

LYNDHURST SECONDARY COLLEGE



2024 Year 12 Subject Handbook

*Empowering students for
learning and life*

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Principal's Message

The purpose of this handbook is to support students entering into year 12 with important subject and pathway choices.

At Lyndhurst Secondary College, we focus on empowering students to have an active voice in their subject choices and pathways. This helps to ensure that they are engaged in their learning, and can be studying areas of interest for them. We recognise that not all learners may enjoy the same subjects or have the same pathways they are working towards, so we work with students to develop the kinds of subjects that they want to study. These are the subjects you will find offered in this handbook.

Year 12 is an exciting year where students get to choose their pathway with either VCE, VCE Vocational Major and VET. With this opportunity, comes the responsibility that all learners have to make informed choices. This includes making sure they have read the subject information in this handbook, as well as spoken with key contacts and their current teachers to help guide their choices.

We look forward to meeting with students as part of the Course Counselling process where subject preferences are entered into our systems for the following year.

We thank students for their preparation in this process, as well as staff, parents and carers for the support of our Lyndhurst learners.



Ms Eloise Haynes

College Principal

Learning at Lyndhurst Secondary College

At Lyndhurst Secondary College, we empower students for learning and life.

Our curriculum across Years 7 to 12 is designed to meet the following core principles:

- Meet the academic and social needs of all learners
- Empower learners to have voice and agency in their learning
- Build successful, lifelong learners
- Create work-ready, employable people

We have a vision of a successful Lyndhurst Learner looks like further in our Graduate Profile. This identifies the skills and dispositions of a successful graduate of Lyndhurst.

Successful Lyndhurst Graduates are...



To enable all learners the best opportunities to succeed, we understand that learning opportunities need to develop alongside our young people. Therefore, our curriculum structure gradually releases responsibility over the years, moving from a structure of core curriculum with minimal choice, to a fully customised, individual pathway. This enables students to take more control and responsibility for their learning as they progress through the stages, all with the guidance of support of their parents/carers and our staff.

Our college structure and associated curriculum is based on three distinct sub school stages, each with their own identity and focus. By moving successfully through these three stages, we aim for all learners to be able to move into the fourth phase where they attain and enter their desired pathways. These four phases together form our school-wide philosophy for learning over the years:

- Launch (Years 7 and 8)
- Explore (Years 9 and 10)
- Achieve (Years 11 and 12)
- Pathways (post-secondary schooling)



Achieve (Year 12) Overview

Define: explore (verb) –

To examine something thoroughly. To learn something by trying it.

The focus for the Achieve stage (which encompasses Years 11 and 12) is on providing students with the opportunities to narrow their focus of subjects to their chosen electives. Students will study the subjects of their choice which will assist them in their pathway post year 12. VCE Vocational Major students will study Literacy, Numeracy, PDS, WRS and a VCE elective of their choice. They will also study VET one day per week and complete SWL (Structured Workplace Learning) another day of the week. VCE students will study English and 4 other VCE subjects of their choice. Students may choose to study a VET subject as part of one of their VCE subjects.

As mentioned above, students have two pathway choices for year 12. Students can complete either a 2 year VCE certificate or a 2 year VCE Vocational Major certificate. Students need to be aware that the pathway option chosen at year 11 will have major impacts on the options available to them at year 12.

At year 12 students will be in the second year of a two year certificate and changes to their program, and changes to their program will most likely be unable to occur.

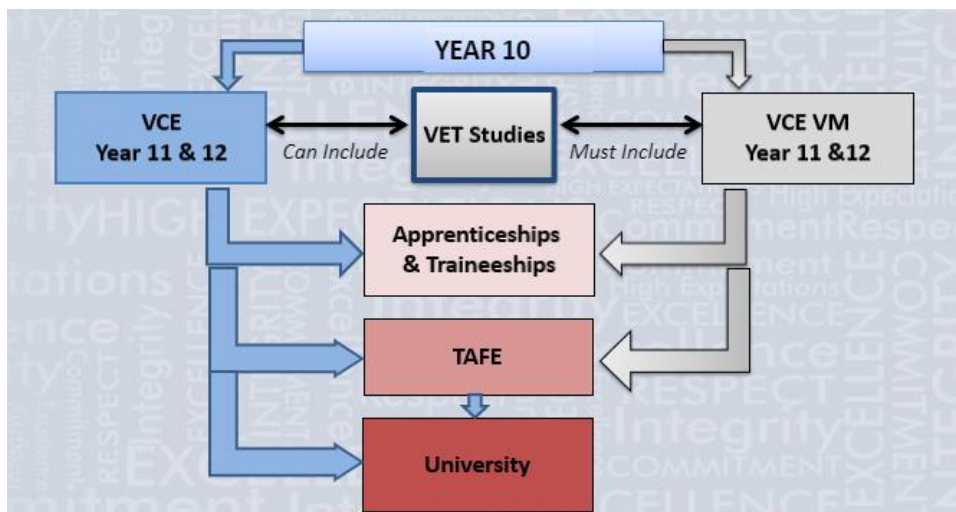
The VCE certificate provides students with a pathway to University studies. It is a scored course where students complete outcomes based upon their school assessed coursework (SACs) and curriculum course work. At the completion of the 2 year course students receive an ATAR result which may provide them entry into University courses, depending on their success. To successfully complete the VCE, students must achieve a minimum of 16 units across the 2 years with 4 unit 3 and 4 sequences coming in year 12. Subjects are broken into 4 semester long units across the 2 years.

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

Vocational and Applied Learning incorporates the teaching of skills and knowledge in the context of ‘real life’ experiences.

It allows students to discover how to apply what they have learned by doing, experiencing and relating acquired skills to the real-world.

Below is a diagram depicting the alternate pathway options on offer at Lyndhurst Secondary College.



The standard ACHIEVE program at Years 11 and 12 sets the foundations for preparing students for success post secondary schooling.

Within the achieve program students will explore the three pillars of the college mentoring program; learning to learn, wellbeing and careers / pathways.

Learning to learn utilises the Elevate Education Program and focusses on core educational skills such as study techniques, exam preparation techniques, and dealing with the difficulties that a year 12 course brings.

Wellbeing sessions will be incorporated into the achieve program, including utilising the Resilience Project and looking at key topics of gratitude, empathy, mindfulness, stress management, maintaining a healthy lifestyle and looking after mental health, to ensure that our students are well equipped with skills that will serve them well during stressful situations both inside and outside of school.

Within the careers section of the program students are exposed to lessons that will focus on the role of money in our lives and give them an understanding of the changing nature of work and how their intended career pathway may change significantly over the next period of time.

It is hoped that by engaging in the year 12 achieve program students will enter their year the community with the confidence that they possess the necessary skills and understandings to be successful members of the wider community, and lyndhurst graduates who have several skills to be successful in their chose career pathway.

Achieve (Year 12) VCE Curriculum Structure

In 2024, a typical learning program for learners in VCE (Year 12) is structured as follows:

Subject	Semester 1	Semester 2
Achieve	1 period	
English/EAL	4 periods	
Free Choice	4 periods	
Free Choice	4 periods	
Free Choice	4 periods	
Free Choice	4 periods	
SAC/Study Block	4 periods	

	Core curriculum		Guided choice		Free choice
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Achieve (Year 12) VCE Vocational Major Curriculum Structure

Subject Choices

Learning Area	Subjects
Arts	Art – Making & Exhibiting
	Media Arts
	Theatre Studies
Health and Physical Education (PE)	Health & Human Development
	Outdoor & Environmental Studies
	Physical Education
Humanities	Business Management
	History
	Legal Studies
Mathematics	General Mathematics
	Mathematical Methods
	Specialist Mathematics
Science	Biology
	Chemistry
	Physics
	Psychology
STEM	Applied Computing
	Food Studies
	Product Design (Wood)
	Systems Engineering
Vocational and Applied Learning	Literacy
	Numeracy
	Personal Development Skills
	Work Related Skills

Arts

Art Making & Exhibiting

Unit 3	<p>Collect, extend and connect</p> <p>Students are actively engaged in art making using materials, techniques and processes. They explore contexts, subject matter and ideas to develop artworks in imaginative and creative ways. They also investigate how artists use visual language to represent ideas and meaning in artworks.</p> <p>Students use their Visual Arts journal to record their art making, research of artists, artworks and collected ideas to document their process. From the ideas documented in their Visual Arts journal, students plan and develop artworks. These artworks may be made at any stage during this unit, reflecting the students' own ideas and their developing style.</p> <p>Students present a critique of their artworks to their peer group. Students show a selection of their developmental work and artworks from their Visual Arts journal in their presentation. After the critique students evaluate their work and revise, refine and resolve their artworks.</p> <p>Students will visit an exhibition in either a gallery, museum, other exhibition space or site-specific space. They must visit or view a minimum of two exhibitions during the current year of study. Exhibitions studied must be from different art spaces, to give students an understanding of the breadth of artwork in current exhibitions and to provide a source of inspiration and influence for the artworks they make. Students must select one exhibition space for study in Unit 3 and a different exhibition space for study in Unit 4. Students research the exhibition of artworks in these exhibition spaces and the role a curator has in planning and writing information about an exhibition.</p>
Unit 4	<p>Consolidate, present and conserve</p> <p>Students make connections to the artworks they have made in Unit 3, consolidating and extending their ideas and art making to further refine and resolve artworks in -specific art forms. The progressive resolution of these artworks is documented in the student's Visual Arts journal, demonstrating their developing technical skills in a specific art form as well as their refinement and resolution of subject matter, ideas, visual language, aesthetic qualities and style. Students also reflect on their selected finished artworks and evaluate the materials, techniques and processes used to make them.</p> <p>Students organise the presentation of their finished artworks. They make decisions on how their artworks will be displayed, the lighting they may use, and any other considerations they may need to present their artworks. Students also present a critique of their artworks and receive and reflect on feedback.</p> <p>Students review the methods used and considerations involved in the presentation, conservation and care of artworks, including the conservation and care of their own artworks. Students must visit or view a minimum of two exhibitions during the current year of study. Exhibitions studied must be from different art spaces, to give students an understanding of the breadth of artwork in current exhibitions and to provide a source of inspiration and influence for the artworks they make. Students must select one exhibition space for study in Unit 3 and a different exhibition space for study in Unit 4.</p>
Teacher Contact	Ms Georgina Gaitanis

Arts

Media Arts

Unit 3	Narrative and Media Production Design 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 and complete a media production design plan for a specific media form and audience.
Unit 4	Media: Process, Influence and Society's Values 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.
Teacher Contact	Ms Georgina Gaitanis

Arts

Theatre Studies

Unit 3	Producing theatre Students develop an interpretation of a script through the three stages of the theatre production process: planning, development and presentation. Students specialise in two production roles, working collaboratively, creatively and imaginatively to realise the production of a script. They use knowledge developed during this process to analyse and evaluate the ways work in production roles can be used to interpret script excerpts previously unstudied. Students develop knowledge and apply elements of theatre composition, and safe and ethical working practices in the theatre. Students attend a performance selected from prescribed VCE Theatre Studies Unit 3 Playlist.
Unit 4	Presenting an Interpretation Students study a scene and associated monologue. They initially develop an interpretation of the prescribed scene. This work includes exploring theatrical possibilities and using dramaturgy across the three stages of the production process. Students then develop a creative and imaginative interpretation of the monologue that is embedded in the specified scene. To realise their interpretation, they work in production roles as an actor and director, or as a designer.
Teacher Contact	Ms Veronica Thay

EAL / Languages

EAL

Unit 3	<p>In this unit, students apply reading and viewing strategies to critically engage with a text, considering its dynamics and complexities and reflecting on the motivations of its characters. They analyse the ways authors construct meaning through vocabulary, text structures, language features and conventions, and the presentation of ideas.</p> <p>Additionally, students build on the knowledge and skills developed through Unit 1. They read and engage imaginatively and critically with mentor texts, and effective and cohesive writing within identified contexts. Through close reading, students expand their understanding of the diverse ways that vocabulary, text structures, language features, conventions and ideas can interweave to create compelling texts. Students work with mentor texts to inspire their own creative processes, to generate ideas for their writing, and as models for effective writing. They experiment with adaptation and individual creation and demonstrate insight into ideas and effective writing strategies in their texts. They reflect on the deliberate choices they have made through their writing processes in their commentaries.</p>
Unit 4	<p>In this unit, students apply reading and viewing strategies to engage with a text and discuss and analyse the ways authors construct meaning in a text through the presentation of ideas, concerns and conflicts, and the use of vocabulary, text structures and language features. They engage with the dynamics of a text and explore the explicit and implicit ideas and values presented in a text.</p> <p>Students also analyse the use of argument and language, and visuals in texts that debate a contemporary and significant national or international issue. Students consider the purpose, audience and context of each text, the arguments, and the ways written and spoken language, and visuals are employed for effect. They analyse the ways all these elements work together to influence and/or convince an intended audience.</p>
Advice for Students	For students who have less than 7 years of schooling in English.
Teacher Contact	Ms Rachel Morante

English

Unit 3	<p>Reading and Exploring Texts</p> <p>In this area of study students apply reading and viewing strategies to engage with a text. They analyse how the author has constructed meaning, explore the historical context, social and cultural values, and examine how these can position readers in different ways. They engage in sustained analytical writing, and participate in discussion to test their thinking, clarify ideas and form views about the text that can be further developed in their writing.</p> <p>Crafting Texts</p> <p>In this area of study, students build on the knowledge and skills developed through Unit 1. Students work with mentor texts to inspire their own creative processes, to generate ideas for writing, and as models for effective writing.</p>
Unit 4	<p>Reading and Responding to Texts</p> <p>In this area of study, students further sharpen their skills of reading and viewing texts, developed in the corresponding area of study in Unit 3. Students consolidate their capacity to critically analyse texts and deepen their understanding of the ideas and values a text can convey.</p> <p>Analysing Argument</p> <p>In this area of study, students analyse the use of argument and language, and visuals in texts that debate a contemporary and significant national or international issue. Students must explore and analyse the structures and features of argument presented, and plan and develop written analysis in response to their explorations. They apply this understanding to create a point of view text for oral presentation.</p>
Teacher Contact	Ms Melissa Freis

Health and Physical Education

Health & Human Development

Unit 3	<p>Australia’s health in a globalised world</p> <p>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. As they consider the benefits of optimal health and wellbeing and its importance as an individual and a collective resource, their thinking extends to health as a universal right.</p> <p>Students look at the fundamental conditions required for health improvement, as stated by the World Health Organization (WHO). They use this knowledge as background to their analysis and evaluation of variations in the health status of Australians. Area of Study 2 focuses on health promotion and improvements in population health over time. Students look at various public health approaches and the interdependence of different models as they research health improvements and evaluate successful programs. While the emphasis is on the Australian health system, the progression of change in public health approaches should be seen within a global context.</p> <p>Area of study 1 – Understanding health and wellbeing Area of Study 2 – Promoting health and wellbeing</p>
Unit 4	<p>Health and Human Development in a Global Context</p> <p>This unit examines health and wellbeing, and human development in a global context. Students use data to investigate health status and burden of disease in different countries, exploring factors that contribute to health inequalities between and within countries, including the physical, social and economic conditions in which people live. Students build their understanding of health in a global context through examining changes in burden of disease over time and studying the key concepts of sustainability and human development.</p> <p>They consider the health implications of increased globalisation and worldwide trends relating to climate change, digital technologies, world trade and the mass movement of people. Area of Study 2 looks at global action to improve health and wellbeing and human development, focusing on the United Nations’ (UN’s) Sustainable Development Goals (SDGs) and the work of the World Health Organization (WHO). Students also investigate the role of non-government organisations and Australia’s overseas aid program. Students evaluate the effectiveness of health initiatives and programs in a global context and reflect on their capacity to take action.</p> <p>Area of Study 1 – Health and wellbeing in a global context Area of Study 2 – Health and the Sustainable Development Goals</p>
Teacher Contact	Ms Georgia Punton

Health and Physical Education

Outdoor Education and Environmental Studies

Unit 3	<p>Relationships with Outdoor Environments</p> <p>The focus of this unit is the ecological, historical and social contexts of relationships between humans and outdoor environments in Australia. Case studies of a range of impacts on outdoor environments are examined in the context of the changing nature of human relationships with outdoor environments in Australia.</p> <p>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.</p> <p>Students are involved in one or more experiences in outdoor environments, including in areas where there is evidence of human interaction. Through these practical experiences students are able to make comparisons between and to reflect upon outdoor environments, as well as to develop theoretical knowledge and skills about specific natural environments.</p> <p>Area of Study 1 – Historical relationships with outdoor environments Area of Study 2 – Relationships with Australian environments since 1990</p>
Unit 4	<p>Sustainable Outdoor Relationships</p> <p>In this unit students explore the sustainable use and management of outdoor environments. They 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.</p> <p>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.</p> <p>Students engage in one or more related experiences in outdoor environments. They learn and apply the practical skills and knowledge required to sustain healthy outdoor environments, and evaluate the strategies and actions they employ. Through these practical experiences students are able to make comparisons between and to reflect upon outdoor environments, as well as to develop and apply theoretical knowledge about outdoor environments.</p> <p>Area of Study 1 – Healthy outdoor environments Area of Study 2 – Sustainable outdoor environments</p>

Advice to students	<p>Students will undertake a number of practical activities directly related to the theory component of this subject. They will be required to complete a variety of assessment tasks to demonstrate their knowledge and understanding of the human interaction with the environment.</p> <p>Possible Practical Activities * Fishing * Country Skiing * Team Building * Aquatic Safety * Surfing (Camp) * Mountain Biking * Bushwalking * Wilson’s Promontory overnight camp * Orienteering * Environmental Studies * Snow Activities</p> <p>Students will complete School Assessed Coursework (SAC) during both Units 3 & 4 that will contribute to 25% each to the study score.</p> <p>At the completion of Unit 3 and 4, students will undertake a written examination that will contribute to 50% to their final assessment. All key knowledge and key skills that underpin the outcomes in Unit 3 and 4 are examinable.</p> <p>All outdoor experiences that are not directly related to the Victorian curriculum will incur a financial fee that will be split between participants to cover the costs of the activity.</p>
Teacher Contact	<p>Ms Georgia Punton</p>

Health and Physical Education

Physical Education

Unit 3	<p>Movement skills and energy for physical activity</p> <p>This unit introduces students to the biomechanical and skill acquisition principles used to analyse human movement skills and energy production from a physiological perspective. Students use a variety of tools and techniques to analyse movement skills and apply biomechanical and skill acquisition principles to improve and refine movement in physical activity, sport and exercise. They use practical activities to demonstrate how correct application of these principles can lead to improved performance in physical activity and sport.</p> <p>Students investigate the relative contribution and interplay of the three energy systems to performance in physical activity, sport and exercise. In particular, they investigate the characteristics of each system and the interplay of the systems during physical activity. Students explore the causes of fatigue and consider different strategies used to postpone fatigue and promote recovery.</p> <p>Area of study 1 – How are movement skills improved? Area of study 2 – How does the body produce energy?</p>
Unit 4	<p>Training to improve performance</p> <p>In this unit students analyse movement skills from a physiological, psychological and sociocultural perspective, and apply relevant training principles and methods to improve performance within physical activity at an individual, club and elite level. Improvements in performance, in particular fitness, depend on the ability of the individual and/or coach to gain, apply and evaluate knowledge and understanding of training.</p> <p>Students analyse skill frequencies, movement patterns, heart rates and work to rest ratios to determine the requirements of an activity. Students consider the physiological, psychological and sociological requirements of training to design and evaluate an effective training program.</p> <p>Students participate in a variety of training sessions designed to improve or maintain fitness and evaluate the effectiveness of different training methods. Students critique the effectiveness of the implementation of training principles and methods to meet the needs of the individual and evaluate the chronic adaptations to training from a theoretical perspective.</p> <p>Area of Study 1 – What are the foundations of an effective training program? Area of Study 2 – How is training implemented effectively to improve fitness?</p>
Teacher Contact	Ms Georgia Punton

Humanities

Business Management

Unit 3	Managing A Business In this unit students explore the key processes and considerations for managing a business efficiently and effectively to achieve business objectives. Students examine diverse types of businesses and their respective objectives and stakeholders. They investigate strategies to manage both staff and business operations to meet objectives and develop an understanding of the complexity and challenge of managing businesses. Students compare theoretical perspectives with current practice using contemporary Australian and global business case studies from the past four years.
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 effective management and leadership in change management. Using one or more contemporary business case studies from the past four years, students evaluate business practice against theory.
Teacher Contact	Ms Sugantha Samuel, Mr Bishoy Aziz, Ms Nada Bitar

Humanities

History

Units 3 & 4	<p>Revolutions</p> <p>In Units 3 and 4 Revolutions students investigate the significant historical causes and consequences of political revolution. Revolutions destroy regimes and societies and have a profound impact on the country in which they occur as well as important international repercussions.</p> <p>In both units, students closely examine the role of key figures such as George Washington, Benjamin Franklin, Thomas Jefferson in the American study and Tsar Nicholas II, Lenin and Rasputin in the Russian study. Also studied are key events such as the Boston Massacre, the War of Independence in America, Bloody Sunday, World War I, Civil War, and the February and October Revolutions in Russia.</p> <p>In Unit 3 and 4 Revolutions, students investigate the significant historical causes and consequences of the American Revolution and the Russian Revolution.</p> <p>Revolutions represent great ruptures in time and are a major turning point in the collapse and destruction of an existing political order which results in extensive change to society. Revolutions are caused by the interplay of events, ideas, individuals and popular movements, and the interplay between the political, social, cultural, economic and environmental conditions. Their consequences have a profound effect on the political and social structures of the post-revolutionary society. Revolution is a dramatically accelerated process whereby the new regime attempts to create political, social, cultural and economic change and transformation based on the regime's ideology.</p> <p>In these units students construct an argument about the past using historical sources (primary sources and historical interpretations) as evidence to analyse the complexity and multiplicity of the causes and consequences of revolution, and to evaluate the extent to which the revolution brought change to the lives of people.</p> <p>Students analyse the different perspectives and experiences of people who lived through dramatic revolutionary moments, and how society changed and/or remained the same. Students use historical interpretations to evaluate the causes and consequences of revolution and the extent of change instigated by the new regime.</p> <p>Students will also analyse the long-term causes and short-term triggers of the American and Russian Revolutions. They will evaluate how revolutionary outbreaks are caused by the interplay of significant events, ideas, individuals and popular movements and assess how these were directly or indirectly influenced by the social, political, economic and cultural conditions.</p>
Teacher Contact	Mr Darren Tuite

Humanities

Legal Studies

Unit 3	<p>Rights and Justice</p> <p>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 criminal and civil justice system and consider their appropriateness in determining criminal cases and resolving civil disputes.</p> <p>Students consider the Magistrates' Court, County Court and Supreme Court within the Victorian court hierarchy, as well as other means and institutions used to determine and resolve cases.</p> <p>Students explore topics 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. Throughout this unit, students apply legal reasoning and information to actual and/or hypothetical scenarios.</p>
Unit 4	<p>The People, the law and reform</p> <p>The study of Australia's laws and legal system includes an understanding of institutions that make and reform our laws. In this unit, students explore how the Australian Constitution establishes the law-making powers of the Commonwealth and state parliaments, and how it 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.</p> <p>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 changes to the law, and past and future constitutional reform. Throughout this unit, students apply legal reasoning and information to actual and/or hypothetical scenarios.</p>
Teacher Contact	Mr Bishoy Aziz, Ms Nada Bitar

Mathematics

Many students and parents are concerned about completing Mathematics during the VCE, and about which specific Mathematics subjects they should complete. Hopefully, this information will make this decision simpler.

Firstly, the best advice that can be given to prospective Senior School students is to complete the highest level of Mathematics you are capable of. There is simply no question that by completing Mathematics at VCE many career options open for students, ranging from some pre-apprenticeship TAFE courses through to Medicine and Law qualifications. Specific courses do have pre-requisite Mathematics subjects required and students should ensure that they inform themselves of what will be required for their intended future courses by consulting the relevant VICTER Guide.

Secondly, students do not have to complete VCE Mathematics. It is certainly in their best interests to finish at least a Unit 1 & 2 in a Mathematics of the students' choice, but it is not mandatory.

Finally, students intending to study Mathematic subjects at Year 12 will need to select the appropriate prerequisite Mathematics Units in Year 11 to allow them to enter their selections the following year. Hopefully, the following descriptions, in order of difficulty, will make these required selections clearer.

Year 12 Mathematics

Pre-requisites for entering a Year 12 Mathematics

- Further Maths 3 & 4 – Requires General Maths Units 1 & 2.
- Maths Methods 3 & 4 – Maths Methods 1 & 2, essential.
- Specialist Maths 3 & 4 – Both Maths methods 1 & 2 and specialist Maths 1 & 2 recommended.

Mathematics

Further Mathematics

Units 3 & 4	<p>Further Mathematics consists of two areas of study, a compulsory Core area of study to be completed in Unit 3 and an Applications area of study to be completed in Unit 4.</p> <p>The Core comprises 'Data analysis' and 'Recursion and financial modelling'. The Applications comprises two modules to be completed in their entirety, from a selection of four possible modules: 'Matrices', 'Networks and decision mathematics', 'Geometry and measurement' and 'Graphs and relations'. In undertaking these units, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algebraic manipulation, equations, and graphs.</p> <p>They should have a facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic, financial and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout each unit as applicable.</p> <p>Area of study 1: Data analysis, Recursion and financial modelling Area of study 2: Matrices, Networks and decision mathematics, Geometry and measurement, Graphs and relations</p>
Teacher Contact	Ms Hiba Vodhera

Mathematics

General Mathematics

Units 3 & 4	<p>General Mathematics Units 3 and 4 focus on real-life application of mathematics and consist of the areas of study 'Data analysis, probability and statistics' and 'Discrete mathematics'.</p> <p>Unit 3 comprises <i>Data analysis</i> and <i>Recursion and financial modelling</i>, and Unit 4 comprises <i>Matrices</i> and <i>Networks and decision mathematics</i>.</p> <p>Assumed knowledge and skills for General Mathematics Units 3 and 4 are contained in General Mathematics Units 1 and 2, and will be drawn on, as applicable, in the development of related content from the areas of study, and key knowledge and key skills for the outcomes of General Mathematics Units 3 and 4.</p> <p>In undertaking these units, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists, tables and matrices, diagrams, networks, algorithms, algebraic manipulation, recurrence relations, equations and graphs. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic statistical and financial functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout each unit as applicable.</p> <p>Area of study 1: Data analysis, probability and statistics Area of study 2: Discrete mathematics</p>
Teacher Contact	Ms Hiba Vodhera

Mathematics

Mathematical Methods

Units 3 & 4	<p>Mathematical Methods Units 3 and 4 are completely prescribed and extend the introductory study of simple elementary functions of a single real variable, to include combinations of these functions, algebra, calculus, probability and statistics, and their applications in a variety of practical and theoretical contexts.</p> <p>For Unit 3 a selection of content would typically include the areas of study 'Functions and graphs' and 'Algebra', and applications of derivatives and differentiation, and identifying and analysing key features of the functions and their graphs from the 'Calculus' area of study.</p> <p>For Unit 4, this selection would typically consist of remaining content from the areas of study: 'Functions and graphs', 'Calculus' and 'Algebra', and the study of random variables and discrete and continuous probability distributions and the distribution of sample proportions. For Unit 4, the content from the 'Calculus' area of study would be likely to include the treatment of anti-differentiation, integration, the relation between integration and the area of regions specified by lines or curves described by the rules of functions, and simple applications of this content.</p> <p>In undertaking these units, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algebraic manipulation, equations, graphs, differentiation, anti-differentiation, integration and inference with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation.</p> <p>The use of numerical, graphical, geometric, symbolic and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout each unit as applicable.</p> <p>Area of study 1: Functions and graphs Area of study 2: Algebra Area of study 3: Calculus Area of study 4: Probability and statistics</p>
Teacher Contact	Ms Hiba Vodhera

Mathematics

Specialist Mathematics

Students who opt for this would be required to do this subject through VSV (Virtual School of Victoria).

Units 3 & 4	<p>Specialist Mathematics Units 3 and 4 consist of the areas of study: 'Functions and graphs', 'Algebra', 'Calculus', 'Vectors', 'Mechanics' and 'Probability and statistics'. In Unit 3 a study of Specialist Mathematics would typically include content from 'Functions and graphs' and a selection of material from the 'Algebra', 'Calculus' and 'Vectors' areas of study.</p> <p>In Unit 4 this selection would typically consist of the remaining content from the 'Algebra', 'Calculus', and 'Vectors' areas of study and the content from the 'Mechanics' and 'Probability and statistics' areas of study.</p> <p>In undertaking these units, students are expected to be able to apply techniques, routines and processes involving rational, real and complex arithmetic, sets, lists and tables, diagrams and geometric constructions, algebraic manipulation, equations, graphs, differentiation, anti-differentiation and integration and inference with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation.</p> <p>The use of numerical, graphical, geometric, symbolic and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, is to be incorporated throughout each unit as applicable.</p> <p>Area of study 1: Functions and graphs Area of study 2: Algebra Area of study 3: Calculus Area of study 4: Vectors Area of study 5: Mechanics Area of study 6: Probability and statistics</p>
Teacher Contact	Ms Hiba Vodhera

Science

Biology

Unit 3	How do cells maintain life? In this unit students investigate the workings of the cell from several perspectives. They explore the relationship between nucleic acids and proteins as key molecules in cellular processes. Students analyse the structure and function of nucleic acids as information molecules, gene structure and expression in prokaryotic and eukaryotic cells and proteins as a diverse group of functional molecules. They examine the biological consequences of manipulating the DNA molecule and applying biotechnologies. Students explore the structure, regulation and rate of biochemical pathways, with reference to photosynthesis and cellular respiration. They explore how the application of biotechnologies to biochemical pathways could lead to improvements in agricultural practices.
Unit 4	How does life change and respond to challenges? In this unit students consider the continual change and challenges to which life on Earth has been, and continues to be, subjected to. They study the human immune system and the interactions between its components to provide immunity to a specific pathogen. Students consider how the application of biological knowledge can be used to respond to bioethical issues and challenges related to disease. Students consider how evolutionary biology is based on the accumulation of evidence over time. They investigate the impact of various change events on a population's gene pool and the biological consequences of changes in allele frequencies. Students examine the evidence for relatedness between species and change in life forms over time using evidence from palaeontology, structural morphology, molecular homology and comparative genomics. Students examine the evidence for structural trends in the human fossil record, recognising that interpretations can be contested, refined or replaced when challenged by new evidence.
Advice to Students	Unit 3 Coursework contributes 20% to final study score. Unit 4 Coursework contributes 30% to final study score. The final examination on unit 3 and 4 content contributes 50% to final study score.
Teacher Contact	Ms Nimalini Maheswaran

Science

Chemistry

Unit 3	<p>How can design and innovation help to optimise chemical processes?</p> <p>The global demand for energy and materials is increasing with world population growth. In this unit students investigate the chemical production of energy and materials. They explore how innovation, design and sustainability principles and concepts can be applied to produce energy and materials while minimising possible harmful effects of production on human health and the environment.</p> <p>Students analyse and compare different fuels as energy sources for society, with reference to the energy transformations and chemical reactions involved, energy efficiencies, environmental impacts and potential applications. They explore food in the context of supplying energy in living systems. The purpose, design and operating principles of galvanic cells, fuel cells, rechargeable cells and electrolytic cells are considered when evaluating their suitability for supplying society's needs for energy and materials. They evaluate chemical processes with reference to factors that influence their reaction rates and extent. They investigate how the rate of a reaction can be controlled so that it occurs at the optimum rate while avoiding unwanted side reactions and by-products. Students conduct practical investigations involving thermochemistry, redox reactions, electrochemical cells, reaction rates and equilibrium systems.</p> <p>Throughout the unit students use chemistry terminology, including symbols, formulas, chemical nomenclature and equations, to represent and explain observations and data from their own investigations and to evaluate the chemistry-based claims of others.</p> <p>Area of study 1: What are the current and future options for supplying energy?</p> <p>Area of study 2: How can the rate and yield of chemical reactions be optimised?</p>
Unit 4	<p>How are organic compounds categorised, analysed and used?</p> <p>Carbon is the basis not only of the structure of living tissues but is also found in fuels, foods, medicines, polymers and many other materials that we use in everyday life. In this unit students investigate the structures and reactions of carbon-based organic compounds, including considering how green chemistry principles are applied in the production of synthetic organic compounds. They study the metabolism of food and the action of medicines in the body. They explore how laboratory analysis and various instrumentation techniques can be applied to analyse organic compounds in order to identify them and to ensure product purity.</p>

	<p>Students conduct practical investigations related to the synthesis and analysis of organic compounds, involving reaction pathways, organic synthesis, identification of functional groups, direct redox titrations, solvent extraction and distillations.</p> <p>Throughout the unit students use chemistry terminology including symbols, formulas, chemical nomenclature and equations to represent and explain observations and data from their own investigations and to evaluate the chemistry-based claims of others.</p> <p>Area of study 1: How are organic compounds categorised and synthesised? Area of study 2: How are organic compounds analysed and used? Area of study 3: How is scientific inquiry used to investigate the sustainable production of energy and/or materials?</p>
Teacher Contact	Ms Nimalini Maheswaran

Science

Physics

Unit 3	<p>How Do Fields Explain Motion and Electricity?</p> <p>In this unit students explore the importance of energy in explaining and describing the physical world. They examine the production of electricity and its delivery to homes. Students consider the field model as a construct that has enabled an understanding of why objects move when they are not apparently in contact with other objects. Applications of concepts related to fields include the transmission of electricity over large distances and the design and operation of particle accelerators. They explore the interactions, effects and applications of gravitational, electric and magnetic fields.</p> <p>Students use Newton’s laws to investigate motion in one and two dimensions and are introduced to Einstein’s theories to explain the motion of very fast objects. They consider how developing technologies can challenge existing explanations of the physical world, requiring a review of conceptual models and theories. Students design and undertake investigations involving at least two continuous independent variables.</p> <p>Area of study 1: How do things move without contact? Area of study 2: How are fields used to move electrical energy? Area of study 3: How fast can things go?</p>
Unit 4	<p>How Can Two Contradictory Models Explain Both Light and Matter?</p> <p>A complex interplay exists between theory and experiment in generating models to explain natural phenomena including light. Wave theory has classically been used to explain phenomena related to light; however, continued exploration of light and matter has revealed the particle-like properties of light.</p> <p>On very small scales, light and matter – which initially seem to be quite different – have been observed as having similar properties. In this unit, students explore the use of wave and particle theories to model the properties of light and matter. They examine how the concept of the wave is used to explain the nature of light and explore its limitations in describing light behaviour.</p> <p>Students further investigate light by using a particle model to explain its behaviour. A wave model is also used to explain the behaviour of matter which enables students to consider the relationship between light and matter.</p> <p>Students learn to think beyond the concepts experienced in everyday life to study the physical world from a new perspective. Students design and undertake investigations involving at least two continuous independent variables. A student-designed practical investigation related to waves, fields or motion is undertaken either in Unit 3 or Unit 4, or across both Unit 3 and Unit 4, and is assessed in Unit 4, Outcome 3.</p> <p>Area of study 1: How can waves explain the behaviour of light? Area of study 2: How are light and matter similar? Area of study 3: Practical investigation</p>
Advice to Students	Note that there will be a new study design for units 3 and 4 in 2024, which will be released later in the year.
Teacher Contact	Ms Nimalini Maheswaran

Science

Psychology

Unit 3	<p>How does experience affect behaviour and mental processes?</p> <p>In this unit students investigate the contribution that classical and contemporary research has made to the understanding of the functioning of the nervous system and to the understanding of biological, psychological and social factors that influence learning and memory.</p> <p>Students investigate how the human nervous system enables a person to interact with the world around them. They explore how stress may affect a person’s psychological functioning and consider stress as a psychobiological process, including emerging research into the relationship between the gut and the brain in psychological functioning.</p> <p>Students investigate how mechanisms of learning and memory lead to the acquisition of knowledge and the development of new and changed behaviours. They consider models to explain learning and memory as well as the interconnectedness of brain regions involved in memory. The use of mnemonics to improve memory is explored, including Aboriginal and Torres Strait Islander peoples’ use of place as a repository of memory.</p> <p>A student-designed scientific investigation involving the generation of primary data related to mental processes and psychological functioning is undertaken in either Unit 3 or Unit 4, or across both Units 3 and 4, and is assessed in Unit 4 Outcome 3. The design, analysis and findings of the investigation are presented in a scientific poster.</p> <p>Area of Study 1: How does the nervous system enable psychological functioning?</p> <p>Area of Study 2: How do people learn and remember?</p>
Unit 4	<p>How is mental wellbeing supported and maintained?</p> <p>In this unit students explore the demand for sleep and the influences of sleep on mental wellbeing. They consider the biological mechanisms that regulate sleep and the relationship between rapid eye movement (REM) and non-rapid eye movement (NREM) sleep across the life span. They also study the impact that changes to a person’s sleep-wake cycle and sleep hygiene have on a person’s psychological functioning and consider the contribution that classical and contemporary research has made to the understanding of sleep.</p> <p>Students consider ways in which mental wellbeing may be defined and conceptualised, including social and emotional wellbeing (SEWB) as a multidimensional and holistic framework to wellbeing. They explore the</p>

	<p>concept of mental wellbeing as a continuum and apply a biopsychosocial approach, as a scientific model, to understand specific phobia. They explore how mental wellbeing can be supported by considering the importance of biopsychosocial protective factors and cultural determinants as integral to the wellbeing of Aboriginal and Torres Strait Islander peoples.</p> <p>A student-designed scientific investigation involving the generation of primary data related to mental processes and mental wellbeing is undertaken in either Unit 3 or Unit 4, or across both Units 3 and 4, and is assessed in Unit 4 Outcome 3. The design, analysis and findings of the investigation are presented in a scientific poster.</p> <p>Area of Study 1: How does sleep affect mental processes and behaviour? Area of Study 2: What influences mental wellbeing? Area of Study 3: How is scientific inquiry used to investigate mental processes and psychological functioning?</p>
Teacher Contact	Ms Nimalini Maheswaran

STEM

Applied Computing

Unit 3	<p>Data Analytics</p> <p>In this unit students apply the problem-solving methodology to identify and extract data through the use of software tools such as database, spreadsheet and data visualisation software to create data visualisations or infographics. Students develop an understanding of the analysis, design and development stages of the problem-solving methodology.</p> <p>In Area of Study 1 students respond to teacher-provided solution requirements and designs. Students develop data visualisations and use appropriate software tools to present findings. Appropriate software tools include database, spreadsheet and data visualisation software.</p> <p>In Area of Study 2 students propose a research question, prepare a project plan, collect and analyse data, and design infographics or dynamic data visualisations. Area of Study 2 forms the first part of the school-assessed Task (SAT) that is completed in Unit 4, Area of Study 1.</p> <p>Software Development</p> <p>In this unit students apply the problem-solving methodology to develop working software modules using a programming language. Students develop an understanding of the analysis, design and development stages of the problem-solving methodology.</p> <p>In Area of Study 1 students respond to teacher-provided solution requirements and designs and develop a set of working modules through the use of a programming language. Students examine a simple software requirements specification and a range of software design tools in order to apply specific processing features of a programming language to create working modules.</p> <p>In Area of Study 2 students analyse a need or opportunity, select an appropriate development model, prepare a project plan, develop a software requirements specification and design a software solution. Area of Study 2 forms the first part of the school-assessed Task (SAT) that is completed in Unit 4, Area of Study 1.</p>
Unit 4	<p>Data Analytics</p> <p>In this unit students apply the problem-solving methodology to identify and extract data through the use of software tools such as database, spreadsheet and data visualisation software to create data visualisations or infographics. Students develop an understanding of the analysis, design and development stages of the problem-solving methodology.</p>

	<p>In Area of Study 1 students respond to teacher-provided solution requirements and designs. Students develop data visualisations and use appropriate software tools to present findings. Appropriate software tools include database, spreadsheet and data visualisation software.</p> <p>In Area of Study 2 students propose a research question, prepare a project plan, collect and analyse data, and design infographics or dynamic data visualisations. Area of Study 2 forms the first part of the school-assessed Task (SAT) that is completed in Unit 4, Area of Study 1.</p> <p>Software Development</p> <p>In this unit students focus on how the information needs of individuals and organisations are met through the creation of software solutions. They consider the risks to software and data during the software development process, as well as throughout the use of the software solution by an organisation.</p> <p>In Area of Study 1 students apply the problem-solving stages of development and evaluation to develop their preferred design prepared in Unit 3, Area of Study 2, into a software solution and evaluate the solution, chosen development model and project plan. Area of Study 1 forms the second part of the school-assessed Task (SAT).</p> <p>In Area of Study 2 students examine the security practices of an organisation and the risks to software and data during the development and use of the software solutions. Students evaluate the current security practices and develop a risk management plan.</p>
Teacher Contact	Ms Nimalini Maheswaran

STEM

Food Studies

Unit 3	Food in Daily Life <p>This unit investigates the many roles and everyday influences of food.</p> <p>Area of Study 1 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. They also investigate the functional properties of food and the changes that occur during food preparation and cooking.</p> <p>They analyse the scientific rationale behind the Australian Dietary Guidelines and the Australian Guide to Healthy Eating (see http://www.eatforhealth.gov.au) and develop their understanding of diverse nutrient requirements.</p> <p>Area of Study 2 focuses on influences on food choice: how communities, families and individuals change their eating patterns over time and how our food values and behaviours develop within social environments. Students inquire into the role of food in shaping and expressing identity and connectedness and the ways in which food information can be filtered and manipulated.</p> <p>They investigate behavioural principles that assist in the establishment of lifelong, healthy dietary patterns. The practical component of this unit enables students to understand food science terminology and to apply specific techniques to the production of everyday food that facilitates the establishment of nutritious and sustainable meal patterns.</p>
Unit 4	Food Issues, Challenges and Futures <p>In this unit students examine debates about global and Australian food systems.</p> <p>Area of Study 1 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.</p> <p>Students research a selected topic, seeking clarity on current situations and points of view, considering solutions and analysing work undertaken to solve problems and support sustainable futures.</p> <p>Area of Study 2 focuses on individual responses to food information and misinformation and the development of food knowledge, skills and habits to empower consumers to make discerning food choices.</p> <p>Students consider how to assess information and draw evidence-based conclusions. They apply this methodology to navigate contemporary food fads, trends and diets. They practise and improve their food selection skills by interpreting food labels and analysing the marketing terms used on food packaging.</p> <p>The practical component of this unit provides students with opportunities to apply their responses to environmental and ethical food issues, and to extend their food production repertoire reflecting the Australian Dietary Guidelines and the Australian Guide to Healthy Eating.</p>
Teacher Contact	Ms Hayley Muxworthy

STEM

Product Design (Wood)

Unit 3	<p>Applying the Product Design Process</p> <p>In this unit students are engaged in the design and development of a product that addresses a personal, local, or global problem (such as humanitarian issues), or that meets the needs and wants of a potential end-user/s. The product is developed through a design process and is influenced by a range of factors including the purpose, function and context of the product; user-centred design; innovation and creativity; design elements and principles; sustainability concerns; economic limitations; legal responsibilities; material characteristics and properties; and technology.</p> <p>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 vary 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 an end-user/s. Students identify methods which could be used in a low-volume or mass/high-volume production setting to manufacture a similar product to their design.</p> <p>In the initial stage of the product design process a design brief is prepared, outlining the context or situation around the design problem and describing the needs and requirements in the form of constraints or considerations. In Area of Study 1, students examine how a design brief 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.</p> <p>In Area of Study 2, students examine how a range of factors, including new and emerging digital technologies, influence the design and development of products within industrial manufacturing settings. They consider issues associated with obsolescence and sustainability models.</p> <p>In Area of Study 3, students commence the application of the product design process for a product design for an end-user/s, including writing an individual design brief and criteria that will be used to evaluate the product in Unit 4.</p>
Unit 4	<p>Product Re-development and Evaluation</p> <p>In this unit students engage with an end-user/s to gain feedback throughout the process of production. Students make comparisons between similar products to help evaluate the success of a product in relation to a range of product design factors. The environmental, economic and social impact of</p>

	<p>products throughout their life cycle can be analysed and evaluated with reference to the product design factors.</p> <p>In Area of Study 1, students use comparative analysis and evaluation methods to make judgments about commercial product design and development.</p> <p>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.</p> <p>In Area of Study 3, students evaluate the quality of their product with reference to criteria and end-user/s' feedback. Students make judgments about possible improvements. They produce relevant user instructions or care labels that highlight the product's features for an end-user/s.</p>
Advice to Students	<p>Students wishing to study Woodwork in Year 11 or 12 must have the specialised skills and knowledge needed in this area to ensure success. Skills and knowledge gained by successfully completing Year 9 and 10 are essential. Alternatively, a good character and strong motivation to succeed in these subjects would be acceptable. These subjects will continue to introduce skills relevant to industry and have elements that prepare students for employment in the local area.</p>
Teacher Contact	Mr Gavin Ellis

STEM

Systems Engineering

VCE Systems Engineering involves the design, production, operation, evaluation and iteration of integrated systems, which mediate and control many aspects of human experience. Integral to VCE Systems Engineering is the identification and quantification of systems goals, the generation of system designs, trial and error, justified design trade-offs, selection and implementation of the most appropriate design. Students test and verify that the system is well-built and integrated. They evaluate how well the completed system meets the intended goals and reflect on the systems engineering process to create a satisfactory design outcome.

VCE Systems Engineering promotes innovative systems thinking and problem-solving skills through the application of the systems engineering process. The study is based on integrated mechanical and electrotechnological engineered systems. The study provides opportunities for students to learn about and engage with systems from a practical and purposeful perspective. Students gain knowledge and understanding about technological systems and their applications. VCE Systems Engineering integrates aspects of designing, planning, producing, testing and evaluating in a project management process.

It prepares students for careers in engineering, manufacturing and design through a university or TAFE vocational study pathway, employment, apprenticeships and traineeships. The study provides a rigorous academic foundation and a practical working knowledge of design strategies, production processes and evaluation practices. People with these skills, and the ability to apply systems engineering processes, are in increasing demand as participants in teams that are engaged with complex and multidisciplinary projects.

Unit 3	Integrated and Controlled Systems In this unit students study engineering principles used to explain physical properties of integrated systems and how they work. Students design and plan an operational, mechanical and electrotechnological integrated and controlled system. They learn about the technologies used to harness energy sources to provide power for engineered systems. Students commence work on the creation of an integrated and controlled system using the systems engineering process. This production work has a strong emphasis on innovation, designing, producing, testing and evaluating. Students manage the project, taking into consideration the factors that will influence the creation and use of their integrated and controlled system. Students' understanding of fundamental physics and applied mathematics underpins the systems engineering process, providing a comprehensive understanding of mechanical and electrotechnological systems and how they function. Students learn about sources and types of energy that enable engineered technological systems to function.
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	<p>Comparisons are made between the use of renewable and non-renewable energy sources and their impacts. Students develop their understanding of technological systems developed to capture and store renewable energy and technological developments to improve the credentials of non-renewables</p>
<p>Unit 4</p>	<p>Systems Control</p> <p>In this unit students complete the creation of the mechanical and electrotechnological integrated and controlled system they researched, designed, planned and commenced production of in Unit 3. Students investigate new and emerging technologies, consider reasons for their development and analyse their impacts.</p> <p>Students continue producing their mechanical and electrotechnological integrated and controlled system using the systems engineering process. Students develop their understanding of the open-source model in the development of integrated and controlled systems, and document its use fairly. They effectively document the use of project and risk management methods throughout the creation of the system. They use a range of materials, tools, equipment and components.</p> <p>Students test, diagnose and analyse the performance of the system. They evaluate their process and the system. Students expand their knowledge of emerging developments and innovations through their investigation and analysis of a range of engineered systems. They analyse a specific emerging innovation, including its impacts.</p>
<p>Teacher Contact</p>	<p>Mr Joseph Varga</p>

VCE VM

Literacy

VCE Vocational Major Literacy focuses on the development of the knowledge and skills required to be literate in Australia today. The key knowledge and key skills encompass a student's ability to interpret and create texts that have purpose, and are accurate and effective, with confidence and fluency.

Texts are drawn from a wide range of contexts and are focused on participating in the workplace and community. Further to this, texts are drawn from a range of sources including media texts, multimodal texts, texts used in daily interactions, and workplace texts from increasingly complex and unfamiliar settings.

As students develop these skills, they engage with texts that encompass the everyday language of personal experience to the more abstract, specialised and technical language of different workplaces, including the language of further study.

The applied learning approach of this study is intended to meet the needs of students with a wide range of abilities and aspirations.

This study enables students to:

- develop their everyday literacy skills through thinking, listening, speaking, reading, viewing and writing to meet the demands of the workplace, the community, further study and their own life skills, needs and aspirations.
- participate in discussion, exploration and analysis of the purpose, audience and language of text types and content drawn from a range of local and global cultures, forms and genres, including First Nations peoples' knowledge and voices, and different contexts and purposes.
- discuss and debate the ways in which values of workplace, community and person are represented in different texts.
- present ideas in a thoughtful and reasoned manner.

Unit 3	Informational, organisational and procedural texts In Area of Study 1, students become familiar with and develop confidence in understanding and accessing texts of an informational, organisational or procedural nature. These texts reflect real-life situations encountered by students and are representative of the sorts of texts students will encounter in a vocational setting or workplace, or for their health and participation in the community. Area of Study 2 focuses on texts about an individual's rights and responsibilities within organisations, workplaces and vocational groups. Students read and respond to a variety of technical content from a vocational, workplace or organisational setting of their choice, demonstrating understanding of how these texts inform and shape the organisations they interact with.
Unit 4	Literacy for advocacy

	<p>In Area of Study 1, students investigate, analyse and create content for the advocacy of self, a product or a community group of the student’s choice, in a vocational or recreational setting. Students research the differences between texts used for more formal or traditional types of advocacy, influence or promotion, as well as some of the forms that are increasingly being used in the digital domain for publicity and exposure.</p> <p>In Area of Study 2, students use their knowledge and understanding of language, context and audience to complete an oral presentation that showcases their learning. The presentation focuses on an area of student interest with a clearly stated vocational or personal focus.</p>
Teacher Contact	Ms Le-Le Dang

VCE VM

Numeracy

Unit 3	<p>In Unit 3 students further develop and enhance their numeracy practices to make sense of their personal, public and vocational lives. Students extend their mathematical skills with consideration of their local, community, national and global environments and contexts, and the use and evaluation of appropriate technologies.</p> <p>These units provide students with a broad range of mathematical knowledge, skills and understanding to solve problems in real contexts for a range of workplace, personal, further learning and community settings relevant to contemporary society.</p> <p>The progression of learning is evident in Units 3 and 4 with the development of more complex numeracy and mathematical skills and knowledge, drawing on the knowledge gained from Units 1 and 2.</p> <p>There are four areas of study in Unit 3: Area of Study 1: Number Area of Study 2: Shape Area of Study 3: Quantity and measures Area of Study 4: Relationships</p> <p>The areas of study cover a range of different mathematical knowledge and skills that are expected to be used and applied across the three outcomes.</p>
Unit 4	<p>In Unit 4 students further develop, enhance and extend their numeracy practices to make sense of their personal, public and vocational lives. Students extend their mathematical skills with consideration of their local, community, national and global environments and contexts, and use of, evaluation and justification of appropriate technologies.</p> <p>These units provide students with a broad range of mathematical knowledge, skills and understanding to solve problems in real contexts for a range of workplace, personal, further learning and community settings relevant to contemporary society.</p> <p>The progression of learning is evident in Units 3 and 4 with the development of more complex numeracy and mathematical skills and knowledge, drawing on the knowledge gained from Units 1 and 2.</p> <p>There are four areas of study for Unit 4: Area of Study 5: Dimension and direction Area of Study 6: Data Area of Study 7: Uncertainty Area of Study 8: Systematics</p> <p>The areas of study cover a range of different mathematical knowledge and skills that are expected to be used and applied across the three outcomes.</p>
Teacher Contact	Ms Le-Le Dang

VCE VM

Personal Development Skills

VCE Vocational Major Personal Development Skills (PDS) takes an active approach to personal development, self-realisation and citizenship by exploring interrelationships between individuals and communities. PDS focuses on health, wellbeing, community engagement and social sciences, and provides a framework through which students seek to understand and optimise their potential as individuals and as members of their community.

This study provides opportunities for students to explore influences on identity, set and achieve personal goals, interact positively with diverse communities, and identify and respond to challenges. Students will develop skills in self-knowledge and care, accessing reliable information, teamwork, and identifying their goals and future pathways. PDS explores concepts of effective leadership, self-management, project planning and teamwork to support students to engage in their work, community and personal environments.

Through self-reflection, independent research, critical and creative thinking and collaborative action, students will extend their capacity to understand and connect with the world they live in, and build their potential to be resilient, capable citizens.

Unit 3	Leadership and Teamwork This unit considers the role of interpersonal skills and social awareness in different settings and contexts. Students will examine leadership qualities and the characteristics of effective leaders and how these qualities can be applied to the achievement of goals within personal and community contexts. They will explore key components of effective teamwork and reflect on how to lead and contribute within a team context through a collaborative problem-solving activity. Students will evaluate individual contribution as well as the overall effectiveness of the team.
Unit 4	Community Project This unit focuses on student participation in an extended project relating to a community issue. Students will identify environmental, cultural, economic and social issues affecting the community and select one for an extended community project. They will look at past approaches to the selected issue in Australia and elsewhere, consider how they will research information, and formulate an objective to achieve. Students will reflect on how community awareness of a selected issue can be improved. Students will engage in a process of planning, implementing and evaluating a response to a selected community issue. They will conduct research, analyse findings and make decisions on how to present work. Students will consider the key elements (such as emotional intelligence and effective team practices) and considerations (such as safety and ethics) when implementing a community project. Students will present project to an appropriate audience of peers or community members and evaluate the effectiveness of chosen response to the issue.
Teacher Contact	Ms Le-Le Dang

VCE VM

Work Related Skills

VCE Vocational Major Work Related Skills (WRS) examines a range of skills, knowledge and capabilities relevant to achieving individual career and education goals. Students develop a broad understanding of workplace environments and the future of work and education, to engage in theory, practical planning, and decision-making to successfully transition to their desired pathway.

Students will be able to apply the knowledge and skills gained from WRS in the classroom and their Structured Workplace Learning (SWL).

Through the presentation of research investigation, self-reflection, practical application relating to the promotion of individual skills and capabilities, effective leadership, collaboration, and implementation of community projects; students are empowered to become active and engaged citizens and future members of the workplace who communicate effectively, advocate for themselves and are adaptable to change.

Unit 4	Portfolio Preparation and Presentation Portfolios are a practical and tangible way for a person to communicate relevant skills, experiences and capabilities to education providers and future employers. In this unit students will develop and apply their knowledge and skills relating to portfolios, including the features and characteristics of a high-quality physical and/or digital portfolio. The unit culminates in the formal presentation of a completed portfolio in a panel style interview and an evaluation of the end product.
Teacher Contact	Ms Le-Le Dang, Ms Bree Watson

General Advice – Choosing Subjects

Choosing subjects is an important decision. The choices that students make now can help set up a strong and supportive pathway to a successful future.

Some general advice and reminders when thinking about subjects to choose includes:

- Make sure you have read the Subject Handbook thoroughly
- Don't choose subjects because your friends are choosing them – your subject choices might mean you are in the same subject, but not the same class!
- Don't choose subjects based on the teachers listed as contacts – they may/may not be the teacher of the subject next year!
- Read the Possible Pathways sections to determine if the subject leads to the VCE/VET subjects you are interested in
- Encourage your parents/carers to read the booklet so you can have conversations about pathways and subject choices
- Speak with your Maths teacher to determine the most suitable Maths choice.
- Speak with your Team Leaders to answer any questions or get feedback about your draft subject choices BEFORE your Course Counselling appointment
- Follow all the steps on the Course Counselling Planning Sheet (available on the final page of the Subject Handbook)