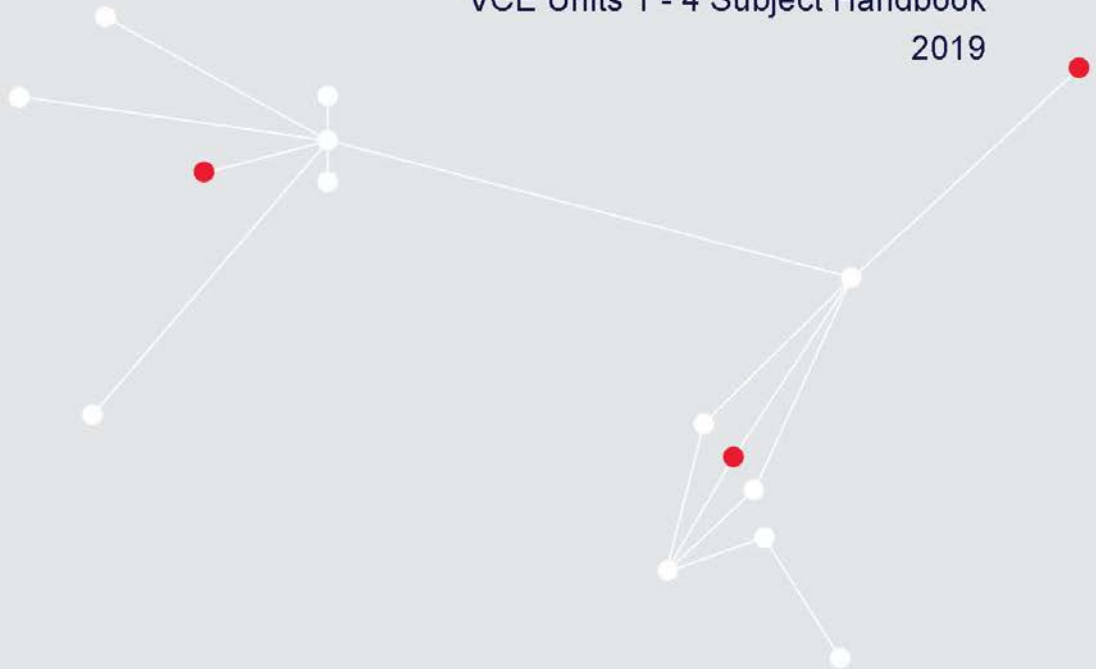


ELTHAM HIGH SCHOOL
VCE Units 1 - 4 Subject Handbook
2019



**Eltham High School
Withers Way
Eltham 3095**

Telephone (03) 9430 5111

Senior School Office (03) 9430 5132

Facsimile (03) 9431 0448

Email info@elthamhs.vic.edu.au

Web www.elthamhs.vic.edu.au

Principal Mr Vincent Sicari

Assistant Principals Ms Fran Mullins

Mr Tim Natoli

Mr Darren Squires

Senior School Sub School Leader Ms Anna Panas

Business Manager Ms Kathleen Hannan

TABLE of CONTENTS

UNIT DESCRIPTIONS.....	4
ARTS / HUMANITIES SUBJECTS	4
ACCOUNTING	4
ART	5
BUSINESS MANAGEMENT	6
DRAMA	8
ECONOMICS	10
ENGLISH.....	11
ENGLISH LANGUAGE	13
LITERATURE	15
EXTENDED INVESTIGATION.....	16
GEOGRAPHY	18
AUSTRALIAN AND GLOBAL POLITICS	20
GLOBAL POLITICS.....	20
HEALTH AND HUMAN DEVELOPMENT	21
HISTORY	22
LEGAL STUDIES.....	23
LANGUAGES: FRENCH.....	24
LANGUAGES: INDONESIAN	25
MEDIA.....	26
MUSIC PERFORMANCE	27
MUSIC INVESTIGATION.....	28
OUTDOOR AND ENVIRONMENTAL STUDIES	30
PHILOSOPHY	30
PHYSICAL EDUCATION.....	32
STUDIO ARTS	33
STUDIO ARTS: PHOTOGRAPHY	34
THEATRE STUDIES	35
VISUAL COMMUNICATION DESIGN.....	36
MATHEMATICS, SCIENCE AND TECHNOLOGY SUBJECTS.....	38
BIOLOGY	38
CHEMISTRY	39
ENVIRONMENTAL SCIENCE	41
FOOD STUDIES.....	42
COMPUTING.....	43
MATHEMATICS	44
PHYSICS.....	48
PRODUCT DESIGN AND TECHNOLOGY	49
PSYCHOLOGY	51
SYSTEMS ENGINEERING.....	54
VCE VET SUBJECTS.....	57
VET VCE Certificate II in Hospitality (Kitchen Operations).....	57
2018 VCE Senior School Study Charges (Indicative for 2019).....	59

UNIT DESCRIPTIONS

ARTS / HUMANITIES SUBJECTS

ACCOUNTING

Please Note: This study summary comprises excerpts from the VCE Accounting Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/account/AccountingSD-Units1-4.pdf>) to view the full accredited Study Design and other resources.

Rationale: Accounting is the process of recording, reporting, analysing and interpreting financial data and accounting information which is then communicated to internal and external users of this information. It plays an integral role in the successful operation and management of businesses. VCE Accounting focuses on small business. Unit 1 begins with a small service business, allowing students to develop knowledge and skills in accounting without the complexities of accounting for trading businesses or large organisations. Units 2, 3 and 4 then focus on a single activity trading business where students build on and extend their accounting skills. Many students who study VCE Accounting will go on to further studies and careers in business and Finance

Unit 1: Establishing and operating a service business: This unit focuses on the establishment of a small business and the accounting and financial management of the business. Students are introduced to the processes of gathering and recording financial data and the reporting and analysing of accounting information by internal and external users. The cash basis of recording and reporting is used throughout this unit. Using single entry recording of financial data and analysis of accounting information, students examine the role of accounting in the decision-making process for a sole proprietor of a service business. Where appropriate, the accounting procedures developed in each area of study should incorporate the application of accounting principles and the qualitative characteristics of accounting information

Unit 2: Accounting for a trading business: This unit extends the accounting process from a service business and focuses on accounting for a sole proprietor of a single activity trading business. Students use a single entry recording system for cash and credit transactions and the accrual method for determining profit. They analyse and evaluate the performance of the business using financial and non-financial information. Using these evaluations, students suggest strategies to the owner on how to improve the performance of the business. Students develop their understanding of the importance of ICT in the accounting process by using a commercial accounting software package to establish a set of accounts, record financial transactions and generate accounting reports. Where appropriate, the accounting procedures developed in each area of study should incorporate the application of accounting principles and the qualitative characteristics of accounting

Unit 3: Recording and reporting for a trading business: 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 use the double entry system of recording financial data and prepare reports using the accrual basis of accounting. The perpetual method of stock recording with the First In, First Out (FIFO) method is also used. Where appropriate, the accounting procedures developed in each area of study should incorporate the application of accounting principles and the qualitative characteristics of accounting

Unit 4: Control and analysis of business performance: This unit provides an extension of the recording and reporting processes from Unit 3 and the use of financial and non-financial information in assisting management in the decision-making process. The unit is based on the double entry accounting system and the accrual method of reporting for a single activity trading business using the perpetual inventory recording system. Students investigate the role and importance of budgeting for the business and undertake the practical completion of

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

ART

Please Note: This study summary comprises excerpts from the VCE Art Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/art/artindex.html>) to view the full accredited Study Design and other resources.

Rationale: VCE Art introduces the role of art, in all forms of media, in contemporary and historical cultures and societies. Students build an understanding of how artists, through their practice and the artworks they produce, communicate their experiences, ideas and viewpoints. Students view artworks and investigated working practices of artists through the Analytical Frameworks (Structural, Personal, Cultural and Contemporary).

Through exploration and experimentation, students develop skills in creative, critical, reflective and analytical thinking to explore, develop and refine visual artworks in a range of art forms.

Unit 1: Artworks, experience and meaning

Artworks and Meaning:

Students analyse and interpret the meaning and messages of artworks by using the *Structural* and the *Personal Frameworks*.

Students gain an understanding that art may reflect the artist's interest, experiences and thinking when exploring the intention of the artist. A minimum of three artists are studied from a range of cultural backgrounds.

Art making and meaning:

In this unit students undertake a variety of art process and techniques to develop a range of artworks and visual responses to selected themes and starting points. Students learn to experiment with different materials and art forms when making artworks.

Unit 2: Artworks and contemporary culture

Contemporary artworks and culture:

Students investigate and explore the work of at least four artists, of which two of those must have a common theme. Students learn to apply the Cultural and Contemporary frameworks when analysing and interpreting artworks made prior to and after 1990. Students learn to analyse and compare artworks from different cultures and times.

Art making and contemporary culture:

Students explore areas of personal interest related to culture and contemporary practices. They use the art process to experiment with visual language to develop, present and document their ideas. Students create a range of visual responses including at least one finished artwork.

Unit 3: Artworks, ideas and values

Interpreting art:

Students undertake research and exploration of artworks produced before 1990 and since 1990 and compare these using the Analytical Frameworks (Structural, Personal, Cultural and Contemporary).

Students respond critically as they interpret the meanings and messages of artworks. They develop, examine and analyse their own and others' opinions and use evidence to support different points of view.

Investigating and Interpretation through art making:

Students use the art process to develop their own art responses inspired by ideas, concepts and observations. They apply imagination and creativity as they explore and develop visual language through the investigation and experimentation of materials, techniques and art forms in the development and creation of a body of work with at least one finished artwork at the end of Unit 3. Students document and analyse their thinking and working practices throughout the art process using the Analytical Frameworks to guide their reflection.

Unit 4: Artworks, ideas and viewpoints

Discussing Art:

Students discuss art ideas and issues and the varying interpretations of the role of art in society. Students select a statement about an art idea and related issue that they research, analyse and interpret. They refer to a range of resources and viewpoints to examine opinions and arguments, and refer to artists and artworks to support and develop their own ideas.

Realisation and Resolution:

Students continue to develop the body of work begun in Unit 3 and work toward resolved ideas and concepts leading to at least one finished artwork in addition to the artwork that was completed for Unit 3. They reflect on personal concepts and ideas as they progressively develop and refine their artistic practice.

A course charge applies for this subject. Refer to 2017 Senior School Course Charges

The course charge includes an excursion to a gallery, artist talks and specialised art materials

In addition students are required to purchase a basic art kit containing a folio, visual diary, and drawing and painting materials.

BUSINESS MANAGEMENT

Please Note: This study summary comprises excerpts from the VCE Business Management Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/busmngmnt/businessindex.html>) to view the full accredited Study Design and other resources.

Rationale: In contemporary Australian society there are a range of businesses managed by people who establish systems and processes to achieve a variety of objectives. These systems and processes are often drawn from historical experience and management theories designed to optimise the likelihood of achieving success. In studying VCE Business Management, students develop knowledge and skills that enhance their confidence and ability to participate effectively as socially responsible and ethical members, managers and leaders of the business community, and as informed citizens, consumers and investors. The study of Business Management leads to opportunities across all facets of the business and management field such as small business owner, project manager, human resource manager, operations manager or executive manager. Further study can lead to specialisation in areas such as marketing, public relations and event management.

This study enables students to:

- understand and apply business concepts, principles and terminology
- understand the complex and changing environments within which businesses operate
- understand the relationships that exist between a business and its stakeholders
- recognise the contribution and significance of business within local, national and global markets
- analyse and evaluate the effectiveness of management strategies in different contexts
- propose strategies to solve business problems and take advantage of business opportunities.

Unit 1: Planning a business: Businesses of all sizes are major contributors to the economic and social wellbeing of a nation. Therefore how businesses are formed and the fostering of conditions under which new business ideas can emerge are vital for a nation's wellbeing. Taking a business idea and planning how to make it a reality are the cornerstones of economic and social development. In this unit students explore the factors affecting business ideas and the internal and external environments within which businesses operate, and the effect of these on planning a business.

Outcome 1: On completion of this unit the student should be able to describe how and why business ideas are created and developed, and explain the methods by which a culture of business innovation and entrepreneurship may be fostered in a nation.

Outcome 2: On completion of this unit the student should be able to describe the external environment of a business and explain how the macro and operating factors within it may affect business planning.

Outcome 3: On completion of this unit the student should be able to describe the internal business environment and analyse how factors from within it may affect business planning.

Unit 2: Establishing a business: This unit focuses on the establishment phase of a business's life. Establishing a business involves complying with legal requirements as well as making decisions about how best to establish a system of financial record keeping, staff the business and establish a customer base. In this unit students examine the legal requirements that must be satisfied to establish a business. They investigate the essential features of effective marketing and consider the best way to meet the needs of the business in terms of staffing and financial record keeping. Students analyse various management practices in this area by applying this knowledge to contemporary business case studies from the past four years.

Outcome 1: On completion of this unit the student should be able to explain the importance when establishing a business of complying with legal requirements and financial record keeping, and establishing effective policies and procedures.

Outcome 2: On completion of this unit the student should be able to explain the importance of establishing a customer base and a marketing presence to achieve the objectives of the business, analyse effective marketing and public relations strategies and apply these strategies to business-related case studies.

Outcome 3: On completion of this unit the student should be able to discuss the staffing needs for a business and evaluate the benefits and limitations of management strategies in this area from both an employer and an employee perspective.

Unit 3: Managing a business: In this unit students explore the key processes and issues concerned with managing a business efficiently and effectively to achieve the business objectives. Students examine the different types of businesses and their respective objectives. They consider corporate culture, management styles, management skills and the relationship between each of these. Students investigate strategies to manage both staff and business operations to meet objectives. Students develop an understanding of the complexity and challenge of managing businesses and through the use of contemporary business case studies from the past four years have the opportunity to compare theoretical perspectives with current practice.

Outcome 1: On completion of this unit the student should be able to explain theories of motivation and apply them to a range of contexts, and analyse and evaluate strategies related to the management of employees.

Outcome 2: On completion of this unit the student should be able to explain theories of motivation and apply them to a range of contexts, and analyse and evaluate strategies related to the management of employees.

Outcome 3: On completion of this unit the student should be able to analyse the relationship between business objectives and operations management, and propose and evaluate strategies to improve the efficiency and effectiveness of business operations.

Unit 4: Transforming a business: Businesses are under constant pressure to adapt and change to meet their objectives. In this unit students consider the importance of reviewing key performance indicators to determine current performance and the strategic management necessary to position a business for the future. Students study a theoretical model to undertake change, and consider a variety of strategies to manage change in the most efficient and effective way to improve business performance. They investigate the importance of leadership in change management. Using a contemporary business case study from the past four years, students evaluate business practice against theory

Outcome 1: On completion of this unit the student should be able to explain the way business change may come about, use key performance indicators to analyse the performance of a business, discuss the driving and restraining forces for change and evaluate management strategies to position a business for the future.

Outcome 2: On completion of this unit the student should be able to evaluate the effectiveness of a variety of strategies used by managers to implement change and discuss the effect of change on the stakeholders of a business.

DRAMA

Please Note: This study summary comprises excerpts from the VCE Drama Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/drama/dramaindex.html>) to view the full accredited Study Design and other resources.

Rationale: The study of Drama focuses on the creation and performance of characters, narratives and stories. Students draw on a range of content and use role and expressive skills to create, embody and present dramatic works. They analyse the development of their performances and explore the actor–audience relationship. Students develop an understanding of dramatic elements, stagecraft and theatrical conventions appropriate to performance styles from a range of cultural contexts. They view and analyse performances by professional and other drama practitioners.

The study provides students with opportunities to explore the ways in which drama represents social, political, and historical contexts, narratives and stories. Students develop an understanding of the language of drama including terminology and expressions appropriate to the context of the drama that students create, perform and analyse. Students develop an appreciation of drama as an art form through participation, criticism and aesthetic understanding.

Unit 1: Dramatic storytelling: This unit focuses on creating, presenting and analysing a devised performance that includes real or imagined characters, based on personal, cultural and/or community experiences and stories.

Students examine storytelling through the creation of solo and/or ensemble devised performance/s and manipulates expressive skills in the creation and presentation of characters. They develop awareness and understanding of how characters are portrayed in naturalistic and non-naturalistic performance style/s. Students also gain an awareness of how performance is shaped and given meaning. They investigate a range of stimulus material and learn about stagecraft, theatrical conventions and performance styles from a range of social and cultural contexts.

This unit also involves analysis of a student's own performance work and analysis of a performance by professional and other drama practitioners.

In this unit students use performance styles from a range of contexts associated with naturalism and non-naturalism.

Unit 2: Creating Australian drama: This unit focuses on the use and documentation of the processes involved in constructing a devised solo or ensemble performance. Students create, present and analyse a performance based on a person, an event, an issue, a place, an art work, a text and/or an icon from a contemporary or historical Australian context.

Students use a range of stimulus material in creating performance and examine performance styles from a range of cultural and historical contexts. Theatrical conventions appropriate to the selected performance styles are also explored. Student's knowledge of how dramatic elements are enhanced or manipulated through performance is further developed in this unit.

This unit also involves analysis of a student's own performance work as well as the performance of an Australian work. An Australian work might:

- be written, adapted or devised by Australian writers or theatre-makers;
- reflect aspects of the Australian identity, for example the indigenous voice, the Celtic perspective, the twentieth or twenty-first century migrant experience, the refugee experience, the urban and bush perspectives.

In this unit, students use performance styles from a range of historical, cultural and social contexts including styles associated with non-naturalism.

Unit 3: Ensemble performance: This unit focuses on non-naturalistic drama from a diverse range of contemporary and/or cultural performance traditions. Non-naturalistic performance styles and associated theatrical conventions are explored in the creation, development and presentation of an ensemble performance. Collaboration to create, develop and present ensemble performance is central to this performance. Students use and manipulate dramatic elements, expressive skills and performance styles to enhance performance. They select stagecraft and theatrical conventions as appropriate to the performance. Students also document and evaluate stages involved in the creation, development and presentation of the ensemble performance.

A professional performance that incorporates non-naturalistic performance style/s and production elements selected from the prescribed *VCE Unit 3 Drama Play-list* published annually in the *VCAA Bulletin* will also be analysed.

Unit 4: Solo performance: 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 published by the Victorian Curriculum and Assessment Authority. The processes involved in the creation and presentation of character/s in solo performance are analysed and evaluated.

ECONOMICS

Please Note: This study summary comprises excerpts from the VCE Economics Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/economics/economicsindex.html>) to view the full accredited Study Design and other resources.

Rationale Economics is the study of how individuals and societies use resources to satisfy needs. It is central to understanding why individuals and societies behave as they do.

Economic decisions are about resource use in producing goods and services and about the distribution of the proceeds of production. To understand the basis for these decisions, and their impact, requires an understanding of basic economic principles and concepts. Students will develop an awareness of the links between economics and the influence of political, ethical, environmental and social forces on economic decision making.

VCE Economics equips students with a unique set of concepts, ideas and tools to apply to individual and social circumstances, and helps them to be more informed citizens, consumers, workers, voters, producers, savers and investors.

Skills, as well as knowledge, play an important part in the VCE study of Economics. Students develop an ability to identify, collect and process data from a range of sources. They use the inquiry process to plan economics investigations, analyse data and form conclusions supported by evidence. They also use economic reasoning, including cost-benefit analysis, to solve economic problems which assist them in understanding the economy, society and environment, and to verify values and attitudes about issues affecting the economy, society and environment.

Unit 1: Economics: Choices and Consequences: Outcome 1: On completion of this unit the student should be able to explain the role of markets in the Australian economy, how markets operate to meet the needs and want of its citizens, and apply economic decision making to current economic problems.

Outcome 2: On completion of this unit the student should be able to describe the nature of economic growth and sustainable development and one other contemporary economic issue, explain how these issues are affected by the actions of economic decision-makers, and evaluate the impact of these issues on living standards.

Unit 2: Economic Change: Issues and Challenges: Outcome 1: On completion of this unit the student should be able to describe the factors that influence Australia's population and labour markets, and analyse how changes in these areas may impact upon living standards.

Outcome 2: On completion of this unit the student should be able to describe the nature of two contemporary global economic issues, explain how each issue is affected by the actions of economic decision-makers, and evaluate the impact of the issue on living standards.

Units 3 & 4; Rationale: Economics is the study of how individuals and societies use resources to satisfy needs. It is central to understanding why individuals and societies behave as they do. Economic decisions are about resource use in producing goods and services and about the distribution of the proceeds of production. To understand the basis for these decisions, and their impact, requires an understanding of basic economic principles and concepts. Students will develop an awareness of the links between economics and the influence of political, ethical, environmental and social forces on economic decision making.

VCE Economics equips students with a unique set of concepts, ideas and tools to apply to individual and social circumstances, and helps them to be more informed citizens, consumers, workers, voters, producers, savers and investors.

Skills, as well as knowledge, play an important part in the VCE study of Economics. Students develop an ability to identify, collect and process data from a range of sources. They use the inquiry process to plan economics investigations, analyse data and form conclusions supported by evidence. They also use economic reasoning, including cost-benefit analysis, to

solve economic problems which assist them in understanding the economy, society and environment, and to verify values and attitudes about issues affecting the economy, society and environment.

Unit 3: Economic Activity: Outcome 1: On completion of this unit the student should be able to explain how markets operate to allocate scarce resources, and discuss the extent to which markets operate freely in Australia.

Outcome 2: On completion of this unit the student should be able to explain the nature and importance of key economic goals in Australia, describe the factors that may have influenced the achievement of these goals over the past four years, and analyse the impact each of these goals may have on living standards.

Unit 4: Economic Management: Outcome 1: On completion of this unit the student should be able to explain the nature and operation of government macroeconomic demand management policies, explain the relationship between budgetary and monetary policy, and analyse how the policies may be used to achieve key economic goals and improve living standards in Australia.

Outcome 2: On completion of this unit the student should be able to explain the nature and operation of government aggregate supply policies analyse how they may be used to achieve key economic goals and improve living standards in Australia, and analyse the current government policy mix.

(Note: Units 3&4 Economics will not be offered in 2019)

VCE ENGLISH

An introduction to the three VCE English subjects offered at Eltham High School: VCE English, VCE English Language and VCE Literature.

There are three choices for English studies in VCE, each of which have a particular focus. They all have aspects that are complementary and unique from one another. English is the VCE study most like the type of English students have studied throughout Middle School. Students analyse and interpret a range of written and visual texts. They analyse the use of language to persuade within media texts and write a within a range of creative forms. In Literature, students develop an understanding of a variety of forms including films, plays, poetry, memoirs, short stories, and novels. Literature students gain knowledge of appropriate metalanguage to discuss the texts in terms of the literary conventions and theoretical frameworks, criticism and ideologies. English Language is an introduction to the linguistics of Australian English and other English varieties. Students gain knowledge of the subsystems and metalanguage used to identify and analyse features of language and its use in speech communities. As with other English subjects, English Language requires students to engage with texts, analyse their meaning and construction in detail, and write essays addressing issues associated with linguistics.

ENGLISH

Please Note: This study summary comprises excerpts from the VCE English/English as a Second Language Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/english/index.html>) to view the full accredited Study Design and other resources.

Rationale: The study of English contributes to the development of literate individuals capable of critical and creative thinking, aesthetic appreciation and creativity. This study also develops students' ability to create and analyse texts, moving from interpretation to reflection and critical analysis. This study will build on key concepts of language, literature and literacy, and the modes of listening, speaking, reading, viewing and writing.

Unit 1: *The focus of this unit is on students reading and responding to a range of texts analytically and creatively. They will analyse arguments and the use of persuasive language in texts and create their own texts intended to position audiences.*

Area of Study 1: Reading and Creating Texts

Outcome 1a: Students develop analytical responses dealing with the ways in which texts convey meaning. They explore how authors use structures, conventions and language to represent characters, settings, events, explore themes, and build the world of the text.

Outcome 1b: In developing creative responses to texts, students explore how purpose and audience affect the choices they make as writers in developing ideas and planning work, making choices about structure, conventions, and language to develop voice and style. They practise the skills of editing and refining for accuracy and stylistic effect.

Area of Study 2: Analysing and Presenting Argument

Outcome 2a: Students consider the contention of texts; the development of the argument including logic and reasoning, tone and bias; and the intended audience. Students consider how authors craft texts to support and extend the impact of an argument.

Outcome 2b: In considering the presentation of viewpoint in oral form, students consider the persuasive impact of tone, diction and audience engagement. Students explore the use of language for persuasive effect and the structure and presentation of argument.

Unit 2: *In this unit students compare the presentation of ideas, issues and themes in texts. They analyse arguments presented and the use of persuasive language in texts and create their own texts intended to position audiences.*

Area of Study 1: Reading and Comparing Texts

Outcome 1: Students compare how the features of texts, including structures, conventions and language convey ideas, issues and themes that explore the world and human experiences. Students investigate how the reader's understanding of one text is broadened and deepened when considered in relation to another text.

Area of Study 2: Analysing and Presenting Argument

Outcome 2a: Students consider a range of texts where the primary purpose is to convince an audience to share a point of view. They develop an understanding of how texts are constructed for specific persuasive effects by identifying and discussing the impact of argument and persuasive language used to influence an audience.

Outcome 2b: Students practise developing and presenting reasoned points of view on contemporary social issues. In constructing arguments students focus on the logical development of their own ideas, and select evidence and craft for persuasion using a range of language features intended to position an audience to share their point of view.

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

Area of Study 1: Reading and Creating texts

Outcome 1a: Students identify, discuss and analyse how the features of selected texts create meaning, and identify and analyse explicit and implied ideas and values in these. Students prepare sustained analytical interpretations of selected texts, creating detailed interpretations of texts, using textual evidence to support their responses.

Outcome 1b: Students develop creative responses to selected texts, demonstrating their understanding of the world of the texts and how author's construct meaning. Students make

choices about structure, conventions and language, and develop a credible voice and style, by selecting features of the text, including characters, narrative or dialogue.

Area of Study 2: Analysing Argument

Outcome 2: Students analyse and compare the use of argument and language in texts that debate a topical issue. Considering information about purpose, audience and context, students explore the argument of a persuasive piece, and the way persuasive language, both written and visual, language is used to express an argument.

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

Area of Study 1: Reading and Comparing Texts

Outcome 1: Students explore the meaningful connections between two texts. They analyse the interplay between character and setting, voice and structure, and how ideas, issues and themes are conveyed. Students explore important similarities and differences in how the texts deal with similar or related thematic concerns from different perspectives to reflect particular values.

Area of Study 2: Presenting Argument

Outcome 2: Students use their knowledge of argument and persuasive language as a basis for the development of their own persuasive oral presentation on topical issue. In the development of their piece, students express their viewpoints through arguments and persuasive language selected specifically to position an audience.

ENGLISH LANGUAGE

Please Note: This study summary comprises excerpts from the VCE English Language Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (www.vcaa.vic.edu.au/vce/studies/englishlanguage/englangindex.html) to view the full accredited Study Design and other resources.

Rationale: The study of English Language enables students to further develop and refine their skills in reading, writing, listening to and speaking English. Students learn about personal and public discourses in workplaces, fields of study, trades and social groups.

In this study students read widely to develop their analytical skills and understanding of linguistics. Students are expected to study a range of texts, including publications and public commentary about language in print and multimodal form. Students also observe and discuss contemporary language in use, as well as consider a range of written and spoken texts.

Unit 1: *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 an elaborate system of signs. The relationship between speech and writing as the dominant modes of language and the impact of situational and cultural contexts on language choices are also considered. Students investigate children's ability to acquire language and the stages of language acquisition across a range of subsystems.*

Area of Study 1: The Nature and Functions of Language

Outcome 1: On completion of this unit the student should be able to identify and describe primary aspects of the nature and functions of human language.

Area of Study 2: Language Acquisition

Outcome 2: On completion of this unit the student should be able to describe what children learn when they acquire language and discuss a range of perspectives on how language is acquired.

Unit 2: *Students consider factors contributing to change over time in the English language and factors contributing to the spread of English. They explore texts from the past and from the present, developing an understanding of how English has been transformed over the centuries. Students also explore the various possibilities for the future of English. They consider how contact between English and other languages has led to the development of geographical and ethnic varieties, but has also hastened the decline of indigenous languages.*

Area of Study 1: English Across Time

Outcome 1: On completion of this unit the student should be able to describe language change as represented in a range of texts and analyse a range of attitudes to language change.

Area of Study 2: Englishes in Contact

Outcome 2: On completion of this unit the student should be able to describe and explain the effects of the global spread of English in terms of both conformity and diversity, through a range of spoken and written texts.

Unit 3: *Students investigate English language in contemporary Australian social settings. They consider language as a means of social interaction, exploring how through written and spoken texts we communicate information, ideas, attitudes, prejudices, and ideological stances. Students examine the stylistic features of formal and informal language in both spoken and written modes. Students consider how texts are influenced by the situational and cultural contexts in which they occur. They learn how language can be indicative of relationships, power structures, and purpose through the choice of a particular variety of language and through the ways in which language varieties are used in processes of inclusion and exclusion.*

Area of Study 1: Informal Language

Outcome 1: On completion of this unit the student should be able to identify and analyse distinctive features of informal language in written and spoken texts.

Area of Study 2: Formal Language

Outcome 2: On completion of this unit the student should be able to identify and analyse distinctive features of formal language in written and spoken texts.

Unit 4: *Students focus on the role of language in establishing and challenging different identities. Students consider the many varieties of English used in contemporary Australian society, including national, regional, cultural and social variations and the role of Standard Australian English in establishing national identity. Students explore how our sense of identity evolves in response to situations and experiences and is influenced by how we see ourselves and how others see us. They explore how we express ourselves as individuals and signal our membership of particular groups through language, and how language can distinguish between 'us' and 'them'.*

Area of Study 1: Language Variation in Australian Society

Outcome 1: On completion of this unit the student should be able to investigate and analyse varieties of Australian English and attitudes towards them.

Area of Study 2: Individual and Group Identities

Outcome 2: On completion of this unit the student should be able to analyse how people's choice of language reflects and constructs their identities.

LITERATURE

Please Note: This study summary comprises excerpts from the VCE Literature Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/literature/literatureindex.html>) to view the full accredited Study Design and other resources.

Rationale: VCE Literature provides opportunities for students to develop their awareness of other people, places and cultures and explore the way texts represent the complexity of human experience. It enables students to consider the power and complexity of language, the ways literary features and techniques contribute to meaning and the significance of form and structure. They are encouraged to be independent, innovative and creative, developing the ability to read deeply and widely and to establish and articulate their views through creative and analytical responses.

***Unit 1:** In this unit students focus on the ways in which the interaction between text and reader creates meaning. Students' analyses of the features and conventions of texts help them develop increasingly discriminating responses to a range of literary forms and styles. Students respond critically, creatively and reflectively to the ideas and concerns of texts and gain insights into how texts function as representations of human experience.*

Area of Study 1: Reading Practices

Outcome 1: Students consider how language, structure and stylistic choices are used in different literary forms and types of text to create meaning. Students reflect on the degree to which points of view, experiences and contexts shape responses to text. They engage with other views about texts and develop an awareness of how these views may influence and enhance their own reading of a text.

Area of Study 2: Ideas and Concerns in Texts

Outcome 2: Students investigate the ideas and concerns raised in texts and the ways social and cultural contexts are represented. They consider how texts may reflect or comment on the interests of individuals and particular groups in society and how they support or question aspects of society. They consider those facets of human experience that are seen as important within the texts and those that are ignored or disputed.

***Unit 2:** Students examine the ways their own culture and the cultures represented in texts can influence their interpretations and shape different meanings. Drawing on a range of literary texts, students consider the relationships between authors, audiences and contexts. Ideas, language and structures of different texts from past and present eras and/or cultures are compared and contrasted, as students establish connections between them.*

Area of Study 1: The Text, The Reader and Their Contexts

Outcome 1: Students explore texts from a past era and/or another culture to understand their point of view and what they reflect or comment on. They identify the language and the representations in the text that reflect the period or culture, its ideas and concepts. Students develop the ability to analyse language closely, recognising that words have historical and cultural import. They examine and reflect on how the reader's interpretation is influenced by what they bring to the text.

Area of Study 2: Exploring Connections Between Texts

Outcome 2: Students focus on the ways that texts relate to and influence each other. Students learn that meanings of texts are evolving and open to a range of interpretations and

change in relation to other texts. Students consider how the reading of a text can change according to the form of the text and its context. They investigate and analyse how different interpretations of texts are influenced by language features and structures.

Unit 3: *Students investigate ways writers adapt and transform texts and how meaning is affected as texts are adapted and transformed. They consider how the perspectives of those adapting texts may inform or influence the adaptations. Students draw on their study of adaptations and transformations to develop creative responses to texts.*

Area of Study 1: Adaptations and Transformations

Outcome 1: Students develop an understanding of the typical features of a particular form of text and the conventions associated with it. Students use this understanding to reflect upon the extent to which changing the form of the text affects meaning. By exploring adaptations, students consider how creators of adaptations may emphasise or understate perspectives, assumptions and ideas in their presentation of a text.

Area of Study 2: Creative Responses Texts

Outcome 2a: Students focus on the imaginative techniques to construct their own creative transformations of texts. They learn how writers develop images of people and places, and they develop an understanding of language, voice, form and structure. In their adaptation of the original text, students develop an understanding of the concerns and attitudes explored.

Outcome 2b: Students reflect critically upon their own creative responses as they relate to the text, and discuss the purpose and context of their creations.

Unit 4: *Students develop critical and analytic responses to texts. They consider the context of their responses to texts as well as the ideas explored in the texts, the style of the language and points of view. They investigate literary criticism informing both the reading and writing of texts.*

Area of Study 1: Literary Perspectives

Outcome 1: Students focus on how different readings of texts may reflect the views and values of both writer and reader. Students analyse literary criticism, reflecting different perspectives, assumptions and ideas about the views and values of the text studied. Students identify the issues, ideas and contexts writers choose to explore, the way these are represented in the text/s and the cultural, social, historical and ideological contexts in which they were created.

Outcome 2a and 2b: Students focus on detailed scrutiny of the language, style, concerns and construction of texts. Students attend closely to textual details to examine the ways specific features and/or passages in a text contributes to their overall interpretations. Students consider features of texts including structure, context, ideas, images, characters and situations, and the language in which these are expressed.

EXTENDED INVESTIGATION

Please Note: The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/Pages/vce/studies/extendedinvestigation/index.aspx>) to view the full accredited Study Design and other resources.

Scope of Study:

Extended Investigation is a unique subject in VCE as it allows students to pursue a research project of their choice. Students are able to select any area they wish and are

provided with the opportunity to develop, refine, and extend their knowledge and skills in independent research. In order to do this students carry out an extended investigation that focuses on a rigorous research question.

This subject emphasises the teaching of skills required in all VCE subjects, and in later academic study, particularly at the university level. It is highly beneficial for any students considering a university pathway. It specifically focuses on developing students capacity for:

- Critical thinking
- Academic writing
- Time management
- Project management
- Independent learning
- Reading and note taking
- Interpretation and analysis of data

Across the year students work on an extended investigation which may be an extension of an area of their existing curriculum students or completely independent of any school subject being are undertaken. Throughout this subject students develop their capacity to set out, explore, justify, and defend their research to a general audience in both oral and written forms. Extended Investigation supports students to investigate what constitutes a good research question and how to maintain an ethical, disciplined and rational approach to interpreting and evaluating research.

Unit 3 focuses on the development of the research project, critical thinking, research ethics, and research methodology. All internal assessment tasks are completed in Unit 3 and the focus of Unit 4 is on the preparation of the final written research report and externally assessed thesis defence.

UNIT 3:

Area of Study 1: Designing a Research Question

Students devise a research question that requires a detailed inquiry and that is of significance. They set the parameters for their research and examine a range of research methods. The purpose and ethics of undertaking research, and the relationship between ethical research and potential benefit are also explored. Students consider the history of their area of investigation, the literature, data and other resources that can be used to inform their investigation, and previous research that is relevant to their investigation. Students develop an understanding of the importance of framing robust questions. They are introduced to the conventions of academic report writing including the use of standard referencing systems.

Area of Study 2: Planning and commencing the investigation

In this area of study students learn about the practical components of planning and undertaking research, methods of research and their application, establishing timelines and milestones and the general principles of research project management. Students develop their research plan, select appropriate research methods and focus their research on the selected area of investigation. They learn to apply the conventions of academic report writing, including citations and bibliographic referencing of sources. Students continue to develop their skills of critical thinking. They apply these in the analysis and evaluation of key arguments and evidence.

Area of Study 3: Critical thinking

This area of study provides students with the opportunity to apply critical thinking skills to their research. Students practise critical thinking through examination of a range of materials, and evaluate evidence and argument within these examples. They apply the skills of critical thinking and make judgments about comparative strengths and weaknesses in argument and evidence. As students analyse and evaluate the differences between opinion, belief, anecdote, evidence and substantiated views, they come to understand the value of research and the contribution it can make to a deeper understanding of a question or problem.

UNIT 4:

Area of study 1: Presenting the final research report

In this area of study students complete their Extended Investigation and write the final report that provides their response to the research question. They analyse and evaluate argument and evidence used in their investigation.

Area of Study 2: Defending research findings

In this area of study students shape their research and findings into a presentation format. They present their investigation to a non-specialist panel and respond to questions and challenges. They reflect on their research findings and the research methods they used in this investigation.

GEOGRAPHY

Please Note: This study summary comprises excerpts from the VCE Geography Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/geography/geogindex.html>) to view the full accredited Study Design and other resources.

Rationale

VCE Geography enables students to examine natural and human phenomena, how and why they change, their interconnections and the patterns they form across the Earth's surface. In doing so, they develop a better understanding of their own place and its spaces and those in other parts of the world. These spatial perspectives, when integrated with historical, economic, ecological and cultural perspectives, deepen understanding of places, environments and human interactions with these.

Aims

This study enables students to:

- develop a sense of wonder and curiosity about people, culture and environments throughout the world
- develop knowledge and understanding of geographic phenomena at a range of temporal and spatial scales
- understand and apply geographic concepts including place, scale, distance, distribution, movement, region, process, change, spatial association and sustainability to develop their ability to think and communicate geographically
- develop an understanding of the complexity of natural and human induced geographic phenomena across the Earth's surface
- develop a range of skills to assist in analysing information and making informed judgments and decisions about geographic challenges
- understand the importance of Geography in analysing issues and challenges to human welfare and the environment, at a range of scales
- develop an understanding of the role and application of Geography in the planning and management of human welfare and the environment.

Structure

The study is made up of four units:

Unit 1: Hazards and disasters

Unit 2: Tourism

Unit 3: Changing the land

Unit 4: Human population – trends and issues

Fieldwork Report

Students undertake fieldwork in Units 1, 2 and 3. Students produce a fieldwork report for assessment in Units 1, 2 and 3.

Unit 1: Hazards and disasters

In this unit students undertake an overview of hazards before investigating two contrasting types of hazards and the responses to them by people.

Hazards include a wide range of situations including those within local areas, such as fast moving traffic or the likelihood of coastal erosion, to regional and global hazards such as drought and infectious disease. Students examine the processes involved with hazards and hazard events, including their causes and impacts, human responses to hazard events and interconnections between human activities and natural phenomena. This unit investigates how people have responded to specific types of hazards, including attempts to reduce vulnerability to, and the impact of, hazard events.

Types of hazards are commonly classified by their causes: Geological, hydro-meteorological (weather, climate, water), biological hazards and technological hazards which are human induced and exacerbated hazards

Unit 2: Tourism

In this unit students investigate the characteristics of tourism, with particular emphasis on where it has developed, its various forms, how it has changed and continues to change and its impacts on people, places and environments.

They select contrasting examples of tourism from within Australia and elsewhere in the world to support their investigations.

Unit 3: Changing the land

This unit focuses on two investigations of geographical change: change to land cover and change to land use. Land cover includes biomes such as forest, grassland, tundra and wetlands, as well as land covered by ice and water.

Land cover is the natural state of the biophysical environment developed over time as a result of the interconnection between climate, soils, landforms and flora and fauna and, increasingly, interconnections with human activity.

Natural land cover has been altered by many processes such as geomorphological events, plant succession and climate change. People have modified land cover to produce a range of land uses to satisfy needs such as housing, resource provision, communication, recreation and so on.

Students investigate three major processes that are changing land cover in many regions of the world:

deforestation, desertification, and melting glaciers and ice sheets.

Unit 4: Human population – trends and issues

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

In this unit, students study population dynamics before undertaking an investigation into two significant population trends arising in different parts of the world. They examine the dynamics of populations and their economic, social, political and environmental impacts on people and places.

AUSTRALIAN AND GLOBAL POLITICS

Please Note: This study summary comprises excerpts from the VCE Australian and Global Politics Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website <http://www.vcaa.vic.edu.au/vce/studies> to view the full accredited Study Design and other resources.

Unit 1: The National Citizen

Area of Study 1: Power Politics and Democracy: This unit examines the questions of: what is politics? In what ways do individuals and groups participate in, gain and exercise political power? The area of study focuses on the nature and purpose of politics in Australia. Students explore both formal and informal contexts of politics in Australia. The main types of political power and, the range of ways it can be exercised, both inside and outside the institutions of government and what opportunities exist for young Australians to participate in the political arena are examined.

By the end of this unit students should be able to describe and analyse the nature and purpose of politics and power in a broad sense and in the context of contemporary Australian Democracy.

Area of Study 2: Exercising and Challenging Power: Why do individuals get involved in politics? Do political leaders have similar characteristics? What are the major political ideologies? What are the aims of the most significant political actors in Australia? Students consider how and why people both as individuals and groups become involved in politics. The characteristics that may explain the actions of political activist are examined. Political ideologies underpin the actions of actors in the political arena so the major political ideologies will be explored.

On completion of this unit, students should be able to explain why people seek political power, and the major political ideologies that influence political involvement and political movements.

Unit 2: The Global Citizen

Area of Study 1: Global Threads: How do citizens in the twenty-first century interact? How have our lives been affected by globalization? Do citizens have global responsibilities? In this unit students consider the interactions and connections of the citizen with the wider world. Students investigate the nature of these global threads – which may take many forms including varied political and/or economic forms. These threads are examined in the light of human rights, culture and the global environment. The notion of a common humanity is at the center of this study. On completion of this unit students should be able to identify the ways in which the lives of citizens in the twenty-first century are interconnected globally.

Area of Study 2: Global Cooperation and Conflict: What do we understand by the term ‘global community’? How does it work and how effective is it; what are its responsibilities? Students will investigate the workings of the international community and its implications of a shared humanity. How this entity manages cooperation, conflict and instability is a key component of the study. At the end of this unit, students should be able to describe the extent to which the international community is cohesive, and whether it can effectively manage cooperation, conflict and instability in relation to selected case studies.

GLOBAL POLITICS

Please Note: This study summary comprises excerpts from the VCE Australian and Global Politics Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website <http://www.vcaa.vic.edu.au/vce/studies> to view the full accredited Study Design and other resources.

Unit 3: Global actors: Area of Study 1: Global Actors: Who are the key actors in contemporary global politics? From where does their power and influence stem? The state is the principle actor in the contemporary world but its power and influence is being challenged. Students consider the concept sovereignty and, what are the challenges that it is facing, both

peaceful and violent? The role of supra and multinational actors are considered. By the end of this unit students should be able to evaluate the power and influence of key global actors in the twenty-first century and assess the extent to which they achieve their aims.

Area of Study 2: Power in the Asia Pacific Region: What is power? What is the difference between hard and soft power? Why do different ideas about the national interest exist? How is power exercised by a state in the Asia-Pacific region? In this study students will examine the concept of power and in a case study of one nation, explore the various ways this nation has exercised its various types of power to achieve its national goals. By the end of this unit, students should be able to analyse and evaluate types and forms of power as used by a specific Asia-Pacific state in the pursuit of its national interest.

Unit 4: Global challenges:

Area of Study 1: Ethical Issues and Debates: Do we have a responsibility to uphold the human rights of persons outside our borders? How do we cope with people movement? What is real development? Students study the range of debates concerning two global issues by the use of specific case studies that transcend the state. By the end of this unit students should be able to analyse two global political issues from a range of perspectives and evaluate the effectiveness of global actors' responses to these issues.

Area of Study 2: Crises and Responses: What does a crisis mean in today's world? How effective are responses to these crises? Students investigate the contexts, causes and effectiveness of responses to two global crises. Two topics are selected from environmental degradation, intra and interstate conflict, terrorism and economic instability. On completion of this unit students should be able to explain the characteristics of two contemporary global crises and evaluate the effectiveness of responses to these.

(Note: Global Politics will not be offered in 2019)

HEALTH AND HUMAN DEVELOPMENT

Please Note: This study summary comprises excerpts from the VCE Health and Human Development Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/healthnhuman/healthhumindex.html>) to view the full accredited Study Design and other resources.

Rationale

In VCE Health and Human Development provides students learn how important health and wellbeing is to themselves and to families, communities, nations and global society. Students explore the complex interplay of biological, sociocultural and environmental factors that support and improve health and wellbeing and those that put it at risk.

Unit 1: Understanding Health and Wellbeing

This unit looks at health and wellbeing as a concept with varied and evolving perspectives and definitions. It takes the view that health and wellbeing are subject to a wide range of contexts and interpretations, with different meanings for different people.

Unit 2: Managing Health and Development

This unit investigates transitions in health and wellbeing, and development, from lifespan and societal perspectives. Students look at changes and expectations that are part of the progression from youth to adulthood.

Unit 3: Australia's Health in a Globalised World

This unit looks at health, wellbeing and illness as multidimensional, dynamic and subject to different interpretations and contexts. Students begin to explore health and wellbeing as a global concept and to take a broader approach to inquiry.

Unit 4: Health and Human Development in a Global Context

This unit examines health and wellbeing, and human development in a global context. Students use data to investigate health status and burden of disease in different countries, exploring factors that contribute to health inequalities between and within countries, including the physical, social and economic conditions in which people live.

HISTORY

Please Note: This study summary comprises excerpts from the VCE History Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/history/histstudy.html>) to view the accredited Study Design and other resources.

Rationale

The study of VCE History assists students to understand themselves, others and their world, and broadens their perspective by examining people, groups, events, ideas and movements. Through studying VCE History, students develop social, political, economic and cultural understanding. They also explore continuity and change: the world is not as it has always been, and it will be subject to change in the future. In this sense, history is relevant to contemporary issues. It fosters an understanding of human agency and informs decision making in the present.

- Unit 1 Twentieth Century History 1918-1939
- Unit 2 Twentieth Century History 1945-2000
- Units 3&4 Australian History
- Units 3&4 Revolutions

Unit 1 Twentieth Century History 1918-1939

In this area of study students explore the events, ideologies and movements of the period after World War One; the emergence of conflict; and the causes of World War Two. They investigate the impact of the treaties which ended the Great War and which redrew the map of Europe and broke up the former empires of the defeated nations. They consider the aims, achievements and limitations of the League of Nations. Students focus on the social life and cultural expression in the 1920s and 1930s and their relation to the technological, political and economic changes of the period. Students explore particular forms of cultural expression. Economic instability, territorial aggression and totalitarianism combined to draw the world into a second major conflict in 1939.

Unit 2 Twentieth Century History 1945-2000

In Unit 2 students explore the nature and impact of the Cold War and challenges and changes to existing political, economic and social arrangements in the second half of the twentieth century. The period also saw challenge and change to the established order in many countries. Old conflicts also continued and terrorism became increasingly global. The second half of the twentieth century also saw the rise of social movements that challenged existing values and traditions, such as the civil rights movement, feminism and environmental movements.

Units 3 Australian History

This unit focuses on the colonial period of the Port Phillip District (later Victoria). It introduces students to the visions and ideas which underpin colonial society and examines the ways in which they changed over time, especially under the impetus of significant events such as the discovery of gold and the Eureka Rebellion. These visions are also examined in relation to their impact on the indigenous people. The second outcome of this unit focuses on the years leading up to Federation and the visions and hopes of Australians at the turn of the century and the First World War.

Unit 4 Australian History

This unit continues the exploration of ideas and visions underpinning Australian society at times when these visions were under threat. Students focus on the Great Depression or World War Two. The unit concludes with an examination of changing Australian attitudes in relation to a number of issues that have been debated in the later decades of the twentieth century among them, indigenous rights, the environment, immigration and involvement in war.

Unit 3 Revolutions

This unit examines the French Revolution, covering the period 1774 to 1795. It focuses on the causes and consequences of revolution. Students consider causes of revolution and evaluate the contribution of significant ideas, events and popular movements. They also consider the role of individuals, including Louis XVI and Marie Antoinette, the Marquis de Lafayette and Camille Desmoulins. They then examine the consequences of the revolution and evaluate the extent to which it brought change to society.

Unit 4 Revolutions

This unit examines the Chinese Revolution, covering the period from 1912 to 1971: from the beginning of the Chinese Republic to the death of Marshall Lin Biao. Students study the events and conditions that contributed to the outbreak of revolution. They consider the ideas that played a significant role in challenging the existing order, including Marxist-Leninism, Chinese Communism and Maoism. The success of the revolution was not inevitable: therefore, students analyse the significant challenges that confronted the new regime after the initial outbreak of revolution.

LEGAL STUDIES

Please Note: This study summary includes excerpts from the VCE Legal Studies Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/legalstudies/legalindex.html>) to view the full accredited Study Design and other resources.

Rationale: In contemporary Australian society there is a range of complex laws that exist to protect the rights of individuals and to achieve social cohesion. These laws are made by bodies such as parliament and the courts and are upheld by a number of institutions and processes within the legal system. Members of society interact with the laws and the legal system in many aspects of their lives and can influence law makers. The study of VCE Legal Studies enables students to become active and informed citizens by providing them with valuable insights into their relationship with the law and the legal system. They develop knowledge and skills that enhance their confidence and ability to access and participate in the legal system. Students come to appreciate how legal systems and processes aim to achieve social cohesion, and how they themselves can create positive changes to laws and the legal system. VCE Legal Studies equips students with the ability to research and analyse legal information and apply legal reasoning and decision-making skills, and fosters critical thinking to solve legal problems. Further study in the legal field can lead to a broad range of career opportunities such as lawyer, paralegal, legal secretary and careers in the courtroom.

Unit 1: Guilt and liability: Criminal law and civil law aim to achieve social cohesion and protect the rights of individuals. Criminal law is aimed at maintaining social order and infringing criminal law can result in charges. Civil law deals with the infringement of a person's or group's rights and breaching civil law can result in litigation. In this unit students develop an understanding of legal foundations, such as the different types and sources of law and the existence of a court hierarchy in Victoria. Students investigate key concepts of criminal law and civil law and apply these to actual and/or hypothetical scenarios to determine whether an accused may be found guilty of a crime, or liable in a civil dispute. In doing so, students develop an appreciation of the way in which legal principles and information are used in making reasoned judgments and conclusions about the culpability of

an accused, and the liability of a party in a civil dispute. The support the curriculum program a range of excursions will be organised including a visit to the Supreme and County Courts of Victoria and H.M. Prison Barwon.

Unit 2: Sanctions, remedies and rights: Criminal law and civil law aim to protect the rights of individuals. When rights are infringed, a case or dispute may arise which needs to be determined or resolved, and sanctions or remedies may be imposed. This unit focuses on the enforcement of criminal law and civil law, the methods and institutions that may be used to determine a criminal case or resolve a civil dispute, and the purposes and types of sanctions and remedies and their effectiveness. Students undertake a detailed investigation of two criminal cases and two civil cases from the past four years to form a judgment about the ability of sanctions and remedies to achieve the principles of justice. Students develop their understanding of the way rights are protected in Australia and in another country, and possible reforms to the protection of rights. They examine a significant case in relation to the protection of rights in Australia.

Unit 3: Rights and justice:

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

Unit 4: The people and the law: The study of Australia's laws and legal system involves an understanding of institutions that make and reform our laws, and the relationship between the Australian people, the Australian Constitution and law-making bodies. In this unit, students explore how the Australian Constitution establishes the law-making powers of the Commonwealth and state parliaments, and protects the Australian people through structures that act as a check on parliament in law-making. Students develop an understanding of the significance of the High Court in protecting and interpreting the Australian Constitution. They investigate parliament and the courts, and the relationship between the two in law-making, and consider the roles of the individual, the media and law reform bodies in influencing law reform. Throughout this unit, students apply legal reasoning and information to actual scenarios.

LANGUAGES: FRENCH

Please Note: This study summary comprises excerpts from the VCE French Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/lote/french/frenchindex.html>) to view the full accredited Study Design and other resources.

Rationale: This study develops students' ability to understand and use a language, which is widely learned internationally and also provides students with a direct means of access to the rich and varied culture of francophone communities around the world. Studying a language other than English contributes to students' overall education in areas of communication, cross-cultural understanding, cognitive development, literacy, and general knowledge.

Unit 1 and 2: The study areas comprise themes and topics, grammar, text types, vocabulary and writing. It allows students to establish and maintain a spoken or written exchange, listen to, read and extract and use information and ideas from spoken and written texts and give expression to real or imaginary experience in written or spoken form.

Units 3 and 4: The areas of study comprise themes and topics, grammar, text types, vocabulary and kinds of writing. In these units students undertake a detailed study of either Language or Culture through texts, or Language and Culture through VET. Students should be able to express ideas through the production of original texts, analyse and use information from spoken or written texts and exchange information, opinions and experiences. They should also be able to respond critically to spoken and written texts, which reflect aspects of the language and culture of French-speaking communities.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

The course charge provides access to specialist native speakers, however, does not apply if the school is supported by a DEECD funded Native Speaker.

LANGUAGES: INDONESIAN

Please Note: This study summary comprises excerpts from the VCE *Indonesian Second Language* Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website <http://www.vcaa.vic.edu.au/vce/studies/lote/indonesian2nd/indon2ndindex.html> to view the full accredited Study Design and other resources.

Rationale: The study of Indonesian develops students' ability to understand and use the language of a country which is one of Australia's closest neighbours and is one of the most populous countries in the world. Links between Australia and Indonesia have been strengthened in recent decades, in particular, in areas such as business, tourism, security, health, education and the environment. The study of Indonesian promotes the strengthening of these links. The study of Indonesian also has a broader application in that it is closely related to Malay and is understood in Malaysia and by Malay-speaking inhabitants of Singapore and Brunei.

Studying a language other than English contributes to students' overall education in areas of communication, cross-cultural understanding, cognitive development, literacy, and general knowledge.

Units 1 and 2: The areas of study comprise themes and topics, grammar, text types, vocabulary and kinds of writing. This unit will allow the student to participate in a spoken or written exchange, listen to, read and extract and use information and ideas from spoken and written texts and give expression to real or imaginary experience in written or spoken form.

Unit 3 and 4: The areas of study comprise themes and topics, grammar, text types, vocabulary and kinds of writing. Students undertake a detailed study of either Language or Culture through texts, or Language and Culture through VET. Students should be able to express ideas through the production of original texts, analyse and use information from spoken and written texts and exchange information, opinions and experiences. They should also be able to respond critically to spoken and written texts, which reflect aspects of the language and culture of Indonesian-speaking communities.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

The course charge provides access to specialist native speakers, however, does not apply if the school is supported by a DEECD funded Native Speaker.

MEDIA

Please Note: This study summary comprises excerpts from the VCE Media Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website <www.vcaa.vic.edu.au/vce/studies/media/mediaindex.html> to view the full accredited Study Design and other resources.

Rationale: VCE Media provides students with the opportunity to analyse media products and concepts in an informed and critical way. Students consider media texts, technologies and processes from various perspectives, including an analysis of structure and features. They examine industry production and distribution context, audience reception and the media's contribution to and impact on society. This aspect of the study is integrated with the individual and collaborative design and production of media representations and products. VCE Media supports students to develop and refine their analytical, critical, creative thinking and expression. Students strengthen their communication skills and technical knowledge. This study is relevant for students who wish to pursue further formal study at tertiary level or in vocational education and training settings. The study provides knowledge and skills in creative thinking, planning, analysis, creative expression and communication valuable for participation in and contribution towards contemporary society.

Unit 1: Representation and technologies of representation: In this unit students develop an understanding of the relationship between the media, technology and the representations present in media forms. They study the relationships between media technologies, audiences and society. Students develop practical and analytical skills, including an understanding of the contribution of codes and conventions to the creation of meaning in media products, the role and significance of selection processes in their construction, the role audiences play in constructing meaning from media representations, and the creative and cultural impact of new media technologies.

Unit 2: Media production and the media industry: In this unit students develop their understanding of the specialist production stages and roles within the collaborative organisation of media production. Students participate in specific stages of a media production, developing practical skills in their designated role. Students also develop an understanding of media industry issues and developments relating to production stages and roles and the broader framework within which Australian media organisations operate.

Unit 3: Narrative and media production design: In this unit students develop an understanding of film, television or radio drama production and story elements, and learn to recognise the role and significance of narrative organisation in fictional film, television or radio drama texts. Students examine how production and story elements work together to structure meaning in narratives to engage audiences. Students also develop practical skills through undertaking exercises related to aspects of the design and production process. They complete a media production design plan for a specific media form and audience. They present the relevant specifications as a written planning document, with visual representations that employ media planning conventions appropriate to the media form in which the student chooses to work.

Unit 4: Media: process, influence and society's values: In this unit, students further develop practical skills in the production of media products to realise the production design plan completed during Unit 3. Organisational and creative skills are refined and applied

throughout each stage of the production process. Students analyse the relationship between media texts, social values and discourses in the media. The nature and extent of media influence, the relationship between the media, media audiences and media regulation are also critically analysed in this unit.

MUSIC PERFORMANCE

Please Note: This study summary comprises excerpts from the VCE Music Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/futuresd.html>) to view the full accredited Study Design and other resources.

Rationale: Music is an integral part of all cultures and societies, both contemporary and historical. The study of music develops students' understanding of artistic processes and contributes to the development of the aesthetic, cognitive, psychomotor and affective domains. VCE Music offers students opportunities to engage in the practice of performing, creating and studying music that is representative of diverse genres, styles and cultures. Students can specialise in one or more approaches to the study of music, depending on their VCE program overall and the post-VCE pathways they may be interested in following.

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

VCE Music offers students opportunities for personal development and to make an ongoing contribution to the culture of their community through participation in life-long music making.

Structure

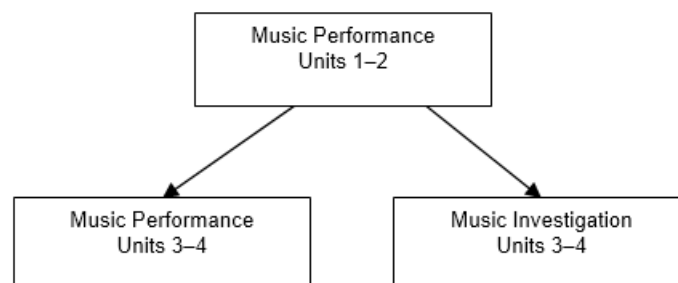
The study is made up of ten units:

- Music Performance Units 1, 2, 3 and 4
- Music Investigation Unit 3 and 4

Students may enroll in all units or select specific combinations of units that cater for their interests and intended pathways.

Each unit contains between two and four Areas of Study.

The following diagram outlines the structure of VCE Music:



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 practice 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.

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.

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. The focus for analysis in Area of Study 3 is works and performances by Australian musicians.

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 INVESTIGATION

Please Note: This study summary comprises excerpts from the VCE Music Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/futuresd.html>) to view the full accredited Study Design and other resources.

Unit 3: In this unit students select a work from a prescribed list as the basis for an investigation of a Focus Area. They explore the Focus Area through three complementary areas of study: Investigation, Composition/arrangement/improvisation and Performance. Area of Study 1, Investigation involves research into background contextual issues relevant to performance practice, critical listening to recordings of performances and examination of texts including musical scores. Area of Study 2, Composition/arrangement/improvisation involves applying these research findings to create a folio of exercises, sketches or recorded improvisations that demonstrate understanding of the characteristics of the Focus Area. Students plan, rehearse and perform a program of works that are representative of the Focus Area and in doing so develop relevant instrumental and performance techniques and apply performance practices. Together, these areas of study require students to apply extensive skills in performance, aural awareness, transcription, music theory and analysis.

Unit 4: In this unit students continue the exploration within the Focus Area they began in Unit 3. In Unit 4 the Investigation involves the preparation of program notes to accompany their

end-of-year performance program. In Area of Study 2, the Composition/improvisation/arrangement involves creating and performing a composition, improvisation or arrangement that draws on musical characteristics of the Focus Area. This composition, arrangement or improvisation builds on and extends exercises completed in Unit 3. Students rehearse and perform works for inclusion in a performance program of works that relates to the Focus Area. They develop mastery of relevant instrumental techniques and apply advanced performance conventions to realise their intended interpretations of each work. They continue to use skills in aural awareness, transcription, music theory and music analysis to support their work.

OUTDOOR AND ENVIRONMENTAL STUDIES

Please Note: This study summary comprises excerpts from the VCE Outdoor and Environmental Studies Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website www.vcaa.vic.edu.au/vce/studies/outdoor/outdoorindex.html to view the full accredited Study Design and other resources.

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

Unit 1: Exploring Outdoor Experiences

This unit examines some of the ways in which humans understand and relate to nature through experiences of outdoor environments. The focus is on individuals and their personal responses to, and experiences of, outdoor environments. Students develop a clear understanding of the range of motivations for interacting with outdoor environments and the factors that affect an individual's access to outdoor experiences and relationships with outdoor environments.

Unit 2: Discovering Outdoor Environments

This unit focuses on the characteristics of outdoor environments and different ways of understanding them, as well as the impact of humans on outdoor environments. In this unit students study the impact of nature on humans, and the ecological, social and economic implications of the impact of humans on outdoor environments. Students develop a clear understanding of the impact of technologies and changing human lifestyles on outdoor environments.

Unit 3: Relationships with Outdoor Environments

The focus of this unit is the ecological, historical and social contexts of relationships between humans and outdoor environments in Australia. Students consider a number of factors that influence relationships with outdoor environments. They also examine the dynamic nature of relationships between humans and their environment.

Unit 4: Sustainable Outdoor Relationships

In this unit students examine the contemporary state of environments in Australia, consider the importance of healthy outdoor environments, and examine the issues relating to the capacity of outdoor environments to support the future needs of the Australian population. Students examine the importance of developing a balance between human needs and the conservation of outdoor environments and consider the skills needed to be environmentally responsible citizens. They investigate current acts and conventions as well as management strategies for achieving and maintaining healthy and sustainable environments in contemporary Australian society.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

PHILOSOPHY

Please Note: This study summary comprises excerpts from the VCE Philosophy Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/philosophy/philosophyindex.html>) to view the full accredited Study Design and other resources.

Rationale: Philosophy provides students with the opportunity to read and understand some of the powerful ideas that have shaped our culture. This course introduces students to methods

of philosophical argument and analysis, and their application to contemporary issues. The study also focuses on philosophers and philosophical ideas at different stages in history. Doing philosophy is about developing the ability to clarify concepts, analyse problems and construct reasonable, coherent arguments. VCE Philosophy is a challenging and stimulating study which nurtures curiosity, problem-solving skills, open-mindedness and intellectual rigour, and equips students with the rational discernment to analyse and contribute to a range of twenty-first century debates.

Unit 1: Existence, knowledge and reasoning

What is the nature of reality? How can we achieve certain knowledge? These are some of the questions which have challenged humans for millennia and underpin ongoing endeavours in areas as diverse as science, justice and the arts. This unit engages students with fundamental philosophical problems through active, guided investigation, and critical discussion of two key areas of philosophy: epistemology and metaphysics. The emphasis is on philosophical inquiry – ‘doing philosophy’ – and hence the study and practice of the distinctive nature of philosophical thinking, including 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, should be 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.

Unit 2: Ethics and philosophical investigation

This unit engages students in philosophical investigation and critical discussion of two key areas of philosophy, developing their abilities to analyse the reasoning of others and to formulate logical responses to philosophical questions. Students apply philosophical methods as they analyse problems, develop independent ideas, and explain and defend their views in philosophical exchanges with others, evaluating viewpoints and arguments. Students also apply their skills of reasoning to philosophical analysis of contemporary debates.

Students explore basic principles of morality, assessing ethical arguments according to standards of logic and consistency, and uncovering the assumptions about values which underpin ethical viewpoints. There is broad scope to apply philosophical methods to everyday, personal ethical dilemmas as well as to issues debated in the media, including the most significant challenges faced by contemporary societies.

The second area of study focuses on another significant topic in philosophy, to be chosen from Aesthetics, Philosophy of religion, Political philosophy or other traditions of thought.

Unit 3: Mind, Body and Personal Identity

This unit considers basic questions regarding the mind and the self through two key questions: Are human beings more than their bodies? Is there a basis for the belief that an individual remains the same person over time? 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.

Unit 4: The good life

This unit considers the perennial question of what it is for a human to live well. What is the nature of happiness? What is the role of pleasure in the good life? What does the good life have to do with being morally decent to other people? The areas of study cover two different periods in which questions such as these have been at the forefront of discussion. Texts by both ancient and modern philosophers 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 these periods to their own views on how we should live, to contemporary experience, and to ideas about the good life presented in a range of other sources.

PHYSICAL EDUCATION

Please Note: This study summary includes excerpts from the VCE Physical Education Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/physicaledu/phyeduindex.html>) to view the full accredited Study Design and other resources.

Rationale:

Through engagement in physical activities, VCE Physical Education enables students to develop the knowledge and skills required to critically evaluate influences that affect their own and others' performance and participation in physical activity.

Unit 1: The human body in motion

In this unit students explore how the musculoskeletal and cardiorespiratory systems work together to produce movement. Students explore how the capacity and functioning of each system acts as an enabler or barrier to movement and participation in physical activity. Students consider the implications of the use of legal and illegal practices to improve the performance of the musculoskeletal and cardiorespiratory systems, evaluating perceived benefits and describing potential harms.

Unit 2: Physical activity, sport and society

This unit develops students' understanding of physical activity, sport and society from a participatory perspective. Students are introduced to types of physical activity and the role participation in physical activity and sedentary behaviour plays in their own health and wellbeing as well as in other people's lives in different population groups.

Unit 3: Movement skills and energy for physical activity

This unit introduces students to the biomechanical and skill acquisition principles used to analyse human movement skills and energy production from a physiological perspective. Students investigate the relative contribution and interplay of the three energy systems to performance in physical activity, sport and exercise. Students explore the causes of fatigue and consider different strategies used to postpone fatigue and promote recovery.

Unit 4: Training to improve performance

In this unit students analyse movement skills from a physiological, psychological and sociocultural perspective, and apply relevant training principles and methods to improve performance within physical activity. Students participate in a variety of training sessions designed to improve or maintain fitness and evaluate the effectiveness of different training methods. Students critique the effectiveness of the implementation of training principles and methods to meet the needs of the individual, and evaluate the chronic adaptations to training.

STUDIO ARTS

Please Note: This study summary comprises excerpts from the VCE Studio Arts Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/studioarts/studioindex.html>) to view the full accredited Study Design and other resources.

Rationale: Studio Arts provides a framework for the establishment of effective art practices through an understanding and application of the process of design. The design process enables students to explore ideas and sources of inspiration, experiment with materials and techniques and practice specialised skills in a range of art forms. Students generate a range of directions and potential solutions and analyse and evaluate these before producing artworks. The theoretical component of the study informs students' practice through an investigation of selected artworks, an examination of artists' working methods and a study of professional practices and the art industry issues.

Note: *At Eltham High School Studio Arts is offered in the streams of Arts and Photography. Students cannot undertake both Studio Arts–Art and Studio Arts–Photography as they are two different streams of the same subject.*

Studio Arts: Art

Unit 1: Artistic inspiration and techniques

Students undertake a series of projects which introduce them to a diverse range of approaches to designing and making art. They practically explore traditional and contemporary two dimensional and three dimensional techniques, processes and materials and artforms. Concurrently, students research and draw inspiration from artists from different times and cultures

Unit 2: Design exploration and concepts

Students explore design methodology and processes. They learn to personally respond to or generate a brief, develop a concept and formulate an individual approach. They locate sources of inspiration, carry out technical and material experiments and develop aesthetic and practical understanding. They produce finished artworks based on the exploration of ideas and subject matter.

Concurrently, students develop skills to visually analyse artworks and explore other artists' concerns and artworks.

Unit 3: Studio practices and processes

Students individually choose their studio process and produce a range of potential directions and solutions for their final artworks. They propose an area of creative exploration. They record all experimentation and evaluate the extent to which their art practices successfully communicate their aims and ideas. This leads to exploring directions for the development of finished artworks in Unit 4.

Concurrently, students investigate the ways in which artists have interpreted subject matter. They research and draw inspiration from other artists' art making approaches and artistic responses.

Unit 4: Studio production and art industry contexts

Students produce and present at least two finished artworks developed from the selected potential directions generated in Unit 3. The development and refinement of these artworks are backed up by visual and written documentation explaining design methodology, concept development and experimental explorations.

Students analyse artworks and the requirements and conditions of the environments where artworks are displayed. They get an insight into the logistics of arts management and curatorship and explore the preparation, presentation, conservation and promotion of art.

Disclaimer: This course includes art-historical and contemporary imagery of 'The Nude' and discussions on contemporary art issues.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

STUDIO ARTS: PHOTOGRAPHY

Unit 1: Studio inspiration and techniques

Researching and recording ideas - In this area of study, students focus on researching and recording art ideas. They develop ideas and identify sources of inspiration to be used as starting points for exploring materials and techniques.

Students research sources of inspiration as starting points, including the exploration of ideas, art forms, materials, techniques, aesthetic qualities and subject matter.

Studio practice - In this area of study students learn about studio practice and focus on the use of materials and techniques in the production of at least one artwork.

Interpreting art ideas and use of materials and techniques - In this area of study students focus on the way artists from different times and cultures have interpreted ideas and sources of inspiration and used materials and techniques in the production of artworks.

The exhibition of artworks is integral to Unit 1 and students are encouraged to visit a variety of exhibition spaces throughout the unit, reflect on the different environments and examine how artworks are presented to an audience.

Unit 2: Studio exploration and concepts

Exploration of studio practice and development of artworks - In this area of study students focus on developing artworks through an individual studio process based on visual research and inquiry.

On completion of this unit the student should be able to develop an individual exploration proposal to form the basis of a studio process, and from this produce and document a variety of potential directions in a visual diary for at least one artwork.

Ideas and styles in artworks

Through the study of art movements and styles, students begin to understand the use of other artists' work in the making of new artworks. Students also develop skills in the visual analysis of artworks.

In this area of study students focus on the analysis of historical and contemporary artworks. Artworks by at least two artists and/or groups of artists from different times and cultures are analysed to understand how art elements and art principles are used to communicate artists' ideas, and to create aesthetic qualities and identifiable styles.

Unit 3: Artists and Studio Practices

On completion of this unit the student should be able to examine the practice of at least two artists, with reference to two artworks by each artist, referencing the different historical and cultural context of each artwork. To achieve this outcome the student will draw on key knowledge and key skills

Unit 4: Studio practice and art industry contexts

In this unit students focus on the planning, production and evaluation required to develop, refine and present artworks that link cohesively according to the ideas resolved in Unit 3. To support the creation of artworks, students present visual and written evaluation that explains why they selected a range of potential directions from Unit 3 to produce at least two finished artworks in Unit 4. The development of these artworks should reflect refinement and skillful

application of materials and techniques, and the resolution of ideas and aesthetic qualities discussed in the exploration proposal in Unit 3. Once the artworks have been made, students provide an evaluation about the cohesive relationship between the artworks.

This unit also investigates aspects of artists' involvement in the art industry, focusing on a least two different exhibitions, that the student has visited in the current year of study with reference to specific artworks in those exhibitions. Students investigate the methods and considerations of the artist and/or curator involved in the preparation, presentation and conservation of artworks displayed in exhibitions in at least two different galleries or exhibitions. Students examine a range of environments for the presentation of artworks including public galleries and museums, commercial and private galleries, university art galleries, artist-run spaces, alternative art spaces and online gallery spaces.

The key areas of study for Unit 4 are:

Production and Presentation of Artworks

On completion of this unit the student should be able to present at least two finished artworks based on selected and evaluated potential directions developed through the studio process, which demonstrate refinement and application of materials and techniques, and that realise and communicate the student's ideas expressed in the exploration proposal.

Evaluation

On completion of this unit the student should be able to provide visual and written documentation that identifies and evaluates the extent to which the artworks reflect the selected potential directions, and effectively demonstrates a cohesive relationship between the works.

Outcome 3 Art Industry Contexts

On completion of this unit the student should be able to compare the methods used by artists and considerations of curators in the preparation, presentation, conservation and promotion of artworks in at least two different exhibition.

*A course charge applies for this subject. Refer to 2018 Senior School Course Charges
Those students doing darkroom work will need to purchase extra materials.*

THEATRE STUDIES

Please Note: This study summary comprises excerpts from the VCE Theatre Studies Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/theatre/theatreindex.html>) to view the full accredited Study Design and other resources.

Rationale: Theatre Studies focuses on the interpretation of play-scripts and the production of plays from the pre-modern era to the present day. Students apply stagecraft including acting, to study the nature, diversity and characteristics of theatre as an art form. Throughout the study, students work with play-scripts in both their written form and in performance. They learn about the times, places and cultures of key theatrical developments and develop awareness of the traditions and histories of theatre.

This knowledge is applied through use of stagecraft to collaboratively interpret play-scripts in performance. Through contribution to the production of plays and performance of a monologue, students also develop knowledge and understanding of theatrical styles. This knowledge and understanding is further developed by analysis and evaluation of their own productions and productions by professional theatre practitioners.

Theatre Studies provides students with pathways to further studies in fields such as theatre production and theatre design, script writing and studies in theatre history.

Unit 1: Theatrical styles of the pre-modern era: This unit focuses on the application of acting and other stagecraft in relation to theatrical styles of the pre-modern era. Students work with play-scripts from the pre-modern era of theatre, focusing on works prior to the 1880s in both their written form and in performance. They also study theatrical and performance analysis and apply these skills to the analysis of a play from the pre-modern era in performance.

Periods from the pre-modern era of theatre include Ancient Greek theatre, Roman theatre, Liturgical drama such as morality/miracle/mystery plays, Italian theatre and the Commedia Dell'Arte, Elizabethan and Shakespearean theatre, Restoration comedies and dramas, Neo-classical theatre, Spanish and French theatre and non-Western theatre such as Beijing Opera, Noh theatre, Bunraku and Kabuki.

The term 'play-script' refers to play/s and/or excerpts from play/s.

Stagecraft: In this unit stagecraft includes acting, costume, direction, dramaturgy, lighting, make-up, multimedia, properties, promotion (including publicity), set, sound & stage management. Students research and apply acting and other stagecraft to interpret play-scripts.

Unit 2: Theatrical styles of the modern era: This unit focuses on studying theatrical styles and stagecraft through working with play-scripts in both their written form and in performance with an emphasis on the application of stagecraft. Students work with play-scripts from the modern era focusing on works from the 1880s to the present. Students study theatrical analysis and production evaluation and apply these skills to the analysis of a play in performance from the modern era.

Theatrical styles in the modern era include Naturalism/Realism, Expressionism, Theatre of the Absurd, Epic Theatre, physical theatre, political theatre, feminist theatre, and Eclectic theatre (contemporary theatre that crosses traditional boundaries). Modern theatre has been influenced by practitioners such as Ibsen, Strindberg, Stanislavsky, Chekhov, Brecht, Jarry, Pinter, Beckett, Anouilh, Grotowski, Artaud, Craig, Churchill, Hewitt, Kane, Cusack and Rayson.

The term 'play-script' refers to play/s and/or excerpts from play/s.

Stagecraft: In this unit stagecraft includes acting, costume, direction, dramaturgy, lighting, make-up, multimedia, properties, promotion (including publicity), set, sound and stage management. Students apply stagecraft to interpret a play-script and consider the impact of stagecraft on audiences.

VISUAL COMMUNICATION DESIGN

Please Note: This study summary comprises excerpts from the VCE Visual Communication Design Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website

<http://www.vcaa.vic.edu.au/vce/studies/visualcomm/VisualCommunicationDesignSD-2013.pdf>) to view the full accredited Study Design and other resources.

Rationale: Visual communication design can inform people's decisions about where and how they live and what they buy and consume. The visual presentation of information influences people's choices on what they think they need or want. The study provides students with the opportunity to develop an informed, a critical and a discriminating approach to understanding and using visual communications, and nurtures their ability to think creatively about design solutions. Design thinking, which involves the application of creative, critical and reflective techniques, processes and dispositions, supports skill development in areas beyond design, including science, business, marketing and management.

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.

Unit 2: Applications of visual communication design within design fields: 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.

Unit 3: Visual communication design practices: 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. Students prepare a brief, undertake research and generate ideas relevant to the brief.

Unit 4: Visual communication design development, evaluation and presentation: In this unit Students develop and refine design concepts, pitch their designs, make evaluations and produce two final presentations of visual communications to meet the requirements of the brief.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

Students will also be required to purchase a kit containing visual diary and drawing materials and equipment.

MATHEMATICS, SCIENCE AND TECHNOLOGY SUBJECTS

BIOLOGY

Please Note: This study summary comprises excerpts from the VCE Biology Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/biology/BiologySD-Units1-4.pdf>) to view the full accredited Study Design and other resources.

Rationale: Biology is a diverse and evolving science discipline that seeks to understand and explore the nature of life, past and present. Despite the diversity of organisms and their many adaptations for survival in various environments, all life forms share a degree of relatedness and a common origin. The study explores the dynamic relationships between organisms and their interactions with the non-living environment. It also explores the processes of life, from the molecular world of the cell to that of the whole organism, that maintain life and ensure its continuity. An understanding of the complexities and diversity of biology leads students to appreciate the interconnectedness of the content areas both within biology, and across biology and the other sciences.

Students work collaboratively as well as independently on a range of tasks. They pose questions, formulate hypotheses and collect, analyse and critically interpret qualitative and quantitative data. They analyse the limitations of data, evaluate methodologies and results, justify conclusions, make recommendations and communicate their findings. Students investigate and evaluate issues, changes and alternative proposals by considering both shorter and longer term consequences for the individual, environment and society. As well as an increased understanding of scientific processes, students develop capacities that enable them to critically assess the strengths and limitations of science, respect evidence-based conclusions and gain an awareness of the ethical, social and political contexts of scientific endeavours.

Unit 1: How do living things stay alive?

In this unit students are introduced to some of the challenges to an organism in sustaining life. Students examine the cell as the structural and functional unit of life, from the single celled to the multicellular organism, and the requirements for sustaining cellular processes in terms of inputs and outputs. They analyse types of adaptations that enhance the organism's survival in a particular environment and consider the role homeostatic mechanisms play in maintaining the internal environment. Students investigate how a diverse group of organisms form a living interconnected community that is adapted to, and utilises, the abiotic resources of its habitat. The role of a keystone species in maintaining the structure of an ecosystem is explored. Students consider how the planet's biodiversity is classified and the factors that affect the growth of a population.

Unit 2: How is the continuity of life maintained?

In this unit students focus on cell reproduction and the transmission of biological information from generation to generation. Students learn that all cells are derived from pre-existing cells through the cell cycle. They examine the process of DNA replication and compare cell division in both prokaryotic and eukaryotic organisms. Students explore the mechanisms of asexual and sexual reproductive strategies, and consider the advantages and disadvantages of these two types of reproduction. The role of stem cells in the differentiation, growth, repair and replacement of cells in humans is examined, and their potential use in medical therapies is considered. Students use chromosome theory and terminology from classical genetics to explain the inheritance of characteristics, analyse patterns of inheritance, interpret pedigree charts and predict outcomes of genetic crosses. They explore the relationship between genes, the environment and the regulation of genes in giving rise to phenotypes. They consider the role of genetic knowledge in decision making about the inheritance of autosomal dominant, autosomal recessive and sex-linked genetic conditions. In this context the uses of genetic screening and its social and ethical issues are examined.

Unit 3: How do cells maintain life?

The cell is a dynamic system of interacting molecules that define life. An understanding of the workings of the cell enables an appreciation of both the capabilities and the limitations of living organisms whether animal, plant, fungus or microorganism. The convergence of cytology, genetics and biochemistry makes cell biology one of the most rapidly evolving disciplines in contemporary biology. In this unit students investigate the workings of the cell from several perspectives. They explore the importance of the insolubility of the plasma membrane in water and its differential permeability to specific solutes in defining the cell, its internal spaces and the control of the movement of molecules and ions in and out of such spaces. Students consider base pairing specificity, the binding of enzymes and substrates, the response of receptors to signalling molecules and reactions between antigens and antibodies to highlight the importance of molecular interactions based on the complementary nature of specific molecules. Students study the synthesis, structure and function of nucleic acids and proteins as key molecules in cellular processes. They explore the chemistry of cells by examining the nature of biochemical pathways, their components and energy transformations. Cells communicate with each other using a variety of signalling molecules. Students consider the types of signals, the transduction of information within the cell and cellular responses. At this molecular level students study the human immune system and the interactions between its components to provide immunity to a specific antigen.

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

In this unit students consider the continual change and challenges to which life on Earth has been subjected. They investigate the relatedness between species and the impact of various change events on a population's gene pool. The accumulation of changes over time is considered as a mechanism for biological evolution by natural selection that leads to the rise of new species. Students examine change in life forms using evidence from palaeontology, biogeography, developmental biology and structural morphology. They explore how technological developments in the fields of comparative genomics, molecular homology and bioinformatics have resulted in evidence of change through measurements of relatedness between species. Students examine the structural and cognitive trends in the human fossil record and the interrelationships between human biological and cultural evolution. The biological consequences, and social and ethical implications, of manipulating the DNA molecule and applying biotechnologies is explored for both the individual and the species.

CHEMISTRY

Please Note: This study summary comprises excerpts from the VCE Chemistry Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/chemistry/ChemistrySD-Units1-4.pdf>) to view the full accredited Study Design and other resources.

Rationale: Chemistry is a key science in explaining the workings of our universe through an understanding of the properties and interaction of substances that make up matter. Most processes, from the formation of molecules in outer space to the complex biological interactions occurring in cells, can be described by chemical theories. Although there are no sharp boundaries between sciences such as chemistry, physics and biology, chemistry is used to explain natural phenomena at the molecular level, as well as create new materials such as medicines and polymers. The development of modern society has been intimately linked with the successful integration of chemical knowledge into new technologies.

This continues with emerging fields such as biotechnology and nanotechnology. There are many unanswered questions in science, and many unexplained phenomena such as the language of the brain and the evolution of climate. Over time, chemistry will play a key role in answering some of these questions as well as providing a sustainable environment for the future. Studying Chemistry can enrich students' lives through the development of particular knowledge, skills and attitudes, and enable them to become scientifically capable members of society. It will also provide a window on what it means to be a scientific researcher, working as a member of a community of practice, including insight into how new ideas are developed and investigated, and how evidence

or data collected is used to expand knowledge and understanding of chemistry. Many people develop an 'applied' knowledge of chemistry through their careers and day-to-day pursuits.

Chemistry permeates numerous fields of endeavour, including agriculture, art, biochemistry, dietetics, engineering, environmental studies, food, forensic science, forestry, horticulture, law, medicine, oceanography, pharmacy, sports science and winemaking. The chemistry undertaken in this study is representative of the discipline and the major ideas of chemistry. Some students will develop a passion for chemistry and be inspired to pursue further studies. All students, however, should become more informed, responsible decision-making citizens, able to use chemical knowledge and scientific arguments in their everyday lives and to evaluate and debate important contemporary issues such as the future of our environment and its management.

Unit 1: Explaining the diversity of materials

The development and use of materials for specific purposes is an important human endeavour. In this unit students investigate the chemical properties of a range of materials from metals and salts to polymers and nanomaterials. Using their knowledge of elements and atomic structure students explore and explain the relationships between properties, structure and bonding forces within and between particles that vary in size from the visible, through nanoparticles, to molecules and atoms.

Students examine the modification of metals, assess the factors that affect the formation of ionic crystals and investigate a range of non-metallic substances from molecules to polymers and giant lattices and relate their structures to specific applications.

Students are introduced to quantitative concepts in chemistry including the mole concept. They apply their knowledge to determine the relative masses of elements and the composition of substances. Throughout the unit students use chemistry terminology including symbols, formulas, chemical nomenclature and equations to represent and explain observations and data from experiments, and to discuss chemical phenomena.

A research investigation is undertaken in Area of Study 3 related to one of ten options that draw upon and extend the content from Area of Study 1 and/or Area of Study 2.

Unit 2: The importance of water as a chemical.

Water is the most widely used solvent on Earth. In this unit students explore the physical and chemical properties of water, the reactions that occur in water and various methods of water analysis.

Students examine the polar nature of a water molecule and the intermolecular forces between water molecules. They explore the relationship between these bonding forces and the physical and chemical properties of water. In this context students investigate solubility, concentration, pH and reactions in water including precipitation, acid-base and redox. Students are introduced to stoichiometry and to analytical techniques and instrumental procedures, and apply these to determine concentrations of different species in water samples, including chemical contaminants. They use chemistry terminology including symbols, units, formulas and equations to represent and explain observations and data from experiments, and to discuss chemical phenomena. Students explore the solvent properties of water in a variety of contexts and analyse selected issues associated with substances dissolved in water.

A practical investigation into an aspect of water quality is undertaken in Area of Study 3. The investigation draws on content from Area of Study 1 and/or Area of Study 2.

Unit 3: Optimising chemical processes

The global demand for energy and materials is increasing with world population growth. In this unit students explore energy options and the chemical production of materials with reference to efficiencies, renewability and the minimisation of their impact on the environment.

Students compare and evaluate different chemical energy resources, including fossil fuels, biofuels, galvanic cells and fuel cells. They investigate the combustion of fuels, including the energy transformations involved, the use of stoichiometry to calculate the amounts of reactants and products involved in the

reactions, and calculations of the amounts of energy released and their representations. Students consider the purpose, design and operating principles of galvanic cells, fuel cells and electrolytic cells. In this context they use the electrochemical series to predict and write half and overall redox equations, and apply Faraday's laws to calculate quantities in electrolytic reactions.

Students analyse manufacturing processes with reference to factors that influence their reaction rates and extent. They investigate and apply the equilibrium law and Le Chatelier's principle to different reaction systems, including to predict and explain the conditions that will improve the efficiency and percentage yield of chemical processes. They use the language and conventions of chemistry including symbols, units, chemical formulas and equations to represent and explain observations and data collected from experiments, and to discuss chemical phenomena.

A student practical investigation related to energy and/or food is undertaken either in Unit 3 or Unit 4, or across both Units 3 and 4, and is assessed in Unit 4, Outcome 3. The findings of the investigation are presented in a scientific poster format.

Unit 4: Categorising and analysing organic compounds.

The carbon atom has unique characteristics that explain the diversity and number of organic compounds that not only constitute living tissues but are also found in the fuels, foods, medicines and many of the materials we use in everyday life. In this unit students investigate the structural features, bonding, typical reactions and uses of the major families of organic compounds including those found in food.

Students study the ways in which organic structures are represented and named. They process data from instrumental analyses of organic compounds to confirm or deduce organic structures, and perform volumetric analyses to determine the concentrations of organic chemicals in mixtures. Students consider the nature of the reactions involved to predict the products of reaction pathways and to design pathways to produce particular compounds from given starting materials.

Students investigate key food molecules through an exploration of their chemical structures, the hydrolytic reactions in which they are broken down and the condensation reactions in which they are rebuilt to form new molecules. In this context the role of enzymes and coenzymes in facilitating chemical reactions is explored. Students use calorimetry as an investigative tool to determine the energy released in the combustion of foods.

A student practical investigation related to energy and/or food is undertaken in either Unit 3 or in Unit 4, or across both Units 3 and 4, and is assessed in Unit 4, Outcome 3. The findings of the investigation are presented in a scientific poster format.

ENVIRONMENTAL SCIENCE

Please Note: This study summary comprises excerpts from the VCE Environmental Science Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/envscience/EnvironmentalScienceSD-Units1-4.pdf>) to view the full accredited Study Design and other resources.

Rationale: 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

The study is only offered at Unit 3&4 level, however is open to Year 11 students as a potential enhancement subject.

Unit 3: Ecological issues: energy and biodiversity: This unit focuses on two major ecological issues which provide challenges for the present and the future. The consequences on the atmosphere of natural and enhanced greenhouse effects, and issues of biodiversity and its significance in sustaining ecological integrity, will be examined

Unit 4: Ecological sustainability: This unit focuses on pollution and its relationship to the health of humans and the environment. It advances further understanding of managing the environment to ensure development meets human needs while maintaining ecological integrity of the environment

FOOD STUDIES

Please Note: This study summary includes excerpts from the VCE Food and Technology Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/foodtech/foodtechindex.html>) to view the full accredited Study Design and other resources.

Rationale: VCE Food and Technology focuses on the importance of food in our daily lives from both a theoretical and practical point of view. The study enables students to apply their theoretical understanding of the relationship between food and technology as they develop skills in food preparation.

The food sector is dynamic, diverse and creative. Innovative food products are continually being introduced into the marketplace in response to changing social and consumer demands. Contemporary society is aware of the links between food, food processing, nutrition, health and well-being, and issues associated with these have become a high priority for consumers. VCE Food and Technology challenges students to make these links and provides them with the opportunities to acquire knowledge and skills to make informed choices when selecting, storing, purchasing, preparing and consuming foods that will contribute to a healthy lifestyle. Students also consider the importance of environmental issues and sustainability practices in food production, as well as the important role of technology in food product development and the way food is produced, processed, packaged and marketed.

The study may provide a foundation for pathways to food science and technology, consumer science, home economics, child care and education, community services and aged care, the hospitality and food manufacturing industries, and nutrition and health studies.

Unit 1: Food Origins

This unit focuses on the origins of food from historical and cultural perspectives and how Australian food culture has changed over time. In area of study 1 students will investigate how early human populations transformed their food supply from hunter gatherer systems into the globalised system used today. Area of study two explores indigenous Australian ingredients and customs, the development of Australian food industries and how migration and modern trends have impacted our food culture.

Unit 2: Food Makers

This unit explores how food products are designed for a range of reasons in both domestic and commercial settings. In area of study one students engage with stages of the product design process to design, produce and market a commercial product. In area of study two students will adapt and produce recipes to suit people's dietary, social and ethical needs while considering how reduce food wastage.

Students will complete weekly practical cooking classes to support the theory of the Study Design.

This subject would suit learners who are interested in the history of food, nutrition, dietetics, food journalism, product design and food science career paths.

Unit 3: Food in Daily Life

Unit 3 explores the science of food, our physical need for it and how it nourishes and sometimes harms our bodies. Students investigate the physiology of eating and appreciating food, and the microbiology of digestion.

Unit 4: Food Issues, Challenges and Futures

This unit focuses on issues about the environment, ecology, ethics, farming practices, the development and application of technologies, and the challenges of food security, food safety, food wastage, and the use and management of water and land.

Students will complete weekly practical lessons to support the theory of the Study Design.

This subject would suit learners who are interested in nutrition, dietetics and food science career paths.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

COMPUTING

Please Note: This study summary includes excerpts from the VCE Computing Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<https://www.vcaa.vic.edu.au/Documents/vce/computing/ComputingSD-2016.pdf>) to view the full accredited Study Design and other resources.

Rationale: VCE Computing focuses on the application of a problem-solving methodology, and strategies and techniques for managing information systems in a range of contexts, to create digital solutions that meet specific needs. The study examines the attributes of each component of an information system including people, processes, data and digital systems (hardware, software, networks), and how their interrelationships affect the types and quality of digital solutions.

Unit 1: Computing

In this unit students focus on how data, information and networked digital systems can be used to meet a range of users' current and future needs. In Area of Study 1 students collect primary data when investigating an issue, practice or event and create a digital solution that graphically presents the findings of the investigation. In Area of Study 2 students examine the technical underpinnings of wireless and mobile networks, and security controls to protect stored and transmitted data, to design a network solution that meets an identified need or opportunity. They predict the impact on users if the network solution were implemented. In Area of Study 3 students acquire and apply their knowledge of information architecture and user interfaces, together with web authoring skills, when creating a website to present different viewpoints on a contemporary issue.

Unit 2: Computing

In this unit students focus on data and how the application of computational, design and systems thinking skills support the creation of solutions that automate the processing of data. In Area of Study 1 students develop their computational thinking skills when using a programming or scripting language to create solutions. They engage in the design and development stages of the problem-solving methodology. In Area of Study 2 students develop a sound understanding of data and how a range of software tools can be used to extract data from large repositories and manipulate it to create visualisations that are clear, usable and attractive, and reduce the complexity of data. In Area of Study 3 students apply all stages of the problem-solving methodology to create a solution using database management software and explain how they are personally affected by their interactions with a database system.

Unit 3: Software development: Unit 3 focuses 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. When programming in Unit 3, students are expected to have an overview of the problem-solving methodology and a detailed understanding of the stages of analysis, design and development. Details of this methodology are contained in the Study Design.

Area of Study 1 focuses on the analysis stage of the problem-solving methodology, which 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. In Area of Study 2 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.

Unit 4: Software development: 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. Details of this methodology are contained in the Study Design.

Area of Study 1 focuses on the design and development stages of the problem-solving methodology when solving problems suitable for use with mobile devices. Area of Study 2 focuses on the final stage of the methodology, evaluation.

(Note: Unit 3 and 4 Software Development will not be offered in 2019)

MATHEMATICS

Please Note: This study summary comprises excerpts from the VCE Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website to view the full accredited Study Design and other resources.

Foundation Maths (<http://www.vcaa.vic.edu.au/vce/studies/mathematics/foundation/foundmathindex.htm>)

Further Mathematics (<http://www.vcaa.vic.edu.au/vce/studies/mathematics/further/furthermathindex.html>)

General Mathematics (<http://www.vcaa.vic.edu.au/vce/studies/mathematics/general/genmathindex.html>)

Mathematical Methods (<http://www.vcaa.vic.edu.au/vce/studies/mathematics/cas/casindex.htm>)

Specialist Maths (<http://www.vcaa.vic.edu.au/vce/studies/mathematics/specialist/specialmathindex.html>)

Mathematics is not compulsory at VCE level, although a majority of students choose to undertake one of the pathways available to them at Eltham High School. Mathematics is the only VCE study offered at a range of levels, so it is important that students carefully consider the subjects offered, and pay attention to the recommendations that their teachers will provide them with.

The logical thinking and problem solving skills that are developed through the study of Mathematics are highly valued across a wide range of post-school pathways and careers, and different Mathematics options are often prerequisites for entry to tertiary courses. It is important that students have considered these requirements before finalising their subject choices.

The study of Mathematics at VCE in general is designed to provide access to worthwhile and challenging mathematical learning in a way which takes into account the varied interests, needs and aspirations of students. It aims to enable students to:

- develop mathematical concepts, knowledge and skills
- apply mathematics to analyse, investigate and model a variety of problems
- use technology effectively as a tool for working mathematically
-

The subject descriptions below should be read in combination with the illustration of pathways that follows. Students are strongly encouraged to discuss requirements and recommendations with their teacher and/or the Mathematics KLA Leader if they are unsure of their most appropriate pathway.

A TI Nspire CAS Calculator is required for all Mathematics options described below.

Units 1 and 2 Subjects Offered:

MATHEMATICAL METHODS

Mathematical Methods Units 1 and 2 provides an introduction to the study of many higher level mathematical ideas. It is designed as preparation for Mathematical Methods Units 3 and 4 and contains assumed knowledge and skills for these units. Students are introduced to the study of calculus, develop a more formal understanding of functions and graphs, extend their algebraic skills, and learn key theories in probability and statistics.

Mathematical Methods Units 1 and 2 should be studied together with either Specialist Mathematics Units 1 and 2 or General Mathematics A to provide the more comprehensive background in mathematics required for successful Units 3 and 4 study.

Success in Mathematical Methods Units 1 and 2 requires fluency and confidence with the expected level of algebra in particular, and a good standard of achievement in Year 10 Mathematics Extension or an excellent standard of achievement in Year 10 Core Mathematics is typically recommended. Assessment includes components both with and without the assistance of a CAS calculator. Students entering the Mathematical Methods course from Year 10 Core Mathematics are required to study additional Methods pathway topics through the second semester of Year 10, and will have to undertake extra work to improve their algebraic skills.

SPECIALIST MATHEMATICS

Specialist Mathematics Units 1 and 2 provides a course for students who enjoy mathematics and wish to keep their study options at Units 3 and 4 as open as possible. Mathematical Methods Units 1 and 2 and Specialist Mathematics Units 1 and 2, taken in conjunction, provide the best possible preparation for the study of Mathematical Methods Units 3 and 4. A significant proportion of work covered in the subject is also assumed knowledge for Specialist Mathematics Units 3 and 4. Students are introduced to new concepts such as complex numbers and vector geometry, study more complex algebra and functions and graphs, and develop an enhanced appreciation of mathematical proof. Success in Specialist Mathematics Units 1 and 2 requires fluency and confidence with the expected level of algebra in particular, and a very good standard of achievement in Year 10 Mathematics Extension is typically recommended. **Assessment includes components both with and without the assistance of a CAS calculator. Specialist Mathematics Units 1 and 2 is not studied alone. It should only be selected in combination with Mathematical Methods Units 1 and 2.**

GENERAL MATHEMATICS A

General Mathematics A complements and enhances the study of Mathematical Methods Units 1 and 2. It is designed to provide an opportunity for students who are insufficiently prepared to take Specialist Mathematics Units 1 and 2 to develop the required foundation for continued study of Mathematical Methods at Units 3 and 4. Unlike Specialist Mathematics Units 1 and 2, General Mathematics A does not attempt to cover the assumed knowledge for Specialist Mathematics Units 3 and 4. Students study a range of topics in the areas of algebra, arithmetic, geometry and trigonometry, linear and non-linear relationships, and probability and statistics. Success in General Mathematics A requires fluency and confidence with the expected level of algebra in particular, and a satisfactory standard of achievement in Year 10 Mathematics Extension or an excellent standard of achievement in Year 10 Core Mathematics is typically recommended. Assessment includes components both with and without the assistance of a CAS calculator. Students entering the General Mathematics A course from Year 10 Core Mathematics are required to study additional Methods pathway topics through the second semester of Year 10, and will be advised to undertake extra work to improve their algebraic skills. **General Mathematics A is not studied alone. It should only be selected in combination with Mathematical Methods Units 1 and 2.**

GENERAL MATHEMATICS B

General Mathematics B is a widely accessible course designed to provide a general background in mathematics, and a pathway to the study of Further Mathematics Units 3 and 4. The subject does not provide a pathway to any other Mathematics option at Units 3 and 4. Students study a wide range of topics in the areas of algebra, arithmetic, discrete mathematics, geometry, measurement and trigonometry, linear and non-linear relationships, and statistics, with increased emphasis on content which is directly relevant to the study of Further Mathematics Units 3 and 4. Students sit all assessments with the aid of a CAS calculator and a good standard of achievement in Year 10 Core Mathematics is typically recommended. Students considering entry into General Mathematics B who may not reach this standard should discuss requirements and appropriate preparation in Year 10 with their teacher. **General Mathematics B is not studied with any other Units 1 and 2 Mathematics subject.**

Units 3 and 4 Subjects Offered:

MATHEMATICAL METHODS

Mathematical Methods Units 3 and 4 provides the core skills and knowledge required for further study of Mathematics, and an appropriate background for entry into many tertiary courses with a mathematical component, such as Biological and health sciences, Medicine, Psychology, Architecture, and Economics.

In Mathematical Methods Units 3 and 4, students extend their knowledge from Units 1 and 2 in the areas of algebra, functions and graphs, calculus, and probability and statistics. Assessment includes components both with and without the assistance of a CAS calculator. Mathematical Methods Units 3 and 4 may be studied alone, or with Specialist Mathematics Units 3 and 4. Students interested in highly mathematical courses at tertiary level would typically take this second option to provide the additional breadth and depth of knowledge expected. It is also possible to study Mathematical Methods Units 3 and 4 with Further Mathematics Units 3 and 4 for students who wish to complete two Mathematics subjects, but are insufficiently prepared to take Specialist Mathematics Units 3 and 4.

Successful completion of Mathematical Methods Units 1 and 2 to a good standard, along with completion of either Specialist Mathematics Units 1 and 2 to a satisfactory standard or General Mathematics A to a very good standard is typically recommended for entry into Mathematical Methods Units 3 and 4.

SPECIALIST MATHEMATICS

Specialist Mathematics Units 3 and 4 provides a course for students with a strong interest in mathematics. The subject is highly beneficial for the study of mathematical courses at tertiary level, such as Mathematics, Engineering, Physical Sciences, Computer Science and Commerce and provides significantly better preparation than studying Mathematical Methods Units 3 and 4 on its own. Students extend and combine their knowledge from Specialist Mathematics Units 1 and 2 and Mathematics Methods Units 1 to 4 through the study of higher level algebra, functions and graphs, calculus, vectors, mechanics, and probability and statistics. Assessment includes components both with and without the assistance of a CAS calculator. **Specialist Mathematics Units 3 and 4 is not studied alone. Students studying Specialist Mathematics Units 3 and 4 must also study Mathematical Methods Units 3 and 4.**

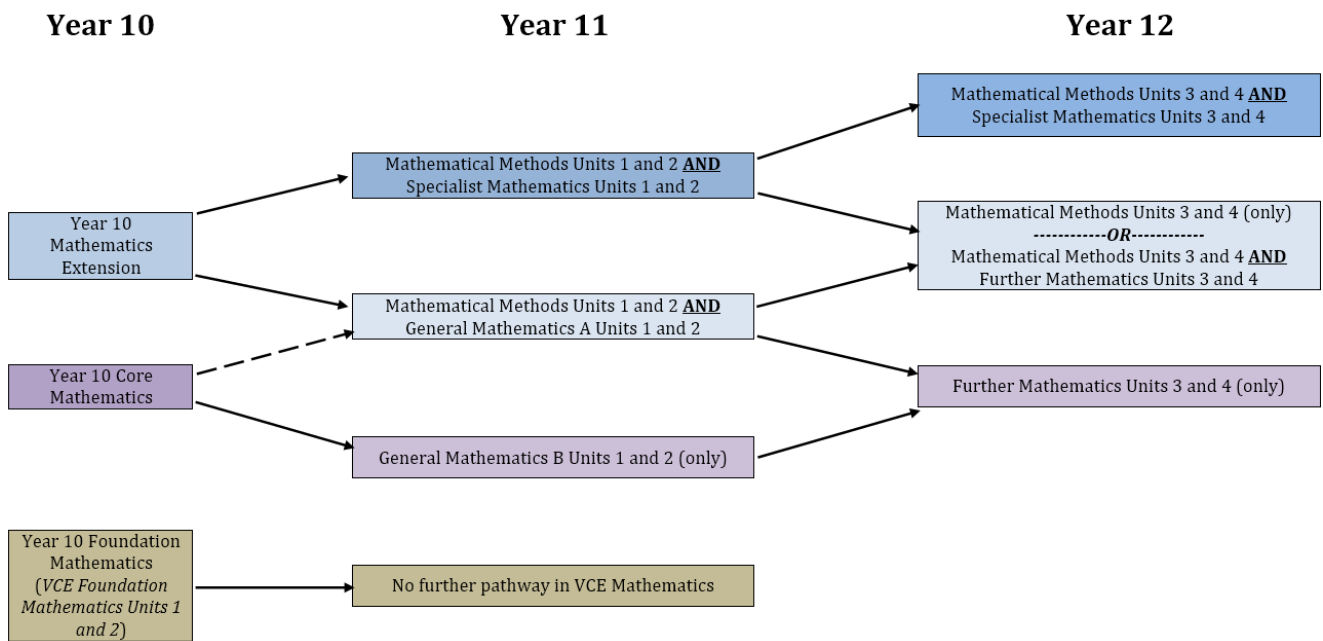
Successful completion of both Mathematical Methods Units 1 and 2 **and** Specialist Mathematics Units 1 and 2 to a very good standard is typically recommended for entry into Specialist Mathematics Units 3 and 4.

FURTHER MATHEMATICS

Further Mathematics Units 3 and 4 provides general preparation for employment or study in areas that benefit from a knowledge of mathematics and its practical applications, but do not require a higher level study. Further Mathematics is designed to be widely accessible, and students sit all assessments with the aid of a CAS calculator. In Unit 3, students study a compulsory core curriculum, covering the two areas of Data analysis, and Recursion and financial modelling. In Unit 4, two modules are studied from the four available: Matrices, Networks and decision mathematics, Geometry and measurement, and Graphs and relations.

Successful completion of either General Mathematics B Units 1 and 2 to a good standard or Mathematical Methods Units 1 and 2 to a satisfactory standard is typically recommended for entry into Further Mathematics Units 3 and 4.

Senior School Mathematics Pathways at Eltham High School



NOTE 1: While a pathway is provided to Mathematical Methods and General Mathematics A from Year 10 Core Mathematics, Year 10 Mathematics Extension is the recommended option for students who are considering following any Methods pathway. Students entering Mathematical Methods and General Mathematics A from Year 10 Core Mathematics must study optional Methods pathway topics throughout the second semester of Year 10 and should expect to complete additional algebraic work.

NOTE 2: The Year 10 Foundation Mathematics course provides the opportunity to complete VCE Foundation Mathematics Units 1 and 2. Students following this pathway will not be able to continue to any further study of mathematics beyond this, including the other Unit 1 and 2 options offered in Year 11.

PHYSICS

Please Note: This study summary comprises excerpts from the VCE Physics Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/physics/PhysicsSD-Units1-4.pdf>) to view the full accredited Study Design and other resources.

Rationale: Ideas in physics are dynamic. As physicists explore concepts, theories evolve. Often this requires the detection, description and explanation of things that cannot be seen. In this unit students explore how physics explains phenomena, at various scales, which are not always visible to the unaided human eye. They examine some of the fundamental ideas and models used by physicists in an attempt to understand and explain the world. Students consider thermal concepts by investigating heat, probe common analogies used to explain electricity and consider the origins and formation of matter.

Unit 1: Students investigate the thermodynamic principles related to heating processes, including concepts of temperature, energy and work. Students examine the environmental impacts of Earth's thermal systems and human activities with reference to the effects on surface materials, the emission of greenhouse gases and the contribution to the enhanced greenhouse effect.

Students analyse electrical phenomena and undertake practical investigations of circuit components. Concepts of electrical safety are developed through the study of safety mechanisms and the effect of current on humans.

Students explore the nature of matter, and consider the origins of atoms, time and space. They examine the currently accepted theory of what constitutes the nucleus, the forces within the nucleus and how energy is derived from the nucleus.

Unit 2: Students observe motion and explore the effects of balanced and unbalanced forces on motion. They analyse motion using concepts of energy, including energy transfers and transformations, and apply mathematical models during experimental investigations of motion. They describe and analyse graphically, numerically and algebraically the motion of an object, using specific physics terminology and conventions.

Twelve options are available for selection, each is based on a different observation of the physical world. One option is to be selected by the student from the following:

- What are stars?
- Is there life beyond Earth's Solar System?
- How do forces act on the human body?
- How can AC electricity charge a DC device?
- How do heavy things fly?
- How do fusion and fission compare as viable nuclear energy power sources?
- How is radiation used to maintain human health?
- How do particle accelerators work?
- How can human vision be enhanced?
- How do instruments make music?
- How can performance in ball sports be improved?
- How does the human body use electricity?

Students design and conduct a practical investigation related to knowledge and skills developed in Area of Study 1 and/or Area of Study 2. The investigation requires the student to develop a question, plan a course of action that attempts to answer the

question, undertake an investigation to collect the appropriate primary qualitative and/or quantitative data, organise and interpret the data, and reach a conclusion in response to the question.

Units 3 and 4: In Units 3 and 4 Physics seeks to understand and explain the physical world through providing students with opportunities to explore questions related to the natural and constructed world.

Throughout Units 3 and 4 students will:

- analyse gravitational, electric and magnetic fields, and use these to explain the operation of motors and particle accelerators and the orbits of satellites.
- analyse and evaluate an electricity generation and distribution system.
- investigate motion and related energy transformations experimentally, analyse motion using Newton's laws of motion in one and two dimensions, and explain the motion of objects moving at very large speeds using Einstein's theory of special relativity.
- apply wave concepts to analyse, interpret and explain the behaviour of light.
- provide evidence for the nature of light and matter, and analyse the data from experiments that supports this evidence.
- design and undertake a practical investigation related to waves or fields or motion, and present methodologies, findings and conclusions in a scientific poster.

An important feature of undertaking a VCE science study is the opportunity for students to engage in a range of inquiry tasks that may be self-designed, develop key science skills and interrogate the links between theory and practice. In VCE Physics inquiry methodologies can include laboratory experimentation, local and remote data logging, simulations, animations and literature reviews.

PRODUCT DESIGN AND TECHNOLOGY

Please Note: This study summary comprises excerpts from the VCE Product Design and Technology Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/designtech/destechindex.htm>) to view the full accredited Study Design and other resources.

Rationale: Designers play an important part in our daily lives. They determine the form and function of the products we use. They transform ideas into drawings and plans for the creation and manufacture of useful products that fulfil human needs and wants. In recent history the use of resources to create an ever-increasing array of products has given designers an increased responsibility to think sustainably. Students develop an understanding of the consequences of product design choices. They develop the necessary skills to critically analyse existing products and to develop their own creative solutions.

VCE Product Design and Technology can provide a pathway to a range of related fields such as industrial, product, interior and exhibition design, engineering, and fashion, furniture, jewellery, textile and ceramic design at both professional and vocational levels. Moreover, VCE Product Design and Technology can inform sustainable behaviours and develop technical skills to present multiple solutions to everyday life situations. It contributes to creating confident and unique problem solvers and project managers well equipped to deal with the multi-disciplinary nature of modern workplaces.

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. Knowledge of material use and suitability for particular products is essential in product design. Additionally, knowledge of the source, origin and processing of materials is central to sustainable practices. Students consider the use of materials from a sustainable viewpoint. Sustainable practices claimed to be used by designers are examined.

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.

Teamwork encourages communication between students and mirrors professional design practice where designers often work within a multi-disciplinary team to develop solutions to design problems. Students also examine the use of ICT to facilitate teams that work collaboratively but are spread across the globe.

In this unit students are able to gain inspiration from an historical and/or a cultural design movement or style and its defining factors such as ideological or technological change, philosophy or aesthetics.

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. Design and product development and manufacture occur in a range of settings. An industrial setting provides a marked contrast to that of a 'one-off situation' in a small 'cottage' industry or a school setting. Although a product design process may differ in complexity or order, it is central to all of these situations regardless of the scale or context. This unit examines different settings and takes students through the Product design process as they design for others.

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.

(Note: At Eltham High School, Product Design is offered in the areas of Wood Technology and Fibres. Fibres will not be offered at Units 3 and 4 in 2019)

Students will need to purchase raw materials to complete their production work.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

PSYCHOLOGY

Please Note: This study summary comprises excerpts from the VCE Psychology Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website (<http://www.vcaa.vic.edu.au/vce/studies/psychology/PsychologySD-Units1-4.pdf>) to view the full accredited Study Design and other resources.

Rationale: Psychology is the scientific study of mental processes and behaviour in humans. Biological, behavioural, cognitive and socio-cultural perspectives inform the way psychologists approach their research into the human condition. The science of psychology has produced rapid expansion in knowledge, particularly in the fields of neuroscience and cognition. This growth has been fuelled by the emergence of new interdisciplinary approaches, advances in imaging technologies and a broader public interest in applications of psychology. As a result, new ethical frameworks have emerged for neuroscientific and psychological research, clinical practice and commercial applications. In the VCE study of Psychology, students explore complex human behaviours and thought processes. They develop empathetic understandings and an understanding of mental health issues in society. Students are given the opportunity to apply psychological principles to everyday situations such as workplace and social relations. Psychology provides students with a sophisticated framework for understanding the complex interactions between biological, behavioural, cognitive and socio-cultural

factors that influence thought, emotions and behaviour. The study assists students to further develop effective language skills for communication, and numeracy skills for research, data analysis and other applications. In addition, students develop a range of broader skills including those of problem solving, critical evaluation and the application of processes of scientific inquiry. The study of Psychology leads to opportunities in a range of careers that involve working with children, adults, families and communities in a variety of settings. These include academic and research institutions, management and human resources, and government, corporate and private enterprises. Fields of applied psychology include educational, environmental, forensic, health, sport and organisational psychology. Specialist fields of psychology include counselling and clinical contexts, as well as neuropsychology, social psychology and developmental psychology.

Unit 1: Introduction to psychology: In this unit students are introduced to the development of psychology from its philosophical beginnings to a scientific study of the human mind and behaviour. Students explore the scope of psychology, its specialist disciplines such as neuropsychology, cognitive, social and human developmental psychology, and its fields of application. Students consider influences on perception and human behaviour from biological, behavioural, cognitive and socio-cultural perspectives. They examine the contribution classic and contemporary studies have made to the development of different psychological theories used to predict and explain the human mind, and behaviours associated with particular stages of development over a lifespan. 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.

The research methodologies and ethical principles considered in this unit are:

- experimental research: construction of hypotheses; identification of independent, dependent and extraneous variables
- sampling procedures in selection of participants: random sampling; stratified sampling
- techniques of qualitative and quantitative data collection: case studies; observational studies; surveys; questionnaires; interviews; rating scales; longitudinal, cross-sectional, twin and adoption studies
- statistics: calculation of percentages; construction of tables, bar charts, histograms, pie charts, line graphs and frequency polygons; generalisation of findings to other populations (external validity)
- ethical principles and professional conduct: the role of the experimenter; protection and security of participants' rights; confidentiality; voluntary participation; withdrawal rights; informed consent procedures; use of deception in research; debriefing; use of animals in research; role of ethics committees

Unit 2: Self and others: A person's attitudes and behaviours affect the way they view themselves and the way they relate to others. Understanding what influences the formation of attitudes of individuals and behaviours of groups can inform and contribute to explanations of individual aggression or altruism, the positive and negative power of peer pressure and responses to group behaviour. Differences between individuals can also be ascribed to differences in intelligence and personality, but conceptions of intelligence and personality and their methods of assessment are contested. Differences between individuals, groups and cultures can be analysed in varied ways through different psychological perspectives informed by both classic and contemporary theories. In this unit 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.

The research methodologies and ethical principles considered in this unit are:

- experimental research: operational independent and dependent variables; identification of extraneous and potential confounding variables; identification of control and experimental groups; reporting conventions
- sampling procedures in selection and allocation of participants: random sampling; stratified sampling; random-stratified sampling; random allocation of participants to groups
- techniques of qualitative and quantitative data collection: observational studies; self-reports; surveys; questionnaires; interviews; rating scales; standardised and non-standardised tests
- statistics: measures of central tendency including mean, median and mode; spread of scores including standard deviation and variance; frequency distributions showing bimodal, normal and skew (positive and negative) distributions; scatter plots and correlation; reliability including test-retest, inter-rater, parallel forms and internal consistency; validity including content, criterion-related, construct and external
- ethical principles and professional conduct: the role of the experimenter; protection and security of participants' rights; confidentiality; voluntary participation; withdrawal rights; informed consent procedures; use of deception in research; debriefing; use of animals in research; role of ethics committees

Unit 3: The conscious self: 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. Advances in brain research methods have opened new ways to understanding the relationship between mind, brain and behaviour. 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. The brain continually receives and processes vast amounts of information from its internal and external environment. Memory involves the selective retention and retrieval of this information and it plays an important role in determining behaviour. Students consider the function of the nervous system in memory and investigate the ways in which information is processed, stored and utilised. They apply different theories of memory and forgetting to their everyday learning experiences. 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.

The research methodologies and ethical principles for Units 3 and 4 are:

- experimental research: construction of research hypotheses; identification and operationalisation of independent and dependent variables; identification of extraneous and potential confounding variables including individual participant differences, non-standardised instructions and procedures, order effects, experimenter effect, placebo effects; ways of minimising confounding and extraneous variables including type of sampling procedures, type of experiment, counterbalancing, single and double blind procedures, placebos, standardised instructions and procedures; evaluation of different types of experimental research designs including independent-groups, matched-participants, repeated-measures; reporting conventions as per *American Psychological Association* (APA) format
- sampling procedures in selection and allocation of participants: random sampling; stratified sampling; random-stratified sampling; convenience sampling; random allocation of participants to groups; control and experimental groups
- techniques of qualitative and quantitative data collection: case studies; observational studies; self reports

- statistics: measures of central tendency including mean, median and mode; interpretation of p-values and conclusions; evaluation of research in terms of generalising the findings to the population
- ethical principles and professional conduct: the role of the experimenter; protection and security of participants' rights; confidentiality; voluntary participation; withdrawal rights; informed consent procedures; use of deception in research; debriefing.

Unit 4: Brain, behaviour and experience: 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. Students build on their conceptual understanding of learning to consider it as one of several important facets involved in a biopsychosocial approach to the analysis of mental health and illness. They consider different concepts of normality, and learn to differentiate between normal responses such as stress to external stimuli, and mental disorders. Students use a biopsychosocial framework – a conceptual model which includes psychological and social factors in addition to biological factors in understanding a person's mental state – to explore the nature of stress and a selected mental disorder. The intent of the study is not that of diagnosis and treatment but to explore causes of mental illness, avenues of assistance and factors that promote mental wellbeing.

SYSTEMS ENGINEERING

Please Note: This study summary comprises excerpts from the VCE Psychology Study Design. The summary is not a substitute for the VCE Study Design. Users are advised to consult the VCAA website - (<http://www.vcaa.vic.edu.au/Pages/vce/studies/systemseng/systemsengindex.aspx>) to view the full accredited Study Design and other resources.

VCE Systems Engineering involves the design, creation, operation and evaluation of integrated systems, which mediate and control many aspects of human experience.

Integral to Systems Engineering is the identification and quantification of systems goals, the development of alternative system designs concepts, trial and error, design trade-offs, selection and implementation of the best design, testing and verifying that the system is well built and integrated, and evaluating how well the completed system meets the intended goals.

This study can be applied to a diverse range of engineering fields such as manufacturing, land, water, air and space transportation, automation, control technologies, mechanisms and mechatronics, electrotechnology, robotics, pneumatics, hydraulics, and energy management. Systems Engineering considers the interactions of these systems with society and natural ecosystems.

Unit 1: Introduction to mechanical systems

This unit focuses on engineering fundamentals as the basis of understanding underlying principles and the building blocks that operate in simple to more complex mechanical devices.

While this unit contains the fundamental physics and theoretical understanding of mechanical systems and how they work, the main focus is on the construction of a system. The construction process draws heavily upon design and innovation.

Students apply their knowledge to design, construct, test and evaluate operational systems. The focus of the system should be mechanical; however, it may include some electronic components. The constructed operational systems demonstrate selected theoretical principles studied in this unit.

All systems require some form of energy to function. Through research, students explore and quantify how systems use or convert the energy supplied to them.

In this unit, students are introduced to the Systems Engineering Process. They are introduced to the fundamental mechanical engineering principles, including recognition of mechanical subsystems and devices, their motions, the elementary applied physics, and the related mathematical calculations that can be applied to define and explain the physical characteristics of these systems.

Unit 2: Introduction to electrotechnology systems

In this unit students study fundamental electrotechnology engineering principles. Through the application of their knowledge and the Systems Engineering Process, students produce operational systems that may also include mechanical components. In addition, students conduct research and produce technical reports.

While this unit contains fundamental physics and theoretical understanding of electrotechnology systems and how they work, student focus remains on the construction of electrotechnology systems. The construction process draws heavily upon design and innovation.

Electrotechnology is experiencing rapid developments and changes through technological innovation. The contemporary design and manufacture of electronic equipment involves increased levels of automation and inbuilt control through the inclusion of microcontrollers. In this unit students explore some of these new and emerging technologies.

Students study fundamental electrotechnology principles including applied electrical theory, representation of electronic components and devices, elementary applied physics in electrical circuits, and mathematical calculations that can be applied to define and explain electrical characteristics of circuits. The unit offers opportunities for students to apply their knowledge in the design, construction, testing and evaluation of an operational system. The system should be predominately electrotech based, but would generally have electro-mechanical components within the system. The constructed system should provide a tangible demonstration of some of the theoretical principles studied in this unit.

Unit 3

In this unit students study the engineering principles that are used to explain the physical properties of integrated systems and how they work. Through the application of their knowledge, students design and plan an operational, mechanical-electrotechnology integrated and controlled system. They learn about the technologies used to harness energy sources to provide power for engineered systems.

Students commence work on the design, planning and construction of one substantial controlled integrated system. This project has a strong emphasis on designing, manufacturing, testing and innovation. Students manage the project throughout the Systems Engineering Process, taking into consideration the factors that will influence the design, planning, production and use of their integrated system. The systems engineering principles underpin students' understanding of the fundamental physics and applied mathematics needed to provide a comprehensive understanding of mechanical and electrotech systems and how they function.

Students learn about sources and types of energy that enable engineered technological systems to function. Comparisons are made between the impacts of the use of renewable and non-renewable energy sources. Students learn about the technological systems developed to capture and store renewable energy and technological developments to improve the credentials of non-renewables

Unit 4

In this unit students complete the production work and test and evaluate the integrated controlled system they designed in Unit 3. Students investigate new and emerging technologies, consider reasons for their development and analyse their impacts.

Students use their investigations, design and planning to continue the fabrication of their mechanical electrotechnology integrated and controlled system using the Systems Engineering Process.

They use project and risk management methods through the construction of the system and use a range of materials, tools, equipment, and components. In the final stages of the Systems Engineering Process, students test, diagnose and analyse the performance of the system. They evaluate their processes and the system. Students expand their knowledge of new and emerging developments and innovations through their investigation and analysis of a range of engineered systems. They analyse a specific new or emerging innovation, including its impacts.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

VCE VET SUBJECTS

VCE VET programs are vocational studies approved by VCAA as appropriate for senior secondary school students. VCE VET programs lead to nationally recognised qualifications, offering students the opportunity to gain both the VCE and a nationally portable vocational education and training certificate.

VCE VET programs are fully recognised within the Unit 1–4 structure of the VCE and therefore may contribute towards satisfactory completion of the VCE. VCE VET units have equal status with other VCE studies and function within the National Training Framework.

There are two types of VET programs available to students, VET External Studies and VET programs run here at Eltham High School:

VET External Studies –

VET External studies can be accessed by students through a range of providers. They generally occur on a Wednesday afternoon although individual courses may run at other times or out of normal school hours. There are a wide range of VET External studies on offer and students should consult with the VET Coordinator (Mrs. Terri Wood) if they are considering undertaking a VET External Study as part of their course, so that they fully understand the requirements of the course as well as the implications for their senior school pathway.

It is important to note that VET courses generally attract a course fee / materials charge. Below are a variety of VET External Studies offered in 2014 listing the materials course costs applicable to each course. In 2015, material course costs are expected to be at a similar level but will not be confirmed until courses are finalised. The VET materials course costs are payable to Eltham High School in two instalments:

- Instalment 1 (deposit \$100 - \$500) due 11 December 2017
- Instalment 2 (balance) due 5nd March 2018.

VET Courses Offered at Eltham High School

Two VET programs are currently offered at Eltham High School. These subjects run as part of the normal school timetable, however, there may be some out of hours commitments required depending on the course. These commitments will be confirmed with students upon enrolling in the course. The details of the subjects are listed below:

VET VCE Certificate II in Hospitality (Kitchen Operations)

Please refer to the VCAA website for further information
http://www.vcaa.vic.edu.au/vet/programs/hospitality/publications/Hospitality_booklet_2009.pdf

Year 11 Units 1 & 2 VCE Kitchen Operations

Students study the **SIT20312 Certificate II in Kitchen Operations** which provides a pathway to work in supervised roles in commercial kitchens in organisations such as restaurants, hotels, and cafes. It provides a pathway to further studies such as Certificate III qualifications in commercial cookery, patisserie and catering operations.

Topics studied include specific cookery skills and knowledge, training in using food preparation equipment, basic methods of cookery, cleaning kitchen premises and equipment and hygiene.

On successful completion of Units 1 and 2 Kitchen Operations, students will:

- have completed a minimum of nine units of competency – six compulsory units of competency plus three elective units of competency
- be eligible for partial completion of the SIT20312 Certificate II in Kitchen Operations

gain recognition for a minimum of two VCE units at Units 1 and 2 level. **Year 12 Units 3 & 4 VCE Kitchen Operations**

Students complete the **SIT20312 Certificate II in Kitchen Operations** and partially complete the **SIT31013 Certificate III in Catering Operations**. This course provides a pathway to work unsupervised in commercial kitchens in organisations such as restaurants, hotels, and cafes. It also leads to further studies to gain chefs qualifications via Certificate III in commercial cookery, patisserie and catering operations.

Topics include specific and advanced cookery skills and knowledge in the production of appetisers and salads, stocks, sauces and soups and vegetables, fruit, eggs and farinaceous dishes and purchasing goods.

On successful completion of the Units 3 and 4 Kitchen Operations, students will be eligible for:

- completion of the SIT20312 Certificate II in Kitchen Operations
- and partial completion of the SIT31013 Certificate III in Catering

Note: As part of the course fees for this subject, students will be supplied with a chef's uniform, text book and assessment book. The purchase of black leather closed shoes will be an additional requirement.

A course charge applies for this subject. Refer to 2018 Senior School Course Charges

**2018 VCE Senior School Study Charges
(Indicative for 2019)**

STUDY	2018 Units 1 & 2	2018 Units 3 & 4
Art	\$100	\$100
Food & Technology	\$160	\$170
French <i>Native Speaker Assistant</i> **	\$150	\$150
Indonesian Native Speaker Assistant **	\$160	\$160
Outdoor & Environmental Studies	\$750	\$850
Product Design & Technology – Fibres #	\$50	\$40
Product Design & Technology – Furniture & Wood #	\$100	\$120
Studio Arts – Art	\$100	\$100
Studio Arts - Photography	\$100	\$100
System Engineering#	\$160	\$100
Visual Communication Design	\$100	\$100

Students to provide own material

*** Not payable if Native Speakers are provided by
Department
of Education and Early Childhood Development*

VET COURSES

<i>Hospitality (VCE VET)</i>	\$500
------------------------------	-------

External VET Studies – 2018 Course Materials Costs – Indicative for 2019

Course Name		Provider	Course Code	Student Material Cost
Aged Care	Certificate 111	Bundoora Secondary College	CHC30212	\$ 300
Allied Health Assistance	Certificate 111	Box Hill Institute of TAFE	HLT32412	\$ 90
Allied Health Assistance	Certificate 11	Bundoora Secondary College	HLT32412	\$ 300
Animal Studies	Certificate 111	Box Hill Institute of TAFE	ACM20110	\$ 524
Automotive Studies	Certificate 11	St Helena Secondary College	22015VIC	\$ 50
Automotive Studies	Certificate 11	Outer Northern Trade Training	22015VIC	\$ 270
Automotive Studies	Certificate 11	Northern College of Arts & Technology	22015VIC	\$ 270
Automotive Studies (Panel and Spray)	Certificate 11	Kangan Institute of TAFE		\$ 125
Building & Construction (Bricklaying)	Certificate 11	Parade College	21844VIC	\$ 375
Building & Construction (Carpentry Pre-Apprenticeship)	Certificate 11	Parade College	21844VIC	\$ 375
Building & Construction (Carpentry)	Certificate 11	St Helena Secondary College	21844VIC	\$ 350
Building & Construction (Carpentry)	Certificate 11	Northern College of Arts & Technology	21844VIC	\$ 270
Building & Construction (Carpentry)	Certificate 11	Outer Northern Trade Training	21844VIC	\$ 270
Business	Certificate 11	Santa Maria College	BSB20107	\$ 100
Childrens Services	Certificate 111	Peter Lalor Vocational College	CHC30712	\$ 350
Community Services	Certificate 11	Peter Lalor Vocational College	CHC20112	\$ 210
Community Services	Certificate 11	Bundoora Secondary College	CHC20112	\$ 300
Community Services	Certificate 11	Box Hill Institute of TAFE	CHC20112	\$ 90
Community Services <small>Work with selected units from CHC30108 & CHC30708</small>	Certificate 11	St Helena Secondary College	CHC20112	\$ 100
Creative Industries (Media)	Certificate 11	Northern College of Arts & Technology	CUF20107	\$ 200
Creative Industries (Media)	Certificate 11	Peter Lalor Vocational College	CUF20107	\$ 250
Electrotechnology	Certificate 11	Northern College of Arts & Technology	UEE22011	\$ 250
Engineering Studies	Certificate 11	Northern Metropolitan Institute of TAFE		\$ 200
Equine Industry	Certificate 11	Box Hill Institute of TAFE	201908VIC	\$ 1,525
Furniture Making	Certificate 11	Parade College	LMF20309	\$ 375
Furniture Making	Certificate 11	Eltham College	LMF20309	\$ 375
Hairdressing	Certificate 11	Peter Lalor Vocational College	SIH20111	\$ 450

External VET Studies – 2018 Course Materials Costs – Indicative for 2019

Course Name	Provider	Course Code	Student Material Cost	
Hairdressing	Certificate 111	Macleod College	SIH30111	\$ 1,200
Hairdressing	Certificate 11	Macleod College	SIH20111	\$ 400
Hospitality	Certificate 11	Northern Christian College	SIT20207 &SIT20307	\$ 400
Hospitality	Certificate 11	Santa Maria College	SIT20207	\$ 190
Hospitality	Certificate 11	Peter Lalor Vocational College	SIT20307	\$ 560
Hospitality (Kitchen Operations)	Certificate 11	Thornbury High School	SIT20307 /SIT20207	\$ 580
Hospitality (Kitchen Operations)	Certificate 11	Parade College	SIT20307	\$ 450
Integrated Technologies	Certificate 11	Northern College of Arts & Technology	22071VIC	\$ 250
Integrated Technologies	Certificate 11	Parade College	22071IC	\$ 200
Live Production Theatre & Events	Certificate 11	Northern College of Arts & Technology	CUE20103	\$ 200
Media	Certificate 111	Northern College of Arts & Technology	CUF30107	
Media	Certificate 111	Peter Lalor Vocational College	CUF30107	
Music	Certificate 11	Northern College of Arts & Technology	CUS20109	\$ 250
Musical Instrument Making & Repair	Certificate 111	Northern College of Arts & Technology	LMF31408	\$ 350
Photo Imaging	Certificate 1V	Peter Lalor Vocational College	CUV40411	\$ 525
Plumbing	Certificate 11	Parade College	22138VIC	\$ 375
Plumbing	Certificate 11	Northern College of Arts & Technology	22138VIC	\$ 250
Retail	Certificate 11	Thornbury High School	SIR30207	\$ 60
Retail Make Up & Skin Care	Certificate 11	The Island Lyall Hall	SIB20110	\$ 425
Retail Make Up & Skin Care	Certificate 11	Peter Lalor Vocational College	SIB20110	\$ 400
Sport & Recreation	Certificate 111	Northern College of Arts & Technology	SIS30510	\$ 400
Sport & Recreation	Certificate 111	Parade College	SIS30510	\$ 200
Technical Production	Certificate 11	Northern College of Arts & Technology	CUS30209	\$ 200
Technical Production	Certificate 111	Parade College	CUS30209	\$ 200
Telecommunications Cabling	Certificate 11	Peter Lalor Vocational College	ICT20310	\$ 250
Visual Arts	Certificate 11	Northern College of Arts & Technology	CUV20111	\$ 250

