ENVIRONMENTAL SCIENCE (Units 1 and 2)**

### **Unit 1**

This unit is design to be accessible for both students in Year 10 and those in Year 11 that would like to continue in science, but who may not have achieved a high mark in Year 9 or 10 Science. Students will focus on the environment and its components. The function of ecosystems and the interactions in and between the ecological components will be investigated. Environmental Science will give students the opportunity to consider the effects of natural and human induced changes in ecosystems and its components.

### **Unit 2**

Students will focus on physical, chemical, biological and socioeconomic environmental indicators. These environmental indicators for an ecosystem will be investigated by students through fieldwork and data interpretation. The knowledge gained by students will help students to have a better understanding of the ecological health of ecosystems. Students understanding of ecosystems and there components and their ability to determine and utilize environmental indicator data will help students to be able to investigate and report on a local example of environmental degradation or an environmental issue through the use of a monitoring program.

## **ENVIRONMENTAL SCIENCE (Units 3 and 4 only)**

Environmental Science provides the opportunity for students to understand the structure, function and diversity of natural ecosystems on this planet and evaluate the impacts of human activities on them. Students examine strategies to maintain and protect the ecological health of the environment while meeting the needs and desires of human populations.

Environmental Science investigates the interactions between natural and human systems. This study examines the application of environmental science to ecologically sustainable development and environmental management. Students should understand the values and attitudes that underpin environmental decisions and reflect on effective ways for modifying

behaviour of individuals and groups for positive environmental outcomes.

While undertaking this study, students will develop skills in practical scientific investigations, environmental fieldwork techniques, report writing, research and analysis.

This study is designed to enable students to:

- understand the structure, function and diversity of ecosystems; state of ecological health;
- examine human impacts on ecosystems and investigate ways to minimise them;
- understand the concepts and principles of environmental science;
- investigate the role of science in the management of the environment;
- develop a critical perspective on environmental science;
- undertake activities that contribute positively to the sustainability of the environment.

## **FOOD AND TECHNOLOGY**

The V.C.E. food & Technology course has been designed for students who have little or no past experience in food preparation, as well as for those with developing skills in this area. The joint emphasis on learning is through both **practical and theoretical work**.

### **FOOD AND TECHNOLOGY Unit 1 - Food Safety and Properties of Food**

In this unit students study safe and hygienic food handling and storage practices to prevent food spoilage and food poisoning, and apply these practices in the preparation of food. They consider food preparation practices suitable for use in a small-scale food operation, such as in the home, a school setting or in a small food business. Students consider the selection and use of a range of tools and equipment suitable for use in food preparation.

Students examine the links between classification of foods and their properties, and examine changes in properties of food when different preparation and processing techniques are used. Students apply this knowledge when preparing food. They investigate quality and ethical considerations in food selection. Students use the design process to meet the requirements of design briefs to maximise the qualities of key foods.

### **FOOD AND TECHNOLOGY Unit 2 - Planning and Preparation of Food**

In this unit students investigate the most appropriate tools and equipment to produce optimum results, including the latest developments in food technology. Students research, analyse and apply the most suitable food preparation, processing and cooking techniques to optimise the physical, sensory and chemical properties of food.

Students work both independently and as members of a team to research and implement solutions to a design brief. They use the design process to respond to challenges of preparing food safely and hygienically for a range of contexts and consumers, taking into account nutritional considerations, social and cultural influences, and resource access and availability. Students also explore environmental considerations when planning and preparing meals.

### **FOOD AND TECHNOLOGY Unit 3 - Food Preparation, Processing and Food Controls**

In this unit students develop an understanding of food safety in Australia and the relevant national, state and local authorities and their regulations, including the Hazard Analysis and Critical Control Points (HACCP) system. They investigate the causes of food spoilage and food poisoning and apply safe work practices while preparing food.

Students demonstrate understanding of key foods, analyse the functions of the natural components of key foods and apply this information in the preparation of foods. They

investigate cooking techniques and justify the use of the techniques they select when preparing key foods. Students develop an understanding of the primary and secondary processes that are applied to key foods, including food processing techniques to prevent spoilage. They also preserve food using these techniques.

Students devise a design brief from which they develop a detailed design plan. Evaluation criteria are developed from the design brief specifications. In preparing their design plan, students conduct research and incorporate their knowledge about key foods, properties of food, tools equipment, safety and hygiene, preparation, cooking and preservation techniques. They make decisions related to the specifications of the brief. In developing the design plan, students establish an overall production timeline to complete the set of food items (the product) to meet the requirements of the brief for implementation in Unit 4.

### **FOOD AND TECHNOLOGY Unit 4 - Food Product Development and Emerging Trends**

In this unit students develop individual production plans for the proposed four to six food items and implement the design plan they established in Unit 3. In completing this task, students apply safe and hygienic work practices using a range of preparation and production processes, including some which are complex. They use appropriate tools and equipment and evaluate their planning, processes and product.

Students examine food product development, and research and analyse driving forces that have contributed to product development. They investigate issues underpinning the emerging trends in product development, including social pressures, consumer demand, technological developments, and environmental considerations. Students also investigate food packaging, packaging systems and marketing.

### **GEOGRAPHY Unit 1 - Natural Environments: what are they like and why?**

This Unit investigates different aspects of natural environments, e.g. coastal and volcanic environments, and the natural processes that occur along with the human activities that change them. Natural processes may include wave erosion, deposition, volcanic eruptions and conservation. An extended fieldwork activity will be taken with a one-day field trip in the early part of the year to the Mornington Peninsula to study a variety of coastal environments.

### **GEOGRAPHY Unit 2 - Human Environments: where you live determines how you live.**

The quality of peoples' lives varies throughout the world. Reasons for this variation at both the local, Australian level and the international scale will be examined. Examples include Richmond compared to Toorak, a study of life in Vietnam and rural life in the Yarra Valley. The latter part of the unit challenges students to consider ways to lessen these variations. A one-day field trip will be undertaken to compare characteristics of two Melbourne suburbs, and another to examine rural life in the Yarra Valley.

### **Assessment Unit 1 and 2**

Students should show a developing knowledge of the world. This is demonstrated through assessment that places emphasis on the ability to interpret information completed in class and collected in the field or in graphical form using photos, maps, graphs, books, magazines and electronic sources.

### **GEOGRAPHY Unit 3 - Resources: What we do with what we have**

This Unit looks at ways of analysing a range and variety of resources used by society. These may be at the local scale like National Parks or at a global scale like fisheries and forestry. The Murray-Darling Basin is studied as an example of a water resource, and we examine conflict over its use. Management and planning for future sustainable use form the second section. Students use a variety of sources including newspapers, Internet and direct field work which is an extended camp over 2-3 days. There are no prerequisites for Unit 3 Geography.

### **GEOGRAPHY Unit 4 - Global perspectives: Human and Natural interrelationships**

This Unit looks at “global phenomena” related to population like disease, famine, migration and natural features like deserts, volcanoes, tidal waves, and climate. As the 2 hour exam (worth 50%) focuses on the skills students have developed for analysing resources and problems, we will aim for a wide range of topics, partially chosen by the interests of the group.

Extension Studies at University level in Year 12 are also available for students with excellent Unit 3 and 4 results in Year 11.

### **HEALTH & HUMAN DEVELOPMENT Unit 1 - The Health and Development of Australia's Youth**

This unit of study introduces students to the concept of health and individual human development and in particular, that of Australia's youth. There are many factors that influence health and individual human development. Students will explore factors including nutrition and food behaviours.

In this unit students identify issues that impact on the health and individual human development of Australia's youth. Students investigate one health issue in detail and analyse personal, community and government strategies or programs that affect youth health and individual human development.

### **HEALTH & HUMAN DEVELOPMENT Unit 2 - Individual Human Development and Health issues**

In this unit students identify issues that affect the health and individual human development of Australia's mothers and babies, children and adults. Students investigate health issues in detail and analyse personal, community and government strategies and programs that affect the health and individual human development of mothers and babies, children and adults.

### **HEALTH & HUMAN DEVELOPMENT Unit 3 - Australia's Health**

In this unit students develop an understanding of the health status of Australians by investigating the burden of disease and the health of population groups in Australia. Students examine the development of the National Health Priority Areas and their relationship to the burden of disease in Australia. They will also gain an understanding of the different models of health and health promotion and investigate the roles and responsibilities of government in regards to health and promoting healthy eating.

### **HEALTH & HUMAN DEVELOPMENT Unit 4 - Global health and development**

In this unit, students explore global health, human development and sustainability. They identify similarities and differences in the health status between people living in developing countries and Australians. Students will investigate the role of the United

Nations Millennium Development goals and other international organisations such as the World Health Organisation in relation to achieving sustainable improvements in health status and human development.

### **20<sup>TH</sup> CENTURY HISTORY (1900-1945) Unit 1**

As an example of the new political, economic and cultural ideas that challenged the ‘Old World’, this unit focuses on the rise of the Nazi party in Germany and its impact on society. It concludes with an analysis of the Holocaust. Students will be required to complete a research assignment, a document analysis and an end of semester examination.

### **20<sup>TH</sup> CENTURY HISTORY (Post 1945) Unit 2**

As a way of studying competing ideologies and social movements, this unit begins by examining the fight for civil rights by blacks in America. To explore the interplay between domestic events and international developments, students will study the Cold War between Capitalism/Democracy and Communism. Students will be required to complete an oral presentation, a film analysis, a biographical study and an end of semester examination.

### **HISTORY – REVOLUTIONS Unit 3**

This unit examines the concept of revolutions as the great disjuncture of modern times, which mark deliberate attempts at new directions. The focus for Unit 3 is the Russian Revolution and is broken into two Areas of Study. The first, which focuses on the period from 1905 to October 1917, examines different theories about the long and short-term causes of the revolution as well as the role of ideas, leaders, movements and events in the development of the revolution. Area of Study 2, which focuses on the period from November 1917 to the death of Lenin in 1924, analyses the challenges facing the emerging new order and the ways in which attempts were made to create a new society, and evaluates the nature of the new society created by the revolution. The study of the Russian Revolution also considers differing perspectives and the reasons why different groups and historians have made different judgements of the history of the revolution.

### **HISTORY – REVOLUTIONS Unit 4**

This unit builds on students’ knowledge from Unit 3 and evaluates the ways in which revolutions break with the past by destroying the regimes and societies that engender them and embark on a program of political and social transformation. The focus for Unit 4 is the French Revolution and is broken into two Areas of Study. The first, which focuses on the period from 1781 to 4<sup>th</sup> August 1789, examines different theories about the long and short-term causes of the revolution as well as the role of ideas, leaders, movements and events in the development of the revolution. Area of Study 2, which focuses on the period 5 August 1789 to the dissolution of the Convention Year III (1795), analyses the challenges facing the emerging new order and the ways in which attempts were made to create a new society, and evaluates the nature of the new society created by the revolution. The study of the French Revolution also considers different perspectives and the reasons why different groups and historians have made different judgements of the history of the revolution.

## **IT Unit 1 – IT in Action**

This unit focuses on how individuals and organisations use, and can be affected by, information and communications technology (ICT) in their daily lives. Students acquire and apply a range of knowledge and skills to manipulate different data types such as numeric, text, sound and images (still and moving) to create solutions that can be used to persuade, educate, inform and entertain. Students also explore how their lives are affected by ICT, and consider strategies for managing how ICT is applied. Students examine how networked information systems allow data to be exchanged locally and within a global environment, and explore how mobile devices, such as phones, are used within these networks.

## **IT Unit 2 - IT Pathways**

This unit focuses on how individuals and organisations use ICT to meet a range of purposes. Students apply a range of knowledge and skills to create solutions, including those that have been produced using a programming or scripting language, to meet users' needs. In this unit, students apply all stages of the problem-solving methodology when creating solutions. Students analyse data from large repositories and manipulate selected data to create visualisations. Students develop skills in using programming or scripting language software and they investigate careers that involve the use of these skills. Working in teams is an important and effective strategy for solving problems, and this strategy is applied when students solve problems for clients in the community.

**NOTE: While the course outline for Yr 11 Information Technology is for 1 course we offer 2 streams of study to allow for a pathway of study to Year 12.**

**Programming stream has a focus on Programming that prepares students for Software Development at Year 12.**

**Applications stream has a focus on database and spreadsheeting to prepare students for IT Applications at Year 12**

## **IT Applications – Unit 3**

IT Applications focuses on the World Wide Web and how it supports the information needs of individuals, communities and organisations. Students investigate the design and technical underpinnings of different types of websites that support the varying needs of online communities. Students use web authoring software to create prototype websites for particular online communities, taking into account both technical and non-technical constraints. There is a focus on the use of a relational database management system (RDBMS). Students examine techniques used by organisations to acquire data via websites and consider the relationship between how the data is acquired and the structure of an RDBMS. At the practical level, students acquire and apply knowledge and skills in the use of an RDBMS.

## **IT Applications – Unit 4**

In this unit students focus on how ICT is used by organisations to solve ongoing information problems and on the strategies used to protect the integrity and security of data and information. In Area of Study 1 either a relational database management system (RDBMS) or spreadsheet software is selected and used to create solutions to information problems. In addition, students use web authoring or multimedia authoring software to produce onscreen user documentation. When creating solutions to ongoing information problems, students apply

all stages of the problem-solving methodology.

### **IT Software Development – Unit 3**

The focus in this unit is on programming as a strategy for solving problems for specific users in a networked environment. Students develop knowledge and skills in the use of a programming language. The programming language selected will be studied for both Units 3 and 4. Students are expected to have an overview of the problem-solving methodology and a detailed understanding of the stages of analysis, design and development. The analysis stage of the problem-solving methodology involves students developing and applying knowledge and skills in determining the requirements of solutions, identifying relevant factors that should be taken into account when designing the solutions, and in scoping the solutions. Students engage in designing the detailed specifications of how solutions will be developed and undertake the development stage by using the selected programming language to create planned solutions.

### **IT Software Development – Unit 4**

This unit focuses on how the information needs of individuals, organisations and society are and can be met through the creation of purpose-designed solutions in a networked environment. Students continue to study the programming language selected in Unit 3. In this unit students are required to engage in the design, development and evaluation stages of the problem-solving methodology. There is a focus on the design and development stages of the problem-solving methodology **when solving problems suitable for use with mobile devices. The final stage of the methodology, evaluation is covered.**

### **LEGAL STUDIES Unit 1**

This unit explores the distinction between legal and non-legal rules, the Victorian court hierarchy, and the process of making laws through Parliament. It focuses on the role of police, their powers of investigation, the procedures of a criminal trial and an examination of possible sanctions that are available to the criminal courts. **Students are required to:** explain the principles of criminal law and apply them to fact situations to justify a decision; evaluate the processes for the resolution of criminal disputes and analyse the capacity of these processes to achieve justice.

### **LEGAL STUDIES Unit 2**

This unit focuses on the effective resolution of civil disputes. It looks at the processes and procedures involved in civil litigation and the possible defences to civil claims within our legal system available to enforce the civil rights of our citizens. This unit provides students with the opportunity to explore a specific area of law and to analyse contemporary legal issues. **Students are required to:** explain the principles of civil law and be able to apply them to one or more real or hypothetical cases to justify a decision; evaluate the processes for the resolution of civil disputes and analyse the capacity of these processes to achieve justice.

### **LEGAL STUDIES Unit 3**

This unit aims to provide students with an understanding of the principles of the Australian parliamentary system, and the processes by which laws are made by parliament. It specifically examines why laws are needed and the significance of the Commonwealth Constitution on the

operation of our legal system. Students are required to examine how change to the law occurs via parliament and the courts, as well as evaluate the strengths and weaknesses of these law making bodies.

#### **LEGAL STUDIES Unit 4**

This unit focuses on examining and evaluating the operation of the Victorian legal system. Students explore institutions which resolve disputes in our community including: courts, tribunals and alternative method of dispute resolution. Criminal and civil trial and pre-trial procedures are examined and compared along with the current operation of the jury system. Consideration is also given to the adversary system of trial and a comparison made with the inquisitorial system. At the end of the unit students should be able to identify strengths and weakness of the Victorian legal system and make recommendations for possible improvement and reform.

#### **LOTE**

##### **FRENCH Unit 1**

In this unit, students are required to demonstrate the achievement of three outcomes. Outcome 1 requires the student to establish and maintain a spoken or written exchange related to personal areas of experience via an informal conversation or reply to personal letter/e-mail/fax. Outcome 2 requires students to listen to, read and obtain information from written and spoken texts in French and English. Outcome 3 requires students to produce a personal response to a text focusing on real or imaginary experience via an oral presentation, a review or an article.

##### **FRENCH Unit 2**

In this unit, students are required to demonstrate the achievement of three outcomes. Outcome 1 requires the student to be able to participate in a spoken or written exchange related to making arrangements and completing transactions via a formal letter/fax/e-mail or role-play or interview. Outcome 2 requires students to listen to, read and extract and use information and ideas from spoken and written texts. Outcome 3 requires students to give expression to real or imaginary experience in written or spoken form via a journal entry, personal account or short story.

##### **FRENCH Unit 3**

In this unit, students are required to demonstrate the achievement of three outcomes. Outcome 1 requires the student to express ideas through the production of original texts in a 250 word personal or imaginative essay. Outcome 2 requires students to analyse and use information from spoken texts. Outcome 3 requires students to exchange information, opinions and experiences via a three to four minute role-play, focusing on the resolution of an issue.

##### **FRENCH Unit 4**

In this unit, students are required to demonstrate the achievement of two outcomes. Outcome 1 requires the student to analyse and use information from written texts. Outcome 2 requires

students to respond critically to spoken and written texts that reflect aspects of the language and culture of French speaking communities.

The end-of-year examinations are:

- Oral examination
- Written examination

## **LOTE - INDONESIAN – Second Language Learners Units 1-4**

The areas of study for Indonesian comprise themes and topics, grammar, text types, vocabulary and kinds of writing. They are integrated to meet the needs of the student and the outcomes for the unit. The course is designed to build upon what is familiar, as well as develop knowledge and skills in new and more challenging areas.

There are three themes which have several topics: The Individual (Personal world, Education and aspirations and Personal opinions and values), The Indonesian-speaking communities (Lifestyles, Visiting Indonesia, Customs and traditions, Arts and entertainment and Stories from the past) and The Changing World (Social issues, Environmental issues, Australian and Indonesian relations and The world of work.) These themes and topics will be covered over the four units.

**Assessment** requirements differ depending on the student's enrolment in either Indonesian Native Speakers or Indonesian Second Language Learners. A special application form from DEECD will need to be processed before deciding the student's official enrolment in the LOTE.

**Distance Education may be an option for this study or a shared arrangement with other Maroondah Education Coalition (MEC) schools may occur.**

## **MATHEMATICS**

### **Note:**

A student taking all 3 Unit 3 & 4 (Further Maths, Maths Methods, Specialist Maths) over VCE, can only include the highest two results in their primary four subjects, plus 10% of the lesser result, in their ATAR calculations.

## **FOUNDATION MATHEMATICS Unit 1**

In Foundation Mathematics, there is a strong emphasis on using mathematics in practical contexts relating to everyday life, personal work and study. It is designed for students needing basic mathematical skills to support their other VCE subjects, including VET studies.

**This subject does not continue to Units 3 and 4 and is not a suitable prerequisite for other Unit 3 and 4 Maths subjects.**

A scientific calculator is required for this subject.

Areas of study include: Space and Shape, a review of common geometrical shapes, similarity and symmetry; Patterns in Number, a review of fractions and percentages with applications; Handling Data, a review of ways data can be displayed graphically and Measurement & Design, a review of measurement in metric units, scales, diagrams and costs.

Students should be able to achieve the following outcomes: confidently and competently use mathematical skills and concepts; apply and discuss basic mathematical procedures; use technology to apply mathematics to a range of practical contexts.

## **FOUNDATION MATHEMATICS Unit 2**

Areas of study include: Space & Shape, a review of 3-D diagrams; Patterns in Number, a review of financial calculations including spreadsheet applications; Handling Data, a review of ways to collect and interpret data; and Measurement and Design, a review of area and volume calculations, and calculation of costs given design specifications.

**This subject does not continue to Units 3 and 4 and is not a suitable prerequisite for other Unit 3 and 4 Maths subjects.**

Students should be able to achieve the following outcomes: confidently and competently use mathematical skills and concepts; apply and discuss basic mathematical procedures; use technology to apply mathematics to a range of practical contexts.

## **GENERAL MATHEMATICS Unit 1**

This unit involves the study of: Arithmetic, covering the integer and rational number systems including powers, primes, decimal and fraction forms, place values and number lines; Data Analysis and simulation covering Univariate Data, Shape and Measurement including length, area, volume, Pythagoras' Theorem in 2D and 3D; Linear Equations covering substitution and transposition, solving linear equations, simultaneous equations and solving worded problems. Students require the Casio Classpad CAS calculator to complete this subject.

## **GENERAL MATHEMATICS Unit 2**

This unit involves the study of: Bivariate Data Analysis exploring the relationship between independent and dependent variables, Trigonometry involving applications of right-angled triangles and non right-angled triangles, operations with Matrices and exploring applications and uses of Networks. Students require the Casio Classpad CAS calculator to complete this subject.

During Units 1 and 2, students should achieve the following outcomes: define and explain key concepts, and apply a range of related mathematical routines and procedures; apply mathematical processes in non-routine contexts and analyse and discuss these applications; use technology to produce results and carry out analysis in situations requiring problem solving, modelling or investigative techniques or approaches.

**Students who successfully complete this subject will be able to undertake Units 3 and 4 Further Mathematics.**

## **General Mathematics Advanced Unit 1 (Year 10 extension only)**

This unit, together with Unit 2, is designed to be undertaken by Year 10 students who have completed the Extension Maths course in Year 9. Topics have been chosen to broaden the

range of mathematics studied and to cover material that will be suitable preparation for Units 1 to 4 Maths Methods, Units 3 & 4 Further Maths and Units 3 & 4 Specialist Maths. This unit involves the study of Univariate Data, Matrices, Coordinate Geometry, and Linear and Non-linear Relations and Equations. Students require the Casio Classpad CAS calculator to complete this unit.

### **General Mathematics Advanced Unit 2 (Year 10 extension only)**

This unit involves the study of Bivariate Data, Complex Numbers, Variation and Vectors. Students require the Casio Classpad CAS calculator to complete this unit.

During Units 1 and 2, students should achieve the following outcomes: define and explain key concepts and apply a range of related mathematical routines and procedures; apply mathematical processes in non-routine contexts and analyse and discuss these applications; use technology to produce results and carry out analysis in situations requiring problem solving, modelling or investigative techniques or approaches.

### **MATHEMATICAL METHODS – Computer Algebra System (CAS) Unit 1**

This unit involves the study of Linear, Quadratic, Cubic, Exponential and Logarithmic functions and their graphical representation; and Algebraic Techniques, covering the use of formulas and equations to generalise and analyse work in all areas. The appropriate use of CAS technology is incorporated throughout the unit.

**For students considering selecting this subject it is highly recommended that a final Year 10 grade of at least a “Very Good” is achieved.**

### **MATHEMATICAL METHODS – Computer Algebra System (CAS) Unit 2**

This unit involves the study of Circular Functions, including their graphical representation; Calculus, covering the analysis of properties of functions, approximating the behaviour of functions and limits of approximations; Probability, including sampling with and without replacement; Combinatorics and Matrices. Algebraic techniques to generalise and analyse work in other areas continues to be developed. The appropriate use of CAS technology is incorporated throughout the unit.

In both Units 1 and 2 of Math Methods, students should achieve the following outcomes: define and explain key concepts and apply a range of related mathematical routines and procedures; apply mathematical processes in non-routine contexts and analyse and discuss these applications; use technology to produce results and carry out analysis in situations requiring problem solving, modelling or investigate approaches. A Casio Classpad CAS calculator is required to complete this subject.

**Students who successfully complete this subject will be able to undertake Units 3 and 4 Mathematical Methods. (A final mark of “C” or above is highly recommended)**

### **FURTHER MATHEMATICS Unit 3**

This unit consists of material from a compulsory core and one of three modules studied for the year. The core material involves the study of Data Analysis, which is approximately a term’s work. The module will be one of: Geometry and Trigonometry, Networks and Decision

Maths, Graphs and Relations or Matrices, with the remaining two modules studied in Unit 4. The appropriate use of CAS calculator technology is incorporated throughout the course.

Students require a Casio Classpad calculator to complete this course.

#### **FURTHER MATHEMATICS Unit 4**

This unit consists of the study of two modules from Geometry and Trigonometry, Networks and Decision Maths, Graphs and Relations and Matrices. The appropriate use of CAS calculator technology is incorporated throughout the course.

Students require a Casio Classpad calculator to complete this course.

#### **MATHEMATICAL METHODS Unit 3 - Computer Algebra Systems (CAS)**

This unit involves the study of Functions and Graphs, Algebra and Calculus. The graphs of polynomial, exponential, logarithmic, square root and power functions, and their inverses are investigated. Differentiation is studied as part of the Calculus area of study and applied to situations requiring the identification of the rate of change of a function, and in order to locate stationary points of functions. Mathematical Methods Units 3 and 4 contains required material for Specialist Mathematics Units 3 and 4. Students require the Casio Classpad CAS calculator to complete this subject.

**For students considering selecting this subject a final Unit 2 Maths Methods grade of at least a “C” is highly recommended.**

#### **MATHEMATICAL METHODS Unit 4 - Computer Algebra System (CAS)**

This unit involves the study of Functions and Graphs, Calculus and Probability. The continuation of the study of the Calculus topic includes a greater focus on Antidifferentiation and its applications. The study of Probability includes material on the Standard Normal Distribution, Markov chains and Binomial Distributions. Mathematical methods Unit 4 contains required material for Specialist mathematics Unit 4. Students require the Casio Classpad CAS calculator to complete this subject.

#### **SPECIALIST MATHEMATICS Unit 3**

This unit involves the study of: Functions, Relations & Graphs; Algebra; Calculus; and Vectors in two and three dimensions. Mathematical Methods Units 3 and 4 contain required material for Specialist Mathematics Units 3 and 4. Throughout the course, students must use CAS calculators .

Students require a Casio Classpad CAS calculator to complete this subject.

#### **SPECIALIST MATHEMATICS Unit 4**

This unit involves the continued study of: Algebra, Calculus and Vectors in two and three dimensions. The mechanics area of study is also covered in this unit. Mathematical Methods Units 3 and 4 contains required material for Specialist Mathematics Units 3 and 4.

#### **MEDIA STUDIES Units 1 & 2**

**Unit 1:** In this unit, students develop an understanding of the relationship between the media, technology and the representations present in media forms. Students study and explore new and emerging media technologies and analyse a variety of media texts including, websites, radio, television programs, film and print. Students also construct their own short films, photographs, advertisements and print productions in this unit.

**Unit 2:** This unit consists of both practical and theoretical study with an emphasis on production. Students learn about the specialist roles and production stages of filmmaking and eventually create and edit their own short film. Students also study the media industry in Australia and investigate ownership, current media issues, and the role of media organisations. Students have the opportunity to develop their film and photography skills in order to demonstrate their understanding of the media industry.

### **MEDIA STUDIES Units 3 & 4**

**Unit 3:** This unit focuses on film analysis and individual student production in the pre-production stage. Students are able to select from a range of mediums for their final product, including: film, photography, print, radio, animation, or a multimedia project.

**Unit 4:** In this unit students create their final product (which they commenced in unit 3) and complete postproduction. Students also analyse the ways in which media texts, from a particular era, are shaped by the dominant social values of that time. In addition, students will examine media influence over time and look at particular media theories and research models.

### **MUSIC PERFORMANCE - Units 1-4**

In music performance units 1-4 students develop their skills as soloists and as members of groups on their chosen instrument. Over the four units they will develop their instrumental technique, musicianship and compositional skills. They will also study performance conventions and aspects of interpretation.

#### **MUSIC PERFORMANCE Unit 1**

This unit focuses on building performance and musicianship skills. Students present performances of selected group and solo music works using one or more instruments. They study the work of other performers and explore strategies to optimise their own approach to performance. They identify technical, expressive and stylistic challenges relevant to works they are preparing for performance and practise technical work to address these challenges. They also develop skills in performing previously unseen music. Students study aural, theory and analysis concepts to develop their musicianship skills and apply this knowledge when preparing and presenting performances.

#### **MUSIC PERFORMANCE Unit 2**

In this unit students build their performance and musicianship skills. They present performances of selected group and solo music works using one or more instruments. Students study the work of other performers through listening and analysis and use specific strategies to optimise their own approach to performance. They also study strategies for developing technical and expressive performance skills. They identify technical, expressive and stylistic challenges relevant to works they are preparing for performance and practise related technical work. They develop skills in performing previously unseen music and study

specific concepts to build their musicianship knowledge and skills. Students also devise an original composition or improvisation.

### **MUSIC PERFORMANCE Unit 3**

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

### **MUSIC PERFORMANCE Unit 4**

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

### **MUSIC STYLE AND COMPOSITION Units 1- 4**

In Music Style and Composition Units 1-4 students explore the ways sound can be organised in music. As they develop an understanding of ways music is designed, created and performed in a range of styles and traditions, they create their own music.

Students listen and respond to a wide variety of music excerpts and develop skills in aural analysis by focusing on how the elements of music are treated and the way compositional devices are used.

In each unit students undertake focused aural and/or visual analysis of selected works. They uncover the music characteristics of the works and their associated styles, the context from which the works emerged and the processes composers/creators used to create the finished works.

Students create their own music in direct response to the music and the creative processes they have studied.

### **MUSIC STYLE AND COMPOSITION Unit 1**

This unit involves an exploration of a wide range of music styles. Students listen to music excerpts from different styles, traditions, times and places. They analyse specific works from three distinct music styles including music from a non-western style or tradition. They become familiar with the elements of music and consider the various ways composers/music creators treat these elements and use compositional devices to create music works. Students compose and/or arrange brief creative exercises in response to the practices of other composers/creators.

## **MUSIC STYLE AND COMPOSITION Unit 2**

This unit explores how composers and/or creators use music to create effects and elicit responses in multi-disciplinary forms.

Students listen to music excerpts from diverse styles and respond to the ways elements of music and compositional devices are used to create specific effects. Students study multi-disciplinary works that combine music and non-musical elements, and investigate how music is used in combination with these other elements. Students also consider the role and function of music in the complete work, for example ways it advances a narrative, provides commentary on a narrative or communicates a mood or feeling.

Students create music or a multi-disciplinary work in a form of their choice.

## **MUSIC STYLE AND COMPOSITION Unit 3**

In this unit students develop an understanding of the diverse practice of music creators working in different times, places and stylistic traditions.

Students develop skills in making critical responses to music excerpts. They analyse ways the compositional devices of contrast, repetition and variation are used in the excerpts.

Students develop knowledge about the music characteristics and style of two selected works or collections of minor works, one of which must be by an Australian composer/creator. They develop an understanding of the way contextual issues can influence works. Contextual issues may include cultural influences, social issues, practical issues, musical influences, commercial considerations and issues relating to the performer/s of the work.

Students create music in response to the music characteristics and creative approaches evident in the music studied.

## **MUSIC STYLE AND COMPOSITION Unit 4**

In this unit students create an original music work inspired by the study of music from different styles and traditions. They document their creative process/es from initial intention. Students develop skills in forming and presenting critical responses to music excerpts. They also analyse use of the compositional devices of contrast, repetition and variation.

Students investigate the music characteristics and style of two selected works or collections of minor works, one of which was created after 1910. They develop an understanding of the process/es used to create the works and how contextual issues may have influenced the creative process.

## **Philosophy Unit 1: Existence, knowledge and reasoning**

Philosophy is thus not only concerned with issues of public debate such as artificial intelligence, the justification of war in international politics, how to live a good life, or ethical decisions regarding our relationships with animals; and with the problems that lie at the foundation of these questions. Key questions in this unit include: What is the nature of reality? How can we acquire certain knowledge and how can we trust it? These are some of the questions that have challenged humans for millennia and underpin ongoing endeavours in areas as diverse as science, legal/social justice, and literature. This unit engages students with

fundamental philosophical questions through active, guided investigation and critical discussion of two key areas of philosophy: epistemology (how do we know what we know?) and metaphysics (what is and what could be?). The emphasis is on philosophical inquiry – ‘doing philosophy’ – and hence the study and practice of techniques of logic are central to this unit. As students learn to think philosophically, appropriate examples of philosophical viewpoints and arguments, both contemporary and historical, are used to support, stimulate and enhance their thinking about central concepts and problems. Students investigate relevant debates in applied epistemology and metaphysics, and consider whether the philosophical bases of these debates continue to have relevance in contemporary society and our everyday lives. Assessment tasks are a blend of short answer questions, a study of truth as represented in the news media and an evaluation of arguments.

### **Philosophy Unit 2: Questions of value**

Key questions in Unit 2 include: What are the foundations of our judgments about what is valuable and ‘good’ in our lives? What is the relationship between different types of value? How, if at all, can particular value judgments be defended or criticised? This unit invites students to explore these questions in relation to different categories of our judgement within the realms of morality, political and social philosophy. Students also explore ways in which viewpoints and arguments in value theory can inform and be informed by contemporary debates on a wide range of current topics. Assessment tasks include a study and analysis of a contemporary ethical debate; an imagined dialogue between two people advocating different philosophical positions on an issue, and a multimedia presentation.

### **Philosophy Unit 3: Minds, bodies and persons (Operating in 2016)**

This unit considers basic questions regarding the mind and the self through two key questions: Are human beings more than their physical bodies (and can they be?) Is there a basis for the belief that an individual remains the same person over time (or in the case of time travel?) Students critically compare the viewpoints and arguments put forward in set texts from the history of philosophy to their own views on these questions and to contemporary debates. It is important for students to understand that arguments make a claim supported by reasons and reasoning, whereas a viewpoint makes a claim without necessarily supporting it with reasons or reasoning.

### **Philosophy Unit 4: The good life (Operating in 2016)**

This unit considers the crucial question of what it is for a human to live well. What does an understanding of human nature tell us about what it is to live well? What is the role of happiness in a well lived life? Is morality central to a good life? How does our social context impact on our conception of a good life? In this unit, students explore texts by both ancient and modern philosophers that have had a significant impact on contemporary western ideas about the good life. Students critically compare the viewpoints and arguments in set texts from both ancient and modern periods to their own views on how we should live, and use their understandings to inform their analysis of contemporary debates. It is important for students to understand that arguments make a claim supported by reasons and reasoning, whereas a viewpoint makes a claim without necessarily supporting it with reasons or reasoning. Philosophical debates encompass philosophical questions and associated viewpoints and arguments within other spheres of discourse such as religion, psychology, sociology and politics.

## **PHYSICAL EDUCATION Unit 1 - Bodies in Motion**

In this unit students explore how the body systems work together to produce movement and analyse this motion using biomechanical principles. Through practical activities students

explore the relationships between the body systems and physical activity. They are introduced to the aerobic and anaerobic pathways utilised to provide the muscles with the energy required for movement and the basic characteristics of each pathway.

Students apply biomechanical principles to improve and refine movement. They use practical activities to demonstrate biomechanical principles and how the correct application of biomechanics can lead to improved performance in sport and physical activity.

**Area of Study 1:** Body Systems and Human Movement

**Area of Study 2:** Biomechanical Movement Principles

**Area of Study 3:** Technological advancements from a biomechanical perspective

Or

Injury prevention and rehabilitation

## **PHYSICAL EDUCATION Unit 2 - Sports Coaching and Physically Active Lifestyles**

This unit explores a range of coaching practices and their contribution to effective coaching and improved performance of an athlete. The way in which a coach influences an athlete can have a significant effect on performance. The approach a coach uses, the methods applied and the skills used will have an impact on the degree of improvement experienced by an athlete. By studying various approaches and applying this knowledge to a practical session, students gain a practical insight into coaching.

Students are introduced to physical activity and the role it plays in the health and wellbeing of the population. Through a series of practical activities, students gain an appreciation of the level of physical activity required for health benefits and investigate how participation in physical activity varies across the lifespan. They explore a range of factors that influence participation in regular physical activity, and collect data to identify perceived barriers and the ways in which these barriers can be overcome.

**Area of Study 1:** Effective Coaching Strategies

**Area of Study 2:** Physically Active Lifestyles

**Area of Study 3:** Decision making in Sport

Or

Promoting Active Living

**Assessment:** based on a selection of class tasks including written reports, tests, structured questions, oral reports, laboratories, case study analysis, media analysis, practical class participation analysis.

## **PHYSICAL EDUCATION Unit 3 - Physical Activity Participation and Physiological Performance**

This unit introduces students to an understanding of physical activity and sedentary behaviour from a participatory and physiological perspective. Students apply various methods to assess physical activity and sedentary levels, and analyse the data in relation to adherence to the National Physical Activity Guidelines. Students study and apply the social-ecological model to identify a range of Australian strategies that are effective in promoting participation in some form of regular activity.

Students investigate the contribution of energy systems to performance in physical activity. In particular, they investigate the characteristics of each system and the interplay of the systems during physical activity. Students explore the multi-factorial causes of fatigue and consider different strategies used to delay and manage fatigue and to promote recovery.

**Area of Study 1:** Monitoring and Promotion of Physical Activity

**Area of Study 2:** Physiological Responses to Physical Activity

### **PHYSICAL EDUCATION Unit 4 - Enhancing Performance**

Improvements in performance, in particular fitness, depend on the ability of the individual or coach to gain, apply and evaluate knowledge and understanding of training. Students undertake an activity analysis. Using the results of the analysis, they then investigate the required fitness components and participate in a training program designed to improve or maintain selected components. Athletes and coaches aim to continually improve and use nutritional, physiological and psychological strategies to gain advantage over the competition. Students learn to critically evaluate different techniques and practise that can be used to enhance performance, and look at the rationale for the banning or inclusion of various practices from sporting competition.

**Area of Study 1:** Planning, implementing and evaluating a training program

**Area of Study 2:** Performance enhancement and recovery practices

**Assessments for Units 3 and 4:** School assessed coursework will contribute a total of 50% of final result. An end of year examination will contribute 50% of the final result. Both Unit 3 and 4 will contribute 25% to the final result. This will be determined by school-assessed tasks set by the class teacher in accordance with VCAA requirements. These tasks will be completed mainly in class and within a limited time frame.

**There will be 4 tasks for Unit 3 and 4 tasks for Unit 4**

Tasks include:

Laboratory reports	Test – structured questions
Written report	Case Study analysis
Video analysis	Data analysis
Media analysis	Practical class analysis/reports

### **PHYSICS Unit 1**

This unit introduces the study of physics and focuses on understanding electricity, radioactivity, motion, and light and matter. Everyday occurrences are analysed to better understand the physical world.

### **Area of study 1: Electricity**

This area of study covers basic DC and AC electric supply, household electricity supply and concepts of voltage, current, power and electrical energy. Safety with electricity is also covered.

### **Area of Study 2: Nuclear and radioactivity**

This area of study includes such topics as radioactive decay, alpha, beta and gamma rays, half-life, carbon dating and decay series.

**Detailed Studies:** In this area student's study one of three special areas: Astronomy, Medical Physics or Energy from the Nucleus.

**Assessment:** Students' progress is measured and determined by assessment of practical work (10%), chapter assignments (20%), Topic tests (30%) and the End of Semester Examination (40%).

## **PHYSICS Unit 2**

### **Area of study 1: Movement**

This area of study includes velocity, acceleration and displacement, interpreting graphs of motion vs time, force, momentum and energy.

### **Area of Study 1: Light and Optics**

This area of study focuses on the nature of light, and examines such phenomena as reflection, refraction, lenses, optical instruments, the human eye, colour and the wave nature of light.

**Detailed studies :** In this area students study one of three special areas: Astrophysics, Aerospace or Alternative Energy Sources.

**Assessment :** Students' progress is measured and determined by assessment of practical work (10%), chapter assignments (10%), a major experimental investigation (10%), Topic tests (30%) and the End of Semester Examination (40%).

## **PHYSICS Unit 3**

This unit focuses on ideas that underpin much of the technology found in areas such as communications, commerce and industry.

**Area of Study 1: Motion in one and two dimensions** (Newton's laws of motion, kinematics, circular motion, projectiles, momentum, energy, gravitation, frames of reference)

### **Area of Study 2: Electronics and Photonics**

Revised electronics from Unit 2 and goes on to study transistors, amplifiers, photosensitive and photovoltaic devices.

**Detailed Studies:** In this area students study one of these three special areas – Einstein's Relativity, Structures and Materials or Further Electronics.

**Assessment:** The student's level of achievement will be determined by:

- School-assessed coursework – The outcomes are determined by a student-designed extended practical investigation and any two of – a multimedia presentation, a summary of practical reports, a data analysis exercise, a report, a test, or a response to a media article.

## **PHYSICS Unit 4**

This unit focuses on ideas that underpin much of the technology found in areas such as communications, commerce and industry.

**Area of Study 1: Electric Power** (magnetic fields, magnetic flux, electromagnetic induction, Lenz's Law, electric motors, AC generation, alternators, transmission lines).

**Area of Study 2: Interaction of Light and Matter** (interference and diffraction of light, photoelectric effect, electron diffraction, de Broglie waves, and atomic absorption and emission spectra)

### **Area of Study 3: Detailed Studies**

In this area students study one of these three special areas – Synchrotron and applications, Further Photonics or Recording and Reproducing Sound.

**Assessment:** The student's level of achievement will be determined by:

- School-assessed coursework – The outcomes are determined by a summary report of practical activities and any two of – a multimedia presentation, a data analysis exercise, a test, a report, a response to a media article, or a student-designed extended practical investigation.
- End of year examination.

## **PRODUCT DESIGN AND TECHNOLOGY: WOOD & TEXTILES**

Product Design Technology is a single subject that focuses on the design of a product and its development through to completion, simulating the design process for a client in the commercial world. This is a "folio subject" with the requirement to record and display options for design and stages in the process. You may choose to do this in one class: Textiles **or** Wood. You cannot choose more than one subject (2 Units) in Design Technology at either Unit 1/2 or 3/4 level.

### **Unit 1: Product re-design and sustainability**

This unit focuses on the analysis, modification and improvement of a product design with consideration of the materials used and issues of sustainability. Finite resources and the proliferation of waste require sustainable product design thinking. Many products in use today have been redesigned to suit the changing needs and demands of users but with little consideration of their sustainability.

**Area of Study 1** provides an introduction and structured approach towards the Product design process and Product design factors. Students learn about intellectual property (IP), its implications related to product design and the importance of acknowledging the IP rights of the original designer.

**In Area of Study 2**, students produce a re-designed product safely using tools, equipment, machines and materials, compare it with the original design and evaluate it against the needs and requirements outlined in their design brief. If appropriate, a prototype made of less expensive materials can be presented; however, the specific materials intended for the final product would need to be indicated. A prototype is expected to be of full scale and considered to be the final design of a product before production of multiples.

### **Unit 2: Collaborative design**

In this unit students work in teams to design and develop an item in a product range or contribute to the design, planning and production of a group product. They focus on factors including: human needs and wants; function, purpose and context for product design; aesthetics; materials and sustainability; and the impact of these factors on a design solution.

**In Area of Study 1**, students work both individually and as members of a small design team to address a problem, need or opportunity and consider the associated human-centred design factors. They design a product within a range, based on a theme, or a component of a group product. They research and refer to a chosen style or movement.

**In Area of Study 2** the product produced individually or collectively is evaluated.

### **Unit 3: Applying the Product design process**

In this unit students are engaged in the design and development of a product that meets the needs and expectations of a client and/or an end-user, developed through a design process and influenced by a range of complex factors. These factors include the purpose, function and context of the product; human-centred design factors; innovation and creativity; visual, tactile and aesthetic factors; sustainability concerns; economic limitations; legal responsibilities; material characteristics and properties; and technology.

In the initial stage of the Product design process, a design brief is prepared. It outlines the context or situation around the design problem and describes the needs and requirements in the form of constraints or considerations.

**In Area of Study 1**, students examine how a design brief is structured, how it addresses particular Product design factors and how evaluation criteria are developed from the constraints and considerations in the brief. They develop an understanding of techniques in using the design brief as a springboard to direct research and design activities.

**In Area of Study 2**, students examine how a range of factors, including new and emerging technologies, and international and Australian standards, influence the design and development of products within industrial manufacturing settings. They consider issues associated with obsolescence and sustainability models.

**In Area of Study 3**, students commence the application of the Product design process for a product design for a client and/or an end-user, including writing their own design brief which will be completed and evaluated in Unit 4.

### **Unit 4: Product development and evaluation**

In this unit students learn that evaluations are made at various points of product design, development and production. In the role of designer, students judge the suitability and viability of design ideas and options referring to the design brief and evaluation criteria in collaboration with a client and/or an end-user. Comparisons between similar products help to judge the success of a product in relation to a range of Product design factors. The environmental, economic and social impact of products throughout their life cycle can be analysed and evaluated with reference to the Product design factors.

**In Area of Study 1**, students use comparative analysis and evaluation methods to make judgments about commercial product design and development.

**In Area of Study 2**, students continue to develop and safely manufacture the product designed in Unit 3, Outcome 3, using materials, tools, equipment and machines, and record and monitor the production processes and modifications to the production plan and product.

**In Area of Study 3**, students evaluate the effectiveness and efficiency of techniques they used and the quality of their product with reference to evaluation criteria and client and/or end-user feedback. Students make judgments about possible improvements. They produce an informative presentation to highlight the product's features to the client and/or an end-user and explain its care requirements.

## **PSYCHOLOGY Unit 1**

Students will look at the development of Psychology over time, specialist career fields in Psychology and their contribution to understanding human behavior. They will consider scientific versus non-scientific approaches to investigating and explaining human behavior as well as research methods and ethics associated with the study of psychology.

Students will consider biological, behavioural, cognitive and socio-cultural influences on visual perception and the contribution of classic and contemporary studies to the development of psychological theories that are used to predict and explain human thoughts, feelings and behaviours associated with particular stages of development over a lifespan. Students will look at the changes in the interaction between the biological, cognitive and socio-cultural influences and learned behaviours that contribute to an individual's psychological development and mental wellbeing at different stages and will consider the interaction of heredity and environment in psychological development.

## **PSYCHOLOGY Unit 2**

Students will look at aspects of social psychology, including attitude formation and change, behaviour in groups, pro-social and anti-social behaviour, intelligence and personality. Social Psychology focuses on how behaviour and perceptions of self and others are shaped by social and cultural influences including the attitudes and behaviours of groups. The interrelationship between attitudes, prejudice and discrimination as well as the social influences on the individual such as the effects of status and power within social groups will be looked at. Pro- and anti-social behaviour of the individual will be explored as well as research methods appropriate to the measurement of attitudes and behaviours and the ethical principles that are applied to associated research investigations.

Students will explore the attributes equated with intelligence, and the traits associated with personality. They will look at scientific ways of describing, measuring and classifying intelligence and personality and analyse classic and contemporary theories of intelligence and personality, including the influence of genetic and environmental factors. Students will also compare the research methods in the development of these theories and look at the ethical issues associated with the use of standardized psychological tests.

### **PSYCHOLOGY Unit 3**

This unit focuses on the study of the relationship between the brain and the mind through examining the basis of consciousness, behaviour, cognition and memory. Students study the structure and functioning of the human brain and nervous system, and explore the nature of consciousness and altered states of consciousness including sleep.

Students analyse research methodologies associated with classic and contemporary theories, studies and models, consider ethical issues associated with the conduct of research and the use of findings, and apply appropriate research methods when undertaking their own investigations.

### **PSYCHOLOGY Unit 4**

This unit focuses on the interrelationship between learning, the brain and its response to experiences, and behaviour. The overall quality of functioning of the brain depends on experience, and its plasticity means that different kinds of experience change and configure the brain in different ways.

Students investigate learning as a mental process that leads to the acquisition of knowledge, development of new capacities and changed behaviours. Understanding the mechanisms of learning, the cognitive processes that affect readiness for learning, and how people learn informs both personal and social issues.

### **STUDIO ARTS Unit 1 - Artistic inspiration and techniques**

This unit focuses on using sources of inspiration and individual ideas as the basis for developing artworks and exploring a wide range of materials and techniques as tools for communicating ideas, observations and experiences through art making.

Students also explore and research the ways in which artists from different times and cultures have interpreted and expressed ideas, sourced inspiration and used materials and techniques in the production of artworks.

- Developing art ideas
- Materials and techniques
- Interpretation of art ideas and use of materials and techniques

### **STUDIO ARTS Unit 2 - Design exploration and concepts**

This unit focuses on students establishing and using a design process to produce artworks. The design process includes the formulation and use of an individual approach to locating sources of inspiration, experimentation with materials and techniques, and the development of aesthetic qualities, directions and solutions prior to the production of artworks.

Students also develop skills in the visual analysis of artworks. Artworks made by artists from different times and cultures are analysed to understand the artists' ideas and how they have created aesthetic qualities and identifiable styles.

- Design exploration
- Ideas and styles in artworks

### **STUDIO ARTS Unit 3 - Studio production and professional art practices**

This unit focuses on the implementation of an individual design process leading to the production of a range of potential directions and solutions. Students plan and apply a design process to explore and develop their individual ideas. Analysis of these explorations and the development of the potential directions an intrinsic part of the design process to support the making of finished artworks in Unit 4.

The study of artists and their work practices and processes may provide inspiration for students' own approaches to art making. Students investigate and analyse the response of artists to a wide range of stimuli, and examine their use of materials and techniques. They explore professional art practices of artists in relation to particular artworks and art form/s and identify the development of styles in artworks.

- Exploration proposal
- Design process
- Professional art practices and style

### **STUDIO ARTS Unit 4 - Studio production and art industry contexts**

This unit focuses on the production of a cohesive folio of finished artworks. To support the creation of the folio, students present visual and written documentation explaining how selected potential directions generated in Unit 3 were used to produce the cohesive folio of finished artworks.

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.

- Folio of artworks
- Focus, reflection and evaluation
- Art industry contexts

### **Visual Communication Design 2014**

#### **Unit 1: Introduction to visual communication design**

This unit focuses on using visual language to communicate messages, ideas and concepts. This involves acquiring and applying design thinking skills as well as drawing skills to make messages, ideas and concepts visible and tangible. Students practice their ability to draw what they observe and they use visualisation drawing methods to explore their own ideas and concepts. Students develop an understanding of the importance of presentation drawings to clearly communicate their final visual communications.

Through experimentation and through exploration of the relationship between design elements and design principles, students develop an understanding of how design elements and principles affect the visual message and the way information and ideas are read and perceived. Students review the contextual background of visual communication through an investigation of design styles. This research introduces students to the broader context of the place and purpose of design. In this unit students are introduced to three stages of the design process: researching designers, generating ideas and applying design knowledge and drawing skills to develop concepts.

#### **Unit 2: Applications of visual communication design**

This unit focuses on the application of visual communication design knowledge; design thinking skills and drawing methods to create visual communications to meet specific purposes in designated design fields. Students use presentation drawing methods that incorporate the use of technical drawing conventions to communicate information and ideas associated with the environmental or industrial fields of design. They investigate how typography and imagery are used in visual

communication design. They apply design thinking skills when exploring ways in which images and type can be manipulated to communicate ideas and concepts in different ways in the communication design field. Students develop an understanding of the design process as a means of organising their thinking about approaches to solving design problems and presenting ideas. In response to a brief, students engage in the stages of research, generation of ideas and development of concepts to create visual communications.

### **Unit 3: Design thinking and practice**

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

Students use their research and analysis of visual communication designers to support the development of their own work. They establish a brief and apply design thinking skills through the design process detailed on pages 12 and 13. They identify and describe a client, two distinctly different needs of that client, and the purpose, target audience, context and constraints relevant to each need.

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

### **Unit 4: Design development and presentation**

The focus of this unit is the development of design concepts and two final presentations of visual communications to meet the requirements of the brief. This involves applying the design process twice to meet each of the stated needs. Having completed their brief and generated ideas in Unit 3, students continue the design process 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. As students revisit stages to undertake further research or idea generation when developing and presenting their design solutions, they develop an understanding of the iterative nature of the design process. Ongoing reflection and evaluation of design solutions against the brief assists students with keeping their endeavours focused. Students refine and present two visual communications within the parameters of the brief. They reflect on the design process and the design decisions they took in the realisation of their ideas. They evaluate their visual communications and devise a pitch to communicate their design thinking and decision making to the client.