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Congratulations. You are about to embark on your final years of secondary school.

The course of study that you chose now will influence your opportunities and career when you leave school. You should make use of the expert career counselling we provide. You should also discuss your choice of certificate and course with your parents, subject teachers and coordinators.

Our goal at Brunswick Secondary College is for all students to achieve to the best of their ability. As the quote on the previous page states, the link between a student’s effort and their achievement is very strong. Year 11 and 12 students are expected to obtain minimum Work Practices of 3.7 out of 4.0.

Accompanying high expectations, Brunswick Secondary College offers its senior students high levels of support. In addition to a broad range of studies and individual career counselling sessions, we offer sustained assistance in developing effective study and learning skills through classes, COGS (Community Opportunity Growth Success) sessions and an extensive range of after school homework clubs and holiday help options.

The school offers two senior school certificates – VCE (Victorian Certificate of Education) and VCAL (Victorian Certificate of Applied Learning). VET (Vocational Education and Training) may be undertaken as part of either certificate. This booklet contains details of the VCE studies that are offered by the College. Information about VCAL and VET are available in the companion handbooks.

It is important to gather all the information that you need to make wise subject choices. Universities and TAFEs hold Open Days, so go to as many as you can. Investigate and search career sites on the internet and by talking to students. Keep an open mind.

Students are more likely to be successful where you select a course that not only builds on strengths and interests but which also suits your abilities and allows for realistic options for further study or work.

Brunswick Secondary College teachers are dedicated to helping students successfully complete VCE/VCAL, offering feedback and support well beyond expected levels. If you accept this support, organise your time and maintain excellent Work Practices, you will certainly achieve your best possible result.

Best wishes in your subject selection and senior years of school.

Yours sincerely,

Vivienne Tellefson
Principal
About the VCE

VCE Requirements
To be awarded the Victorian Certificate of Education, as a continuing student, you must satisfactorily complete a minimum of 16 units of study. These units must include:

- 3 units of English selected from English/EAL Units 1-4 and Literature Units 1-4, including satisfactory completion of Units 3 and 4 in the same year.
- 3 sequences of Units 3 and 4 in studies other than English, which may include any number of additional English sequences once the English requirement has been met.
- No more than 2 units of English/EAL Units 1 & 2 and may be counted towards English requirement.

A VCE program will usually be completed in two years. In Year 11, you will be expected to complete 12 units of study - that is 6 units per semester. In Year 12, you will be expected to complete 10 units of study - that is 5 units per semester.

Assessment
There are two ways in which VCE units are assessed:

- by satisfactory completion of a unit
- by levels of performance

VCE studies are assessed using Outcomes and School Assessed Coursework (SACs) and/or School Assessed Tasks (SATs) together with Examinations.

Satisfactory completion:

- For each unit of study, students will receive an S (completed satisfactorily) or N (not completed satisfactorily). This result depends on whether students have satisfactorily achieved all outcomes related to the unit and have met the attendance requirements.
- Students must meet a 95% attendance requirement in each unit of study.
- Every VCE unit of study includes a number of outcomes. Achievement of outcomes will be based on the student's performance on assessment tasks designated for the unit. These tasks may include short answer tests, essays written in class and reports.
- In order to satisfactorily complete a VCE Unit of Study you must satisfactorily achieve each outcome for the unit. The BSC 'VCE Policies Handbook' gives detailed information on satisfactory completion of units of study, submission of work and attendance requirements.

Levels of performance:
There is a system of graded assessment, from A+ to U/G, based on SAC, SAT and Examination results. SACs and SATs will be part of the regular teaching and learning program, will be completed mainly in class time and will take a limited time. The examination component will be assessed externally by the Victorian Curriculum Assessment Authority (VCAA) at the end of Unit 4.

At the end of the Year 11 and 12 each student will receive a Statement of Results indicating the units studied and the S or N result for that unit. In Year 12, the certificate will also give the letter grades obtained for each SAC, and External Examinations. These will provide the basis for a Board of Studies calculated Australian Tertiary Admissions Rank (ATAR) which is required for direct entry in University education post Year 12.

Preparing for the VCE and Choosing a VCE Program
The secret of success is careful planning and good work habits.

When choosing subjects for the VCE, students should consider:

- which program is best suited to them (VCE, VCAL)
- what subjects they are good at, are interested in and enjoy
- what course they would like to pursue after school and what are the prerequisites for that course
- what subjects they need to take to keep their options open. Students should not feel pressured into choosing a particular career. It is more important to be aware of the consequences of their study choices and to plan a program that is flexible and keeps many options open.
- whether they believe they will succeed with this program of study

Subject information
Using the quick links via the Table of Contents, investigate the details of each VCE subject that you are interested in. Information, including Entry requirements/subject prerequisites, areas of study and general assessment details are included in this document. Should you have any queries regarding detail please contact the school to obtain clarification.

Plan ahead! Thoroughly research your options by:

- Asking advice from your parents, friends, teachers, Careers Adviser
- Attend university and TAFE open days
- Read the Job Guide
- Visit the Careers Office at school or visit the Careers webpage on the BSC website
## Arts & Technology Learning Area

### Computing

**Units 1 & 2 - Computing**

Big data is one of the growth areas in computing at the moment. In an increasing complex world there is a need to take huge amounts of data and put them into a form that makes sense. We start with the basics by collecting, interpreting and manipulating data into useful forms. We then use these skills to conduct investigations. We then move onto querying big data sets, finding patterns and connections.

In today’s world we are almost always connected to a network. The most obvious one being the internet. We learn about how networks are configured and secured. We investigate methods to use the Internet safely and productively. We look at questions such as “How can you secure yourself against hackers and other threats?” Study of this area can lead to careers in networking or security.

Advances in technology frequently have an effect on how our society functions. For instance, whilst the rise of social networking has allowed people to keep in contact more easily and share important moments it also has a downside. That downside is the rise in trolling and cyberbullying. How do we as a society adapt? What are tensions created between different stakeholders? This is not a new problem for society as we had the same issue when printed books were invented, when calculators were invented and many other inventions. You will investigate an issue relating to the impact of a new technology and create a website to explain your point of view.

Coding and database creation are the last skills we learn. You will be introduced to basic coding/programming in an object-orientated language. To be a coder you will learn to be more creative in how you tackle problems. You will create small programs to help learn these skills. The database skills you learn after this will enable you to successfully create and use small databases. Almost every computer system is based on a database for storing information so that is a great skill to develop. Some databases you may know include the library catalogue, google and our school system (Compass).

### Units 3 & 4 – Informatics

We investigate how organisations gather and store information from websites into their databases. What happens to all that information that websites like Facebook gather about you? Is it safely stored or used for commercial gain? How can organisations make good use of that information and also respect your privacy? We also create our own databases and learn how to query them for information. We then investigate security and the law. What are some of the security threats and how can we protect against them? What laws are there to protect your private information?

Data analytics is a substantial part of this course. You will conduct a major investigation using large sets of data and then prepare your report as a multimodal online solution. In doing so you will practise methods of acquiring data, manipulating it, analysing and presenting your findings.

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## Arts & Technology Learning Area

### Food & Technology

**Units 1 - 4**

Food and Technology is designed to give students a greater understanding of food as a commodity and knowledge of food production from a small-scale perspective to mass production in industry. The food production industry is diverse and constantly changing. New and modified products are developed to meet the changing social, economic and environmental needs of society. There has been a rapid development of technology related to the manufacture of food. This has influenced the way food is produced, processed, packaged and marketed. Throughout the four units, students will develop skills in the planning, preparation and evaluation of food products. Students will be assessed using a variety of tasks including practical work, records of planning and production, tests, short written reports, oral reports and practical tests.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Areas of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 1</strong> Food Safety &amp; properties of food</td>
<td>Keeping food safe, Food properties and preparation</td>
</tr>
<tr>
<td><strong>Unit 2</strong> Planning and preparation of food</td>
<td>Tools, equipment, preparation and processing, Planning and preparing meals</td>
</tr>
<tr>
<td><strong>Unit 3</strong> Food preparation, processing &amp; food controls</td>
<td>Maintaining food safety in Australia, Food preparation and processing, Developing a design plan</td>
</tr>
<tr>
<td><strong>Unit 4</strong> Food product development &amp; emerging trends</td>
<td>Implementing a design plan, Food product development</td>
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# Arts & Technology Learning Area

## Media

**Units 1 - 4**  
VCE Media provides students with the opportunity to analyse the media in a critical way. The media is a diverse, dynamic and evolving collection of forms (such as TV, film, radio, internet) used to inform, communicate with and connect people. Students consider how media texts, technologies, processes, industry production, regulation and distribution affect the ways a variety of audiences receive information and impact on society. Students will learn to examine and analyse the relationships between audiences and the media; this analysis is undertaken through a theoretical and practical study that places the student in the role of media creator. Students critique, design, and produce media products both individually and collaboratively. VCE Media helps students develop and refine their analytical, critical and creative thinking and expressive skills.

### 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 a variety of 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.

**Areas of study:**
- Representation
- Technologies of Representation
- New Media

### 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 and develop practical skills in their designated role. Students also develop an understanding of media industry issues and developments.

**Areas of Study:**
- Media Production
- Media Industry Production
- Australian Media Organisations

### Unit 3  
**Narrative and media production design**  
In this unit students develop skills and knowledge about how fictional narrative film texts are constructed to create meaning. Students examine how production and story elements contribute to and work together to structure meaning to engage audiences. Students also develop practical film making skills by undertaking production exercises related to aspects of film design and production processes. This is an opportunity to put their theoretical knowledge about the organisation of fictional narrative texts to the test. They also devise and complete a media Production Design Plan (PDP) for a media product with a specific purpose and audience. Students undertake this pre-production and submit their PDP (similar to a ‘folio’) in Unit 3, and use this PDP as a working document to produce a final product in Unit 4.

**Areas of study:**
- Narrative
- Media Production Skills
- Media Production Design

### Unit 4  
**Media process, influence and society’s values**  
In this unit students further develop practical skills by using their Production Design Plan (PDP) to make their final media product. The PDP and the final product form the School Assessed Task (SAT). Organisation and creative skills are refined and applied throughout each stage of the production process. In this unit students also analyse the relationship between media texts and society’s values, the nature and extent of media influence, and the regulation of the media.

**Areas of study:**
- Media Process
- Media Texts and Society's Values
- Media Influence

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## Product Design & Technology

This study is designed to enable students to develop an understanding of design and product development. They become familiar with the design process, acquire knowledge of materials (Wood or Textiles), and develop an understanding of production techniques and processes, and an awareness of the factors affecting design and production.

### Unit 1 – Product Re-Design & Sustainability

This unit focuses on the tools, processes, techniques, knowledge and skills the designer uses to develop solutions to a design problem. Students investigate and apply the methods used by designers to identify needs, develop and communicate ideas to meet these needs, and learn to identify suitable materials and processes. Sustainability in design is also a focus within this unit. Students also learn how to make and evaluate the product they develop.

**Areas of study:**
- Product re-design for improvement
- Producing and evaluating a re-designed product

### Unit 2 – Collaborative design

In this unit, students work as part of a team to design and develop a product range or 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. Students have the opportunity to work with others while taking responsibility for particular aspects of the design and production processes.

**Areas of study:**
- Designing within a team
- Producing and evaluating a collaboratively designed product

### Unit 3 – Applying the Product design process

Students explore the role of the designer in a range of settings, and the factors that influence the design and development of products in each. These include client or community requirements, social and economic trends, availability of resources and technological developments in industry. Students initiate and develop their own design project, then plan for and commence production.

**Areas of study:**
- The designer, client and/or end-user in product development
- Product development in industry
- Designing for others

### Unit 4 – Product development and evaluation

This unit focuses on how assessment of the success of products can be aided by a comparison of products in terms of their quality, usefulness, appeal and environmental and social impact. Comparisons between similar products help to judge the success of a product in relation to a range of product design factors. Students complete the product designed in Unit 3 and document and evaluate their production and the final product.

**Areas of study:**
- Product analysis and comparison
- Product manufacture
- Product evaluation

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### Arts & Technology Learning Area

#### Studio Arts

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<th>Units 1 - 4</th>
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<tr>
<td><strong>Studio Arts</strong></td>
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</tbody>
</table>

- **Unit 1**
  - **Artistic Inspiration & Techniques**
    - The focus of this Unit is the investigation of sources of inspiration and the exploration of a wide range of materials and techniques as tools for translating ideas, observations and experience into visual forms. Assessment: A folio of exploratory works using a variety of materials and techniques. Written presentations discussing artists’ inspiration and use of materials and techniques.

- **Unit 2**
  - **Design Exploration And Concepts**
    - This unit focuses on establishing and using a design process to produce artworks. Students also develop skills in the visual analysis of art works. Assessment: Students complete a variety of design explorations and produce a number of related art works. Written presentations discussing the ways a variety of art works use design elements and principles, signs, symbols and images to communicate ideas and develop style.

- **Unit 3**
  - **Studio Production and Professional Arts**
    - **Outcomes 1 & 2 – Exploration, proposal and design process:**
      - This area of study focuses on the use of the design process to produce a range of directions or potential artworks. Students begin by writing an exploration proposal outlining an area of artistic investigation.

    - **Outcome 3 - Professional art practices and styles:**
      - This area of study focuses on traditional and contemporary practices of artists. Students explore the ways in which artists develop distinctive styles, interpret influences and approach subject matter.

      - **Assessment:**
        - The level of achievement for Unit 3 is determined by school-based assessment of the work brief and design process, and an end of year examination. The end of year examination will be based on Outcome 3 in Units 3 and 4. These questions are set by an examination panel.

- **Unit 4**
  - **Studio production and art industry contexts**
    - **Outcomes 1 & 2 – Folio of Artworks and focus, reflection and evaluation.**
      - This area of study focuses on the production of a cohesive folio of art works which resolve the aims and intentions set out in the students’ exploration proposal written in Unit 3. After they have created the artworks students produce a reflection and evaluation document.

    - **Outcome 3 - Art industry contexts.**
      - This unit focuses on the roles, processes and methods involved in the exhibition of artworks.

      - **Assessment:**
        - The student’s level of achievement for Unit 4 is determined by a school-based assessment of the focus statement and folio, and an end of year examination. The school assessed task is subject to external review.
# Arts & Technology Learning Area

<table>
<thead>
<tr>
<th><strong>Visual Communication Design</strong></th>
<th>Visual Communication Design study examines the way visual language can be used to convey ideas, information and messages in the fields of communication (graphic), environmental (architectural), and industrial design. Visual communication relies on drawing as the primary component of visual language to support the concept development and visualisation of design ideas. Students employ a design process to generate and develop visualisation ideas. They explore manual and digital methods to develop and refine presentations. The study also requires students to investigate the work and practices of Australian and international designers.</th>
</tr>
</thead>
</table>
| **Unit 1** | This unit involves acquiring design thinking skills as well as drawing skills to communicate messages, ideas and concepts. They practise observational drawing and use visualisation drawing methods to explore their own ideas and concepts. Students review the contextual background of visual communication through an investigation of design styles.  
*Areas of study:*  
- Drawing as a means of communication.  
- Design elements and design principles.  
- Visual communication design in context |
| **Unit 2** | 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 the communication, environmental and industrial design fields. Students use technical drawing conventions to communicate information and ideas associated with the environmental or industrial design fields of design. They investigate how typography and imagery are used in visual communication design. In response to a design brief, they apply the design process to research, generate ideas and develop concepts, to create visual communications.  
*Areas of study:*  
- Technical drawing in context.  
- Type and imagery.  
- Applying the design process. |
| **Unit 3** | 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. This is through practical analysis of examples from the communication, environmental and industrial design fields. They investigate and experiment with the use of manual and digital methods. Students use their research and analysis of designers to support the development of their own work. Design from a variety of historical and contemporary design fields is considered by students to provide directions for their own work. Students develop a design brief. They use observational and visualisation drawings to generate a wide range of design ideas. The brief and investigation work underpin the development and refinement work in unit 4.  
*Areas of study:*  
- Analysis and practise in context.  
- Design industry practice.  
- Developing a brief and generating ideas. |
| **Unit 4** | The focus of this unit is the development of design concepts and two final presentations of visual communications to meet the requirements of the brief. Students continue the design process by developing and refining concepts for each need stated in the brief. They use a range of manual and digital two and three dimensional methods, media, and materials. They provide evidence of ongoing reflection and evaluation of design solutions against the brief. Students refine and present two visual communications within the parameters of the brief. They evaluate their visual communications and devise a pitch to communicate their design thinking and decision making to the client.  
*Areas of study:*  
- Development of design concepts  
- Final presentations  
- Evaluation and explanation |

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### English Learning Area

#### English

**Units 1 – 2 (2016 Study Design)**

In 2016, Year 11 students will embark on the new study design. Current (2015) Year 11 students will remain on the present study design. As such, for those students starting Year 11 in 2016 there will be changes to the course from previous years.

#### 2016 - Unit 1

In this unit, students read and respond to texts analytically and creatively. They analyse arguments and the use of persuasive language in texts and create their own texts intended to position audiences.

Students develop their skills in creating written, spoken and multimodal texts.

**Areas of study:**

- **Reading and creating texts** - In this area of study students explore how meaning is created in a text. Students identify, discuss and analyse decisions authors have made. They explore how authors use structures, conventions and language to represent characters, settings, events, explore themes, and build the world of the text for the reader. Students investigate how the meaning of a text is affected by the contexts in which it is created and read.

- **Students consider the similarities and differences between texts, developing awareness that some features are specific to texts, while others are similar across texts. Students are encouraged to draw on prior knowledge and supplementary material to broaden and deepen their understanding of texts. Students practise their listening and speaking skills through discussion, developing their ideas and thinking in relation to the texts studied.**

- **Students develop the ability to respond to texts in written and spoken and/or multimodal forms. They develop analytical responses dealing with the ways in which texts convey meaning and various points of view on key issues.**

- **They use planning and drafting to test and clarify their ideas, and editing for clear and coherent expression. They include textual evidence appropriately and craft their writing for convincing and effective presentation.**

- **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 revision, editing and refining for accuracy and stylistic effect.**

- **Analysing and presenting argument** - In this area of study students focus on the analysis and construction of texts that attempt to influence an audience. Students read a range of texts that attempt to position audiences in a variety of ways. They explore the use of language for persuasive effect and the structure and presentation of argument. They consider different types of persuasive language, including written, spoken, and visual, and combinations of these, and how language is used to position the reader.

- **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.**

- **In considering the presentation of arguments in oral form, students also learn about the conventions of oral communication for persuasive purposes. Students consider the persuasive impact of tone, diction and audience engagement in the presentation of a viewpoint. They practise their listening and speaking skills through discussion and debate, developing their own arguments and critiquing the arguments of others.**

- **Students practise written analysis of the presentation of argument and the use of language to position the intended audience. They craft and present reasoned, structured and supported arguments and experiment with the use of language to position audiences. In developing an argument or analysis, they draft, revise and edit to clarify and critique their thinking, and for technical accuracy, coherence, persuasive effect and quality of evidence.**

**Assessment - For this unit students are required to demonstrate achievement of the outcomes specified based on the areas of study.**

#### 2016 - 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.

Students develop their skills in creating written, spoken and multimodal texts.

**Areas of study:**

- **Reading and comparing texts** - In this area of study students explore how comparing texts can provide a deeper understanding of ideas, issues and themes. They investigate how the reader’s understanding of one text is broadened and deepened when considered in relation to another text. Students explore how features of texts, including structures, conventions and language convey ideas, issues and themes that reflect and explore the world and human experiences, including historical and social contexts. Students practise their listening and speaking skills through discussion, developing their ideas and thinking in relation to the texts studied.

- **Students produce a written comparison of selected texts, discussing important similarities and differences, and exploring how the texts deal with similar or related ideas, issues or themes from different perspectives. They develop an understanding of the choices available to writers and creators of texts, and the ways in which comparing texts can offer an enriched understanding of ideas, issues or themes. They use the features of written analysis and textual evidence soundly and appropriately, dealing in detail with the ideas encountered in the texts. They draft, revise, edit and refine for technical
accuracy, and for clear, coherent and effective presentation of the insights gained through comparison.

Analysing and presenting argument - In this area of study students build on their understanding of argument and the use of persuasive language in texts that attempt to influence an audience. 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.

Students practise developing and presenting reasoned points of view on issues of contemporary social relevance. In constructing arguments students focus on the logical development of their own ideas, and select evidence and language to support their arguments.

In addition to developing critical analysis of the use of language and the presentation of argument in texts, students practise presenting arguments and points of view in writing. They draft, revise and edit their writing to clarify and critique their thinking, and for precision and coherence in argument and quality of evidence. They craft for persuasion using a range of language features intended to position an audience to share the point of view expressed. They use the features of texts appropriately and include accurate referencing and acknowledgment.

Assessment - For this unit students are required to demonstrate achievement of the outcomes specified based on the areas of study.

<table>
<thead>
<tr>
<th>English Units 3 – 4</th>
<th>The focus of this unit is on reading and responding both orally and in writing to a range of texts. Students analyse how the authors create meaning and the different ways in which texts can be interpreted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Continuation of 2013 Study Design)</td>
<td>Areas of study:</td>
</tr>
<tr>
<td>2016 - Unit 3</td>
<td>Reading and Responding - This area of study focuses on a range of literary texts to develop critical and supported responses. Students examine the structures, features and conventions used by authors of a range of selected texts to construct meaning.</td>
</tr>
<tr>
<td></td>
<td>Creating and Presenting - The focus in this area of study is on reading and writing and their interconnection. Students will study texts based around a theme and identify, discuss and analyse ideas and /or arguments associated with the theme. Students will then draw on these ideas to construct their own texts.</td>
</tr>
<tr>
<td></td>
<td>Using language to persuade - The focus in this area of study is on the analysis and comparison of the use of language in texts that debate a topical issue in the Australian media. Drawing on this study, students will create a sustained piece of writing in which they will put forward their point of view on the issue in written or oral form.</td>
</tr>
<tr>
<td></td>
<td>Assessment - For this unit students are required to demonstrate achievement of the three outcomes specified based on the three areas of study.</td>
</tr>
</tbody>
</table>

| 2016 - Unit 4 | The focus of this unit is on reading and responding in writing to a range of texts in order to analyse their construction and provide an interpretation. Students create work and discuss the choices they have made as the author with regards to form, purpose, language, audience and context. |
| | Areas of Study: |
| | Reading and Responding - Students identify, discuss and analyse the structures, features and conventions of a range of texts to explore how these elements have been chosen by the authors to construct meaning. |
| | Creating and Presenting - The focus in this area of study is on reading and writing and their interconnection. Students will study texts based around a theme and identify, discuss and analyse ideas and /or arguments associated with the theme. Students will then draw on these ideas to construct their own texts. |
| | Assessment - For this unit students are required to demonstrate achievement of the two outcomes specified. School Assessed Coursework for Units 3 and 4 contribute to the final assessment which includes an end-of-year examination. |
# English Learning Area

## Literature

### Units 1 – 4

In 2016, Year 11 students will embark on the new study design. Current (2015) Year 11 students will remain on the present study design. As such, for those students starting Year 11 in 2016 there will be changes to the course from previous years.

The study of literature focuses on the enjoyment and appreciation of reading that arises from discussion, debate and the challenge of exploring the meanings of literary texts. Students reflect on their interpretations and those of others.

The study is based on the premise that meaning is derived from the relationship between the text, the context in which it was produced and the experience of life and literature the reader brings to the texts. Accordingly, the study encompasses texts that vary in form and range from past to contemporary social and cultural contexts. Students learn to understand that texts are constructions, to consider the complexity of language and to recognise the influence of contexts and form.

The study of literature encourages independent and critical thinking in students' analytical and creative responses to texts, which will assist students in the workforce and in future academic study.

### Literature (2016-2020 Study Design)

#### Unit 1: Approaches to Literature

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. They develop familiarity with key terms, concepts and practices that equip them for further studies in literature. They develop an awareness of how the views and values that readers hold may influence the reading of a text.

**Area of study 1: Reading practices**

**Area of study 2: Ideas and concerns in texts**

#### Unit 2: Context and connections

In this unit students explore the ways literary texts connect with each other and with the world. They deepen their examination of 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. Students analyse the similarities and differences across texts and establish connections between them. They engage in close reading of texts and create analytical responses that are evidence-based. By experimenting with textual structures and language features, students understand how imaginative texts are informed by close analysis.

**Area of study 1: The text, the reader and their contexts**

**Area of study 2: Exploring connections between texts**

### Literature (2006 – 2015 Study Design)

#### Unit 3

Current Year 11 (2015) students going into Year 12 (2016) will follow the course outlined here.

This unit focuses on the ways writers construct their work and how meaning is created for and by the reader. Students consider how the form of text (such as poetry, prose, drama, non-print or combinations of these) affects meaning and generates different expectations in readers, the ways texts represent views and values and comment on human experience, and the social, historical and cultural contexts of literary works.

**Areas of study:**

- Adaptations and transformations
- Views, values and contexts
- Considering alternative viewpoints

#### Unit 4

This unit focuses on students' creative and critical responses to texts. Students consider the context of their responses to texts as well as the concerns, the style of the language and point of view in their re-created or adapted work. In their responses, they develop an interpretation of a text and learn to synthesise the insights gained by their engagement with various aspects of a text into a cogent, substantiated response.

**Areas of study:**

- Creative responses to texts
- Close analysis

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## EAL - English as an Additional Language

**EAL**  
**English as an Additional Language**  
Units 1 – 2

Students qualify for EAL/English Unit 1 and 2, if they have been in Australia less than 6 years and did not attend an English speaking school in their country of origin. The course is similar to the English course but is taught in ways which target their needs as an additional language learner. This 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. The study aims to extend the students’ ability to communicate in English by developing skills through thinking, listening, speaking, reading, viewing and writing. It aims to help the students learn the conventions of the different forms of written and spoken English.

In 2016, Year 11 students will embark on the new study design. Current (2015) Year 11 students will remain on the present study design. As such, for those students starting Year 11 in 2016 there will be changes to the course from previous years.

### Unit 1

**Areas of Study 1**

**Reading and creating texts**

In this area of study students explore how meaning is created in a text. Students identify, discuss and analyse decisions authors made. They explore how authors use structures, conventions and language to represent characters, settings, events, explore themes, and build the world of the text for the reader. Students investigate how the meaning of a text is affected by the contexts in which it is created and read.

Students consider the similarities and differences between texts, developing awareness that some features are specific to texts, while others are similar across texts. Students are encouraged to draw on prior knowledge and supplementary material to broaden and deepen their understanding of texts. Students practise their listening and speaking skills through discussion, developing their ideas and thinking in relation to the texts studied.

Students develop the ability to respond to texts in written and spoken and/or multimodal forms. They develop analytical responses dealing with the ways in which texts convey meaning and various points of view on key issues. They use planning and drafting to test and clarify their ideas, and editing for clear and coherent expression. They include textual evidence appropriately and craft their writing for convincing and effective presentation.

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 revision, editing and refining for accuracy and stylistic effect.

**Areas of Study 2**

**Analysing and presenting argument**

In this area of study students focus on the analysis and construction of texts that attempt to influence an audience. Students read a range of texts that attempt to position audiences in a variety of ways. They explore the use of language for persuasive effect and the structure and presentation of argument. They consider different types of persuasive language, including written, spoken, and visual, and combinations of these, and how language is used to position the reader.

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.

In considering the presentation of arguments in oral form, students also learn about the conventions of oral communication for persuasive purposes. Students consider the persuasive impact of tone, diction and audience engagement in the presentation of a viewpoint. They practise their listening and speaking skills through discussion and debate, developing their own arguments and critiquing the arguments of others.

Students practise written analysis of the presentation of argument and the use of language to position the intended audience. They craft and present reasoned, structured and supported arguments and experiment with the use of language to position audiences. In developing an argument or analysis, they draft, revise and edit to clarify and critique their thinking, and for technical accuracy, coherence, persuasive effect and quality of evidence.

### Unit 2

**Area of Study 1**

**Reading and comparing texts**

In this area of study students explore how comparing texts can provide deeper understanding of ideas, issues and...
themes. They investigate how the reader’s understanding of one text is broadened and deepened when considered in relation to another text. Students explore how features of texts, including structures, conventions and language convey ideas, issues and these that reflect and explore the world and human experiences, including historical and social contexts. Students practise their listening and speaking skills through discussion, developing their ideas and thinking in relation to the texts studied.

Students produce a written comparison of selected texts, discussing important similarities and differences, and exploring how the texts deal with similar or related ideas, issues or themes from different perspectives. They develop an understanding of the choices available to writers and creators of texts and the ways in which comparing texts can offer an enriched understanding of ideas, issues and themes. They use the features of written analysis and textual evidence soundly and appropriately, dealing in detail with the ideas encountered in texts. They draft, revise, edit and refine for technical accuracy, and for clear, coherent and effective presentation of the insights gained through comparison.

Area of Study 2
Analysing and presenting argument

In this area of study students build on their understanding of argument and the use of persuasive language in texts that attempt to influence an audience. 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 the impact of argument and persuasive language used to influence an audience. Students practise developing and presenting reasoned points of view on issues of contemporary social relevance. In constructing arguments students focus on the logical development of their own ideas, and select evidence and language to support their arguments.

English as an Additional Language

Units 3 – 4
Students qualify for EAL/English, if they have been in Australia less than 7 years and did not attend an English speaking school in their country of origin. The course is similar to the English course. The main difference is that the student will be assessed as an EAL student by teachers experience in EAL. The study aims to extend the students’ ability to communicate in English by developing skills in reading, writing, speaking, listening and thinking. The course also aims to develop understanding of the conventions of the different forms of written and spoken English.

Unit 3
The focus of this unit is on reading and responding both orally and in writing to a range of texts. Students develop competence in creating written texts by exploring ideas suggested by their reading within a chosen Context, and the ability to explain the choices they have made as authors.

Areas of Study
Reading and responding
Focuses on the study of a range of literary texts to develop critical and supported responses. Students examine the structures, features and conventions used by authors to construct meaning. Students prepare and construct a response to a text, using appropriate metalanguage and evidence from the texts to support their response.

Creating and presenting
Focuses on examining the effects of form, purpose, audience and context on the authors’ choice of structure and language. It involves the study of a range of texts relevant to one Context. Students draw on the knowledge gained from this study to create their own written and/or multimodal texts for a specified audience and purpose in a process which includes planning, reviewing and editing.

Using language to persuade
Focuses on the analysis and comparison of the use of language in texts that debate a current topical issue in the Australian media. Drawing on their study of the use of language to persuade, students construct a piece of sustained and reasoned writing in which they express their own point of view on the selected issue.

Unit 4
The focus of this unit is on reading and responding in writing to a range of texts in order to analyse their construction and provide an interpretation. Students create written or multi-modal texts suggested by their reading within the chosen Context and explain creative choices they have made as authors in relation to form, purpose, language, audience and context.

Areas of Study
Reading and responding
Builds on Area of Study 1 in Unit 3. Students develop and justify a detailed interpretation of a selected text.

Creating and presenting
Builds on Area of Study 2 in Unit 3. Students draw on the ideas and arguments suggested by the chosen Context to create their own written text for a specified audience and purpose. They must discuss and analyse in writing their decisions about form, purpose, language, audience and context.

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### Humanities Learning Area

#### Accounting

Units 1 – 4

Accounting is an information system, providing financial and other information for making and evaluating decisions about the allocation and management of resources. Accounting information is used to evaluate business performance and to report on the operation of a business from both an internal and external perspective. All units focus on accounting and finance for a sole-proprietor small business. It is expected that students will use ICT in all units.

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, 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 further studies and careers in business and finance.

Entry - There are are no prerequisites for Units 1, 2 and 3. Students must undertake Unit 3 prior to Unit 4. Units 1 to 4 are designed to a standard equivalent to the final two years of secondary education. All VCE students are benchmarked against comparable national and international curriculum.

Assessment - satisfactory completion. The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the outcomes specified for the unit. The decision will based on the teacher’s assessment of the student’s performance on tasks designed for the unit. Designated assessment tasks are provided in the details for each unit.

<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Establishing and operating a service Business</th>
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<tbody>
<tr>
<td>This unit focuses on the establishment of a small business and the accounting 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.</td>
<td></td>
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<tr>
<td><strong>Outcome 1</strong> - On completion of this unit the student should be able to describe the resources required, and explain and discuss the knowledge and skill necessary, to set up a small business.</td>
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<tr>
<td><strong>Outcome 2</strong> - On completion of this unit the student should be able to identify and record the financial data, and report and explain accounting information, for a sole proprietor of a services business.</td>
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<thead>
<tr>
<th>Unit 2</th>
<th>Accounting for a trading business</th>
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<tbody>
<tr>
<td>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.</td>
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<tr>
<td><strong>Outcome 1</strong> - On completion of this unit the student should be able to record and report accounting information for a sole trader.</td>
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<tr>
<td><strong>Outcome 2</strong> - On completion of this unit the student should be able to record financial data and report accounting information for a single activity sole trader using an accounting software package, and discuss the use of ICT.</td>
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<tr>
<td><strong>Outcome 3</strong> - On completion of this unit the student should be able to select and use financial and non-financial information to evaluate the performance of a business and discuss strategies that may improve business performance.</td>
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<table>
<thead>
<tr>
<th>Unit 3</th>
<th>Recording and reporting for a trading business</th>
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<tbody>
<tr>
<td>Unit 3 focuses on accounting and 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.</td>
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</tr>
<tr>
<td><strong>Outcome 1</strong> - On completion of this unit the student should be able to record and report financial information using the double entry accrual-based system for a single-activity sole-proprietor trading business, using manual and information and communications technology methods.</td>
<td></td>
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<tr>
<td><strong>Outcome 2</strong> - On completion of this unit the student should be able to record balance day adjustments and prepare and interpret accounting reports.</td>
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<tr>
<th>Unit 4</th>
<th>Control and analysis of business performance</th>
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<tbody>
<tr>
<td>Unit 4 is an extension of the recording/reporting processes from Unit 3 and the use of financial and non-financial information in assisting management in the decision-making process. It is based on the double entry accounting system and the accrual method of recording for single activity trading business using the perpetual inventory recording system.</td>
<td></td>
</tr>
<tr>
<td><strong>Outcome 1</strong> - On completion of this unit the student should be able to record financial data using double entry accounting and report accounting information using an accrual-based system for a single activity sole trader, and discuss the function of various aspects of this accounting system.</td>
<td></td>
</tr>
<tr>
<td><strong>Outcome 2</strong> - On completion of this unit the student should be able to prepare budgets and variance reports, evaluate the performance of a business using financial and non-financial information and discuss strategies to improve the profitability and liquidity of the business.</td>
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### Humanities Learning Area

#### Business Management

**Units 1 – 4**

Business Management examines the way in which people at various levels within a business organisation manage resources to achieve the objectives of the organisation, whether it is small, medium or large-scale organisations. It helps students to develop an understanding of the complexity, challenges and rewards that come from business management. It allows students to gain an insight into the various ways resources can be managed in small, medium and large-scale organisations. The study recognises that there is a range of management theories rather than a single theory of management. Each unit examines some of these theories and, through exposure to real businesses scenarios and/or direct contact with businesses, tests them against management in practice. In studying VCE Business Management, students will develop knowledge & skills that enhance their confidence & ability to participate effectively, as socially responsible & ethical members of the business community and as informed citizens, consumers and investors.

**Entry** - There are no prerequisites for entry to Unit 1 and 2

**Unit 1**

**Small Business Management**

This unit studies generic business concepts, which apply to the management of small businesses in various industry settings. It also involves a consideration of the range of activities related to decision-making, planning and evaluation of day-to-day operations of a small business. It provides an opportunity to explore the likelihood of business success. Outcome 1 – Introducing Business - On completion of this unit the student should be able to explain a set of generic business characteristics and apply them to a range of businesses.

Outcome 2 - Small Business Decision-Making, Planning and Evaluation - On completion of this unit the student should be able to apply decision-making and planning skills to establish and operate a small business and evaluate the management of an ethical and socially responsible small business.

Outcome 3 – Day-to-Day Operations - On completion of this unit the student should be able to discuss one or more of day-to-day operations associated with ethically and socially responsible small businesses and apply the operation/s to a business situation.

**Assessment** – satisfactory completion Demonstrated achievement of the set of outcomes specified for the unit.

**Unit 2**

**Communication and Management**

This unit studies the concept of communication in business, both internally and externally, with special attention to the functions of marketing and public relations. It develops an understanding of the important role these functions play in the ultimate success of a business. Outcome 1 – Communication in Business - On completion of this unit the student should be able to explain, apply and justify a range of effective communication methods used in business-related situations. Outcome 2 – Managing the Marketing Function - On completion of this unit the student should be able to analyse effective marketing strategies and processes and apply these strategies and processes to business-related situations. Outcome 3 – Managing the Public Relations Function - On completion of this unit the student should be able to apply public relations strategies to business-related situations and analyse their effectiveness.

**Assessment** – satisfactory completion Demonstrated achievement of the set of outcomes specified for the unit.

**Unit 3**

**Corporate Management**

This unit examines how large-scale organisations operate. It focuses on the role and importance of large-scale organisations (LSOs) to the Australian economy, how they conduct business, their internal environment-management structures, styles and skills, as well as their operations management function. It develops an understanding of the complexity & challenge of managing LSOs.

Outcome 1 – Large-Scale Organisations in Context - On completion of this unit the student should be able to discuss and analyse the context in which LSOs operate.

Outcome 2 – Internal Environment of LSOs - On completion of this unit the student should be able to discuss and analyse the major aspects of the internal environment of LSOs.

Outcome 3 – The Operations Management Function - On completion of this unit the student should be able to discuss and analyse the strategies related to operations management.

**Unit 4**

**Managing People and Change**

This unit examines corporate management. It focuses on human resource management strategies, practices and processes in effectively managing human resources. It also analyses the management of change, its processes and strategies which are applied to a contemporary issue of significance.

Outcome 1 – The Human Resource Management Function - on completion of this unit the student should be able to analyse and evaluate practices and processes related to Human Resource Management.

Outcome 2 – The Management of Change - on completion of this unit the student should be able to analyse and evaluate the management of change in a LSO and evaluate the impact of change on the internal environment of a LSO.

**Assessment** - satisfactory completion. Demonstrated achievement of the set of outcomes specified for the unit.

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<th>Unit</th>
<th>Unit Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Criminal law in action</td>
<td>Following an overview of the law in general, this unit focuses on criminal law. Students examine the need for laws in society. They investigate the key features of criminal law, how it is enforced and adjudicated and possible outcomes and impacts of crime. Through a consideration of contemporary cases and issues, students learn about different types of crimes and explore rights and responsibilities under criminal law. Students also consider the role of parliament and subordinate authorities in law-making, as well as the impact of the Victorian Charter of Rights and Responsibilities on law enforcement and adjudication in Victoria. Students investigate the processes and procedures followed by courts in hearing and resolving criminal cases. They explore the main features and operations of criminal courts and consider the effectiveness of the criminal justice system in achieving justice. Outcome 1 – Law in Society - On completion of this unit the student should be able to explain the need for effective laws and describe the main sources and types of law in society. Outcome 2 – Criminal Law - On completion of this unit the student should be able to explain the key principles and types of criminal law, apply the key principles to relevant cases, and discuss the impact of criminal activity on the individual and society. Outcome 3 – The Criminal Courtroom - On completion of this unit the student should be able to describe the processes for the resolution of criminal cases, and discuss the capacity of these processes to achieve justice.</td>
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<tr>
<td>2</td>
<td>Issues in Civil Law</td>
<td>The civil law regulates the rights and responsibilities that exist between individuals, groups and organisations. Students examine the rights that are protected by civil law, as well as obligations that laws impose. They investigate types of civil laws and related cases and issues and develop an appreciation of the role of civil law in society and how it affects them as individuals. The unit also focuses on the resolution of civil disputes through judicial determination and alternative methods in courts, tribunals and independent bodies. Students examine these methods of dispute resolution and evaluate their effectiveness. Individuals can influence a change in the law by taking a case to court. Students focus on cases that have had a broader impact on the legal system and on the rights of individuals. Students develop an appreciation of the role played by such cases and undertake an analysis of relevant legal issues. Outcome 1 – Civil Law - On completion of this unit the student should be able to explain the principles of civil law, law-making by courts, and elements of torts, and apply these to relevant cases. Outcome 2 – Civil Law in Action - On completion of this unit the student should be able to explain and evaluate the processes for the resolution of civil disputes. Outcome 3 – The Law in Focus - On completion of this unit the student should be able to explain one or more area/s of civil law, and discuss the legal system’s capacity to respond to issues and disputes related to the selected area/s of law. Outcome 4 – A Question of Rights - On completion of this unit the student should be able to describe an Australian case illustrating rights issues and discuss the impact of the case on the legal system and the rights of individuals.</td>
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<tr>
<td>3</td>
<td>Law making</td>
<td>In this unit students develop an understanding of the institutions that determine our laws, and their law-making powers and processes. They undertake an informed evaluation of the effectiveness of law-making bodies and examine the need for the law to keep up to date with changes in society. Students develop an appreciation of the complex nature of law-making by investigating the key features and operation of parliament, and influences on law-making, with a focus on the role of the individual. Central to the investigation of law-making is the role played by the Commonwealth Constitution. Students develop an understanding of the importance of the Constitution in their lives and on society as a whole, and undertake a comparative analysis with another country. They learn of the importance of the role played by the High Court of Australia in interpreting and enforcing the Constitution, and ensuring that parliaments do not act outside their areas of power nor infringe protected rights. Students investigate the nature and importance of courts as law-makers and undertake an evaluation of their effectiveness as law-making bodies. They also investigate the relationships that exist between parliaments and courts. Throughout this unit, students examine relevant cases to support their learning and apply legal principles to these cases. Outcome 1 – Parliament and the Citizen - On completion of this unit the student should be able to explain the structure and role of parliament, including its processes and effectiveness as a law-making body, describe why legal change is needed, and the means by which such change can be influenced. Outcome 2 – The Constitution and the Protection of Rights - On completion of this unit the student should be able to explain the role of the Commonwealth Constitution in defining law-making powers within a federal structure, analyse the means by which law-making powers may change, and evaluate the effectiveness of the Commonwealth Constitution in</td>
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</table>
Outcome 3 – Role of the Courts in Law-Making - On completion of this unit the student should be able to describe the role and operation of courts in law-making, evaluate their effectiveness as law-making bodies and discuss their relationship with parliament.

Outcome 1 – Dispute Resolution Methods - On completion of this unit the student should be able to describe and evaluate the effectiveness of institutions and methods for the determination of criminal cases and the resolution of civil disputes.

Outcome 2 – Court Processes and Procedures, and Engaging in Justice - On completion of this unit the student should be able to explain the processes and procedures for the resolution of criminal cases and civil disputes, and evaluate their operation and application, and evaluate the effectiveness of the legal system.

The legal system provides mechanisms by which legal disputes of both a criminal and a civil nature can be resolved in a fair and just manner. Dispute resolution bodies such as courts and tribunals employ a range of means and processes that enables the resolution of legal disputes.

Students examine the institutions that adjudicate criminal cases and civil disputes. They also investigate methods of dispute resolution that can be used as an alternative to civil litigation. Students investigate the processes and procedures followed in courtrooms and develop an understanding of the adversary system of trial and the jury system, as well as pre-trial and post-trial procedures that operate in the Victorian legal system. Using the elements of an effective legal system, students consider the extent to which court processes and procedures contribute to the effective operation of the legal system. They also consider reforms or changes that could further improve its effective operation.

Throughout this unit, students examine current or recent cases to support their learning, and apply legal principles to these illustrative cases.
# Humanities Learning Area

## Geography

**Units 1 – 4**

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<th>Unit</th>
<th>Description</th>
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<tr>
<td>Unit 1</td>
<td><strong>Hazards and disasters</strong>&lt;br&gt;In this unit students undertake an overview of hazards before investigating two contrasting types of hazards and the responses to them by people. Hazards represent the potential to cause harm to people and or the environment whereas disasters are judgments about the impacts of hazard events. 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.</td>
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<tr>
<td>Unit 2</td>
<td><strong>Tourism</strong>&lt;br&gt;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. Tourism involves the movement of people travelling away from and staying outside of their usual environment for more than 24 hours but not more than one consecutive year (United Nations World Tourism Organization definition). Over one billion tourists a year cross international boundaries with greater numbers involved as domestic tourists within their own countries. The Asia and the Pacific hosts 23 per cent of international arrivals. The scale of tourist movements since the 1950s and its predicted growth has had and continues to have a significant impact on local, regional and national environments, economies and cultures. The travel and tourism industry is directly responsible for one in every twelve jobs globally and generates around 5 per cent of its GDP. (UNWTO Annual Reports 2011–2013). The study of tourism at local, regional and global scales emphasises the interconnection within and between places. For example, the interconnections of climate, landforms and culture help determine the characteristics of a place that can prove attractive to tourists. There is an interconnection between places tourists originate from and their destinations through the development of communication and transport infrastructure, employment, together with cultural preservation and acculturation. The growth of tourism at all scales requires careful management to ensure environmentally sustainable and economically viable tourism.</td>
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<tr>
<td>Unit 3</td>
<td><strong>Changing the Land</strong>&lt;br&gt;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. Students investigate the distribution and causes of these three processes. They select one location for each of the three processes to develop a greater understanding of the changes to land cover produced by these processes, the impacts of these changes and responses to these changes at different scales. At a local scale students investigate land use change using appropriate fieldwork techniques and secondary sources. They investigate the scale of change, the reasons for change and the impacts of change.</td>
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<tr>
<td>Unit 4</td>
<td><strong>Human population – trends &amp; issues</strong>&lt;br&gt;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. The growth of the world’s population from 2.5 billion in 1950 to over 7 billion since 2010 has been on a scale without parallel in human history. Much of the current growth is occurring within developing countries while the populations in many developed countries are either growing slowly or are declining. Populations change by growth and decline in fertility and mortality, and by people moving to different places. The Demographic Transition Model and population structure diagrams provide frameworks for investigating the key dynamics of population. Population movements such as voluntary and forced movements over long or short terms add further complexity to population structures and to economic, social, political and environmental conditions. Many factors influence population change, including the impact of government policies, economic conditions, wars and revolution, political boundary changes and hazard events.</td>
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## Humanities Learning Area

### History

**Units 1 – 4**

<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Twentieth Century History (1900-1945)</th>
<th>Students explore the nature of political, social and cultural change in the period between the world wars. Post World War One treaties ushered in a period where the world was, to a large degree, reshaped with new borders, movements, ideologies and power structures. These changes affected developments in Europe, the USA, Asia, Africa and the Middle East. Economic instability caused by the Great Depression also contributed to the development of political movements. Despite ideals about future peace, reflected in the establishment of the League of Nations, the world was again overtaken by war in 1939. The period after World War One was characterised by significant social and cultural change in the contrasting decades of the 1920s and 1930s. For Outcome 1, the student should be able to explain the consequences of the peace treaties which ended World War One, the impact of ideologies on nations and the events that led to World War Two. For Outcome 2, the student should be able to explain patterns of social life and cultural change in one or more contexts, and analyse the factors which influenced changes to social life and culture, in the inter-war years. Assessment over Unit 1 includes research tasks, analysis of primary sources and historical interpretations, and essays.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 2</td>
<td>Twentieth Century History (since 1945)</td>
<td>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. Despite internationalist moves, the second half of the twentieth century was dominated by the competing ideologies of democracy and communism, setting the backdrop for the Cold War. The period also saw challenge and change to the established order in many countries. The continuation of moves towards decolonisation led to independence movements in former colonies in Africa, the Middle East, Asia and the Pacific. New countries were created and independence was achieved through both military and diplomatic means. Old conflicts also continued and terrorism became increasingly global. This period also saw the rise of social movements that challenged existing values and traditions, such as the civil rights movement, feminism and environmental movements. For Outcome 1, the student should be able to explain the ideological divisions in the post-war period and analyse the nature, development and impact of the Cold War on nations and people, in relation to the Vietnam War and the Cuban Missile Crisis. For Outcome 2, the student should be able to explain the causes and nature of challenge and change in relation to the anti-Vietnam peace movement and one other example of challenge, and analyse the consequences for nations and people. Assessment over Units 2 includes research tasks, analysis of primary sources and historical interpretations, and essays.</td>
</tr>
<tr>
<td>Unit 3</td>
<td>The French Revolution</td>
<td>Revolutions are the great, violent clashes of modern times where people join together with the common aim of destroying the regimes and societies that oppress them. Revolutions bring about the political and social transformation of societies, often leading to threats of counter revolution or civil war. The French Revolution in many ways set the foundations for pluralist western society. In seeking to reform their own lives in the 18th century, the French identified and attempted to deal with many issues confronting people today: the rights of the individual, access to education, religious freedom and social responsibility. It is also the story of remarkable times which takes students from the glittering world of Versailles to the terror of the guillotine. Students investigate the ideas, leaders and events that formed the basis of the revolution and issues facing those who attempted to create a new society. Outcomes - On completion of this the student should be able to: Evaluate the origins of the revolution; Evaluate the role of ideas, leaders and movements in the revolution; Analyse the challenges faced by the emerging new order and evaluate the nature of the new society created by the revolution.</td>
</tr>
<tr>
<td>Unit 4 – The Russian Revolution</td>
<td>In our study of the Russian Revolution we will examine the crisis in the old regime and the creation of a new society. This study will include the examination of revolutionary ideas, movements and leaders that were the basis of the revolution, and the issues present in the creation of a new society after the Bolsheviks take over the country. A significant part of the unit will be the examination of how competing interests presented different views of the revolution. Outcomes: On completion of this the student should be able to: Evaluate the origins of the revolution; Evaluate the role of ideas, leaders and movements in the revolution; Analyse challenges faced by the new order and evaluate the nature of the society created by the revolution.</td>
<td></td>
</tr>
</tbody>
</table>
# Humanities Learning Area

## Australian & Global Politics

**Units 1-2**

VCE Australian and Global Politics is the study of contemporary power at both national and global levels. Through this study students explore, explain and evaluate national and global political issues, problems and events, the forces that shape these and responses to them.

VCE Australian and Global Politics offers students the opportunity to engage with key political, social and economic issues, and to become informed citizens, voters and participants in their local, national and international communities.

This course will appeal to students who have an interest in politics and global events and wish to broaden their understanding of current events and international relations.

### Unit 1 - The National Citizen

**What is politics?** In what ways do individuals and groups gain and exercise political power? What are the most significant features of the way politics is practised in Australia? What opportunities exist for younger Australians to participate in the Australian political system?

Students are introduced to politics in a broad sense and the exercise of power as defined by the ability to make decisions and exert influence over individuals and groups. Students explore political power in both formal and non-formal contexts – that is, operating outside the structures and institutions of government and law making. Consideration is given to the main types of political power, and the range of ways in which power can be exercised.

**Assessment**

Assessment is based on a range of tasks including research reports, essays, oral presentations, short answers, case studies, opinion pieces and multimedia presentations as well as an end of semester exams.

### Unit 2 - The Global Citizen

This unit focuses on the contemporary international community. Students examine their place within this community through considering the debate over the existence of the ‘global citizen’. They explore the myriad ways their lives have been affected by the increased interconnectedness of the world through globalisation. Students consider the extent to which an international community exists, and investigate its ability to manage areas of global cooperation and respond to issues of global conflict, crises and instability.

**Assessment**

Assessment is based on a range of tasks including research reports, essays, oral presentations, short answers, case studies, opinion pieces and multimedia presentations as well as an end of semester exams.

### Unit 3 - Global Actors, Issues, Events and Organisations

In this unit students investigate the key actors in twenty-first century global politics. They use contemporary evidence to analyse the effectiveness of key global actors, like the United Nations and the International Criminal Court, including their aims, roles and power.

They develop an understanding of the state through an in-depth examination of the concepts of national interest and power, and the way in which one Asia-Pacific state uses power within the region to achieve its objectives.

Students explore the role and influence of state and non-state actors in the political landscape. The term ‘non-state actors’ covers a range of global actors: altruistic non-governments organisations (NGOs), for example Amnesty International and Greenpeace; organised religions; terrorist movements and organised crime syndicates.

**Assessment**

Assessment is based on a range of school assessed tasks which may include research reports, essays, oral presentations, short answers, case studies, opinion pieces and multimedia presentations as well as an end of semester exams.

Unit 3 will also be assessed by an external exam at the end of the year which will cover both units. School based assessment will be made to mirror the type of assessment which the students will experience in that exam.

### Unit 4 - Global Challenges

In this unit students investigate key global challenges facing the international community in the twenty-first century. They examine and analyse the debates surrounding two ethical issues, which highlight the contested notion of global citizenship. They then evaluate the effectiveness of responses to these issues. Students also explore the context and causes of global crises, and consider the varying effectiveness of responses and challenges to solving them.

**Assessment**

Assessment is based on a range of school assessed tasks which may include research reports, essays, oral presentations, short answers, case studies and multimedia presentations as well as an end of semester exams.

Unit 4 will also be assessed by an external exam at the end of the year which will cover both units. School based assessment will be made to mirror the type of assessment which the students will experience in that exam.

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# Health & Physical Education Learning Area

## Health & Human Development

### Units 1 – 4

<table>
<thead>
<tr>
<th>Unit 1: The health and development of Australia’s youth</th>
<th>In this unit students are introduced to the concepts of health and individual human development. The World Health Organization (WHO) defines health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’ (World Health Organization, 1946). The WHO’s definition is still widely used today, despite the identification of a number of limitations. This unit focuses on the health and individual human development of Australia’s youth. The health status of Australia’s youth is good and continues to improve as demonstrated by reductions in morbidity and mortality from communicable diseases, chronic diseases, suicide, motor vehicle accidents and other injuries. However, Australia’s youth still experience a range of health issues that affect both their immediate and longer term health and individual human development. In this unit students identify issues that have an impact on the health and individual human development of Australia’s youth. Students investigate one health issue in detail and analyse personal, community and government strategies or programs that affect youth health and individual human development.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 2: Individual human development and health issues</td>
<td>This unit focuses on the health and individual human development for the lifespan stages of prenatal, childhood and adulthood. In this unit students identify issues that affect the health and individual human development of Australia’s mothers and babies, children and adults. Students investigate health issues in detail and analyse personal, community and government strategies and programs that affect the health and individual human development of mothers and babies, children and adults.</td>
</tr>
<tr>
<td>Unit 3: Australia’s Health</td>
<td>This unit studies the health of the Australian population. It examines the reasons for the variations in health status between the various population groups in Australian. This unit looks at how the health status of Australians can be measured in many ways, such as consideration of burden of disease, health adjusted life expectancy, disability adjusted life years (DALYs), life expectancy, under-five mortality rate, mortality and morbidity rates, incidence and prevalence of disease. Despite Australia’s good health status, there is still potential for improvements. Students will examine the different approaches that have been adopted in the goal of achieving a standard level of health for all Australians. There is particular focus on The National Health Priority Areas (NHPAs) and their initiative to provide a national approach that aims to improve health status in the areas that contribute most of the burden of disease in Australia. Students will also examine how funding for the Australian health system involves a combination of both government and nongovernment sources. Students will study how government and non-government organisations play an important role in the implementation of a range of initiatives designed to promote health in Australia.</td>
</tr>
<tr>
<td>Unit 4: Global health and human development</td>
<td>This unit takes a global perspective on achieving sustainable improvements in health and human development. In the context of this unit human development is about creating an environment in which people can develop to their full potential and lead productive, creative lives in accord with their needs and interests. In this unit students will examine and analyse strategies and programs which aim to improve the level of human development on a global scale. They will examine the measures that assist and prevent human development (including the Millennium Development Goals). This study will examine the role of the United Nations, The World Health Organisation Ausaid and Non-Government Aid agencies undertaking the challenge of improving human development.</td>
</tr>
</tbody>
</table>

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# Health & Physical Education

## Outdoor & Environmental Studies

### Units 1 – 4

### Unit 1: Exploring Outdoor Experiences

This unit examines the ways in which humans understand and relate to nature through experiences of natural environments. The focus is on the individual and their personal responses to, and experiences of, outdoor environments. Students are provided the opportunity to explore many ways in which nature is understood and perceived. They develop a clear understanding of the range of motivations for interacting with outdoor environments and factors that affect an individual’s access to outdoor experiences and relationships with outdoor environments.

**Areas of study**
- Motivations for outdoor experiences
- Experiencing outdoor environments

### Unit 2: Discovering outdoor environments

This unit focuses on characteristics of outdoor environments and different ways of understanding them, as well as the human impacts on outdoor environments.

In this unit students study nature’s impact on humans, as well as the ecological, social and economic implications of human impact on outdoor environments. Students develop a clear understanding of the impact of technologies and changing human lifestyles on outdoor environments. Students examine a number of case studies of specific outdoor environments, including areas where there is evidence of human intervention. They develop the practical skills required to minimise human impact on outdoor environments. Students are provided with practical experiences as the basis for comparison between outdoor environments and reflections to develop theoretical knowledge about natural environments.

**Areas of study**
- Investigating outdoor environments
- Impacts on outdoor environments

### Unit 3: Relationships with outdoor environments

The focus of this unit is the ecological, historical and social context of relationships between humans and natural environments in Australia. Case studies of impacts on outdoor environments are examined in the context of the changing nature of human relationships with outdoor and environments in Australia.

Students consider a number of factors that influence contemporary relationships with outdoor environments. They also examine the dynamic nature of relationships between humans and their environment. 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 provided with the basis for comparison and reflection, and opportunities to develop theoretical knowledge and skills about specific natural environments.

**Areas of study**
- Historical relationships with outdoor environments
- Contemporary relationships with outdoor environments

### Unit 4: Sustainable outdoor relationships

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 in relation to the capacity of outdoor environments to support the future needs of the world’s human 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 agreements and environmental legislation, as well as management strategies and policies for achieving and maintaining healthy and sustainable environments in contemporary Australian society. 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 provided with the basis for comparison and reflection, and opportunities to develop and apply theoretical knowledge about outdoor environments.

**Areas of study**
- Healthy outdoor environments
- Sustainable outdoor environments
## Health & Physical Education Learning Area

<table>
<thead>
<tr>
<th>Physical Education</th>
<th>Units 1 - 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 1: Bodies in motion</strong></td>
<td>In this unit students explore how the body systems work together to produce movement and analyse this motion using biomechanical principles. Through practical activities students explore the relationships between the body systems and physical activity. They are introduced to the aerobic and anaerobic pathways utilised to provide the muscles with the energy required for movement and the basic characteristics of each pathway. Students apply biomechanical principles to improve and refine movement. They use practical activities to demonstrate biomechanical principles and how the correct application of biomechanics can lead to improved performance in sport and physical activity.</td>
</tr>
<tr>
<td><strong>Areas of study 1</strong></td>
<td>Body systems and human movement</td>
</tr>
<tr>
<td><strong>Body systems and human movement</strong></td>
<td>In this area of study students examine the systems of the human body and how they translate into movement. Through practical activities they explore the major components of the musculoskeletal, cardiovascular and respiratory systems and their contributions and interactions during physical activity. Anaerobic and aerobic pathways are introduced and linked to the types of activities that utilise each of the pathways.</td>
</tr>
<tr>
<td><strong>Areas of study 2</strong></td>
<td>Biomechanical movement principles</td>
</tr>
<tr>
<td><strong>Biomechanical movement principles</strong></td>
<td>In this area of study students examine biomechanical principles underpinning physical activity and sport. Through their involvement in practical activities, students investigate and analyse movements in a variety of activities to develop an understanding of how the correct application of biomechanical principles leads to improved performance.</td>
</tr>
<tr>
<td><strong>Areas of study 3</strong></td>
<td>Two detailed studies are available in Unit 1. One detailed study is to be selected from:</td>
</tr>
<tr>
<td><strong>• Technological advancements from a biomechanical perspective</strong></td>
<td></td>
</tr>
<tr>
<td><strong>• Injury prevention and rehabilitation.</strong></td>
<td></td>
</tr>
</tbody>
</table>

| **Unit 2:** | This unit explores a range of coaching practices and their contribution to effective coaching and improved performance of an athlete. The way in which a coach influences an athlete can have a significant effect on performance. The approach a coach uses, the methods applied and the skills used will have an impact on the degree of improvement experienced by an athlete. By studying various approaches and applying this knowledge to a practical session, students gain a practical insight into coaching. Students are introduced to physical activity and the role it plays in the health and wellbeing of the population. Through a series of practical activities, students gain an appreciation of the level of physical activity required for health benefits and investigate how participation in physical activity varies across the lifespan. They explore a range of factors that influence participation in regular physical activity, and collect data to identify perceived barriers and the ways in which these barriers can be overcome. |
| **Sports coaching and physically active lifestyles** | **Areas of study 1** |
| **Effective coaching practices** | In this area of study students focus on the roles and responsibilities of a coach as well as looking at coaching pathways and accreditation. The effectiveness of a coach may be determined by their style, skills and behaviours. A coach must have an understanding of skill learning practices and interpersonal skills if they are to develop and enhance the performance of athletes. Students apply these skills by coaching a team. |
| **Areas of Study 2** | **Physically active lifestyles** |
| **Physically active lifestyles** | This area of study focuses on the range of physical activity options in the community. Health benefits of participation in regular physical activity and health consequences of physical inactivity and sedentary behaviour are explored at individual and population levels. Students explore the dimensions of the National Physical Activity Guidelines and investigate the current status of physical activity and sedentary behaviour from an Australian perspective. Students investigate factors that facilitate involvement in physical activity and consider barriers to participation for various population groups. Students create and implement a program that encourages compliance with the National Physical Activity Guidelines for a given age group. |
Areas of Study 3
Two detailed studies are available in Unit 2. One detailed study is to be selected from:
• Decision making in sport
• Promoting active living.

Unit 3: Physical activity participation and physiological performance
This unit introduces students to an understanding of physical activity and sedentary behaviour from a participatory and physiological perspective. Students apply various methods to assess physical activity and sedentary levels, and analyse the data in relation to adherence to the National Physical Activity Guidelines. Students study and apply the social-ecological model to identify a range of Australian strategies that are effective in promoting participation in some form of regular activity. Students investigate the contribution of energy systems to performance in physical activity. In particular, they investigate the characteristics of each system and the interplay of the systems during physical activity. Students explore the multi-factorial causes of fatigue and consider different strategies used to delay and manage fatigue and to promote recovery.

Areas of study 1
Monitoring and promotion of physical activity
This area of study uses subjective and objective methods for assessing the student's own and another cohort's physical activity and sedentary levels. Students analyse the advantages and limitations of each of these methods to determine the most appropriate measure for a given setting. Students identify components of the social-ecological model to assist in the critique of government and non-government strategies aimed at increasing physical activity within the population.

Areas of study 2
Physiological responses to physical activity
In this area of study students explore the various systems and mechanisms associated with the energy required for human movement. They consider the cardiovascular, respiratory and muscular systems and the roles of each in supplying oxygen and energy to the working muscles. They examine the way in which energy for activity is produced via the three energy systems and the associated fuels used for activities of varying intensity and duration. Students also consider the many contributing factors to fatigue as well as recovery strategies used to return to pre-exercise conditions. Through practical activities students explore the relationship between the energy systems during physical activity.

Unit 4: Enhancing performance
Improvements in performance, in particular fitness, depend on the ability of the individual or coach to gain, apply and evaluate knowledge and understanding of training. Students undertake an activity analysis. Using the results of the analysis, they then investigate the required fitness components and participate in a training program designed to improve or maintain selected components. Athletes and coaches aim to continually improve and use nutritional, physiological and psychological strategies to gain advantage over the competition. Students learn to critically evaluate different techniques and practices that can be used to enhance performance, and look at the rationale for the banning or inclusion of various practices from sporting competition.

Area of study 1 - Planning, implementing and evaluating a training program
This area of study focuses on the components of fitness and assessment of fitness from a physiological perspective. Students consider the manner in which fitness can be improved by the application of appropriate training principles and methods. Students conduct an activity analysis of an elite athlete to determine the fitness requirements of a selected sport. They participate in fitness testing and an individual training program and evaluate this from a theoretical perspective.

Area of study 2 - Performance enhancement and recovery practices
This area of study explores nutritional, physiological and psychological strategies used to enhance performance. Students examine legal and illegal substances and methods of performance enhancement and develop an understanding of different anti-doping codes. Students consider strategies used to promote recovery, including nutritional, physiological and psychological practices.
## Languages Learning Area

### Chinese
Units 1 – 4

The VCE language course is designed to encourage active usage of the language (Italian &/or Chinese), both written and spoken. The units are arranged in themes and topics of interest and use to students of all backgrounds. Some themes may focus on language usage in areas such as commerce and community services, whereas others may concentrate on exploring social and cultural issues of interest to students and teachers. Students may have a variety of reasons for studying Italian or Chinese. Apart from those studying the language of their background and for future overseas travel, there is an increasing number who see a clear link between the language and possible future career prospects. The theme topics are developed with these reasons in mind.

### Italian
Units 1 – 4

<table>
<thead>
<tr>
<th>Units 1 &amp; 2</th>
<th>There are three prescribed themes: the individual, the ‘target language speaking communities’, community and the changing world. There are three outcomes in Unit 1 and three in Unit 2 each unit comprising of four tasks to be completed for those outcomes. The outcomes comprise of oral components and some of the following discourse forms: article, review, letter, journal entry, personal account, short story.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units 3 &amp; 4</td>
<td>There are three prescribed themes: the individual, the ‘target language speaking communities’, community and the changing world. There are three outcomes in Unit 3 and two for Unit 4. In addition to these outcomes there is an Oral Examination (approximately 15 minutes) and a Written Examination (2 hours including 10 minute reading), both external examinations at the end of the year. School Assessed Coursework for Units 3 and 4 contributes 25% (50% for both units) to the final assessment. The Oral Examination contributes 12.5% to the final assessment. The Written Examination contributes 37.5% to the final assessment.</td>
</tr>
</tbody>
</table>
Mathematics Learning Area

Pathways
The diagram above shows the most common choices and pathways. See your Mathematics teacher or Careers teacher for further advice about alternative pathways.

It is possible for students to enhance tertiary selection by taking particular mathematical studies. Check with your Careers teacher for more information.

Exam 1 for Mathematical Methods (Units 3 & 4) and Specialist Mathematics (Units 3 & 4) is technology-free (no calculators). Exam 2 assumes access and knowledge of appropriate technology.

In all units of mathematics, students will engage in mathematical activities that enable students to:

- Develop mathematical knowledge and skills
- Apply mathematical knowledge to analyse, investigate, model and solve problems in a variety of situations
- Use technology as an effective support for mathematical activity

For each unit of mathematics, students are required to demonstrate achievement of outcomes. These outcomes are as follows:

- Outcome 1: Understanding and application of key concepts
- Outcome 2: Application of processes in non-routine contexts
- Outcome 3: Appropriate selection and effective use of technology

Examples of possible courses are:

- General Mathematics (Units 1 & 2), followed by Further Mathematics (Units 3 & 4)
- General Mathematics (Units 1 & 2) and Mathematics Methods (Units 1 & 2) followed by Further Mathematics (Units 3 & 4) and Mathematics Methods (Units 3 & 4)
- Mathematics Methods (Units 1 & 2) and Specialist Mathematics (1 & 2) followed by Mathematical Methods (Units 3 & 4) and Specialist Mathematics (Units 3 & 4)
- Mathematics Methods (Units 1 & 2) followed by Mathematics Methods (Units 3 & 4) **

** Not a recommended pathway. Preference is that all students taking Mathematical Methods Unit 1 and 2 complete a second Mathematics subject; General Mathematics or Specialist Mathematics, to complement their studies
## Mathematics Learning Area

### General Mathematics

**Units 1 - 2**

General Mathematics will provide necessary preparation for Further Mathematics.

**Units 1 & 2**

Appropriate material will be selected from the following areas of study:
- Arithmetic incorporates matrices and sequences & series
- Data analysis and simulation will include looking at ways to handle univariate data, bivariate data and simulation
- Algebra includes linear relations and equations
- Graphs of linear relations includes skills of sketching, modelling real situations and interpretation
- Decision mathematics covers definitions and application of undirected graphs
- Geometry and trigonometry includes study of shape, measurement, coordinate geometry, trigonometry and geometry.

### Further Mathematics

**Units 3 - 4**

Further Mathematics consists of a compulsory core area of study as well as two application modules.

**Units 3 & 4**

Core study: Data analysis, Recursion and Financial Modelling
Application modules: Geometry and Measurement; Networks and decision mathematics

### Mathematical Methods

**Units 1 – 4**

This course is designed as preparation for Mathematical Methods Units 3 & 4.

It is **essential** that students taking Mathematical Methods possess high level analysis and reasoning skills to confidently cope with the complex demands of this subject.

**Units 1 & 2**

The areas of study are:
- Functions and graphs – looks at a variety of graphs including linear, quadratic, cubic and circles
- Algebra – a study of many algebraic techniques related to the work on functions and graphs
- Rates of change and calculus – introduction to first principles of differentiation and anti-differentiation
- Probability – basic concepts in probability, combinatorics and matrices

**Units 3 & 4**

The areas of study follow directly from Mathematical Methods (Units 1 & 2) and are as follows:
- Functions and Graphs – more graphs are explored including exponential, logarithmic, circular, modulus, hyperbola, truncus, polynomial functions
- Algebra – a brief review of Units 1 & 2, solving exponential and log functions
- Calculus – introduction of product, chain and quotient rules for differentiation, integration techniques and applications of calculus
- Probability and Statistics - focus is on understanding the notion of a random variable, related parameters, properties and application and interpretation in context for different probability distributions
# Mathematics Learning Area

<table>
<thead>
<tr>
<th>Specialist Mathematics</th>
<th>Specialist Mathematics will provide necessary preparation for year 12 Specialist Mathematics (in combination with Mathematical Methods CAS Units 1 to 4).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units 1 &amp; 2</td>
<td>Appropriate material will be selected from the following areas of study:</td>
</tr>
<tr>
<td></td>
<td>- Arithmetic and Number incorporates matrices, work with integer &amp; rational number systems, real &amp; complex number systems, sequences &amp; series</td>
</tr>
<tr>
<td></td>
<td>- Algebra includes linear and non-linear relations and equations, algebra and logic</td>
</tr>
<tr>
<td></td>
<td>- Graphs of linear and non-linear relations includes skills of sketching, modelling real situations and interpretation</td>
</tr>
<tr>
<td></td>
<td>Geometry, measurement and trigonometry includes coordinate geometry, trigonometry, vectors and geometry in two and three dimensions.</td>
</tr>
<tr>
<td>Units 3 &amp; 4</td>
<td>The course content highlights mathematical structure and proof.</td>
</tr>
<tr>
<td></td>
<td>Areas of Study are:</td>
</tr>
<tr>
<td></td>
<td>- Functions, relations and graphs – includes ellipses, hyperbolas in Cartesian and parametric forms</td>
</tr>
<tr>
<td></td>
<td>- Algebra – work covers partial fractions, complex numbers and factorisation over the complex field</td>
</tr>
<tr>
<td></td>
<td>- Calculus – advanced calculus techniques for analytic and numeric differentiation, integration of a broad range of functions and applications in theoretical and practical situations.</td>
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<tr>
<td></td>
<td>- Vectors – covers the arithmetic and algebra of vectors.</td>
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<tr>
<td></td>
<td>- Mechanics covers the introduction to Newtonian mechanics, for both constant and variable acceleration.</td>
</tr>
<tr>
<td></td>
<td>- Probability and Statistics covers statistical inference related to the definition and distribution of sample means, simulations and confidence interval.</td>
</tr>
</tbody>
</table>

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## Performing Arts Learning Area

### Dance

#### Units 1 – 4

The study is designed to develop an appreciation of dance through an exploration of:

- Dance Technique
- Choreography and Performance
- Human Anatomy and Safe Dance Practice
- Dance Perspectives
- Units 1, 2, 3 & 4
- Principles of Choreography
- Technique Solo
- Composition Solo
- Learnt Group Dance
- Applied Anatomy
- Dance History
- Dance Analysis

#### Unit 1

**VCE Dance**

This unit enables students to explore their potential of the body as an instrument of expression. Students learn to apply knowledge of the safe use and care of the body in their development of physical skills and body actions.

#### Unit 2

**VCE Dance**

This unit allows students to expand their dance vocabulary by exploring different ways of executing movement to produce contrasting qualities. Students apply their understanding of the expressive capacity of different movement qualities to the learning, composition and performance of dance works.

#### Unit 3 & 4

**VCE Dance**

In these units students develop and refine compositional skills by exploring ways in which the intention of the dance maker can be expressed through the arrangement of movement within a structure and through the use of spatial organisation and group structures.

**Entry**

It is recommended that students should have at least three to four years dance/movement experience prior to the commencement of VCE Dance. This experience might focus on a specific dance style or could involve development of a personal movement vocabulary.

**Satisfactory Completion**

This is achieved by demonstrating the achievement of the outcomes specified for the unit.

**Levels of Achievement**

<table>
<thead>
<tr>
<th>Units 1 &amp; 2</th>
<th>Graded school assessment tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units 3 &amp; 4</td>
<td>School assessed course work (SAC) and two end of year examinations.</td>
</tr>
</tbody>
</table>

Percentage contributions to a student's marks from different disciplines:

- Units 3 & 4 school assessed course work 25%
- End of year performance examination 50%
- End of year written examination 25%
Performing Arts Learning Area

### Drama

**Units 1 – 4**

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. At the VCE level, Drama studies focus on non-naturalism conventions and devised work. Students analyse the development of their performances and explore the actor–audience relationship, while developing 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 of drama provides students with pathways to further studies in fields such as acting, direction, playwriting, production design, production management and studies in drama criticism.

**Entry**

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

<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Dramatic storytelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>This unit focuses on creating, presenting and analysing a devised performance that includes real or imagined characters and is based on personal, cultural and/or community experiences and stories. This unit involves analysis of a performance by professional drama practitioners.</td>
<td></td>
</tr>
<tr>
<td>Assessment - Satisfactory Completion: Demonstrated achievement of outcomes specified for the unit</td>
<td></td>
</tr>
<tr>
<td>Level of Achievement: Individual school decision</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 2</th>
<th>Non-naturalistic Australian drama</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 analyse their own work as well as the performance of an Australian work by other actors.</td>
<td></td>
</tr>
<tr>
<td>Assessment - Satisfactory Completion: Demonstrated achievement of outcomes specified for the unit</td>
<td></td>
</tr>
<tr>
<td>Level of Achievement: Individual school decision</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 3</th>
<th>Devised non-naturalistic ensemble performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>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. Students analyse a professional performance that incorporates the non-naturalistic performance styles and production elements explored in class.</td>
<td></td>
</tr>
<tr>
<td>Assessment:</td>
<td></td>
</tr>
<tr>
<td>- School assessed course work: 40 per cent</td>
<td></td>
</tr>
<tr>
<td>- End of year performance examination: 35 per cent</td>
<td></td>
</tr>
<tr>
<td>- End of year written examination: 25 per cent</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 4</th>
<th>Non-naturalistic solo performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>This unit focuses on development and presentation of non-naturalistic devised 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. The processes involved in the creation and presentation of characters in solo performance are analysed and evaluated.</td>
<td></td>
</tr>
<tr>
<td>Assessment:</td>
<td></td>
</tr>
<tr>
<td>- School assessed course work: 40 per cent</td>
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</tr>
<tr>
<td>- End of year performance examination: 35 per cent</td>
<td></td>
</tr>
<tr>
<td>- End of year written examination: 25 per cent</td>
<td></td>
</tr>
</tbody>
</table>
## Performing Arts Learning Area

### Music Performance

#### Units 1 – 4

Music Performance Units 1 - 4 develop students’ ability to present performances of music works in group and solo contexts. Students are able to weight their learning towards either group or solo performance in popular or classical music idioms. All students will develop experience in performing music representing a range of styles and diversity of character and learn relevant strategies to build their instrumental or vocal technique to support their performances. They systematically develop skills in aural perception and comprehension, transcription, music theory and music analysis to build an understanding of the works being performed. They also explore relevant performance conventions and approaches to interpretation that can be applied to expressively shape their performances.

#### Unit 1 – Music Performance

This unit focuses on building musicianship, technical and performance skills. Students present performances of selected group and solo music works using one or more instruments. They study the work of performers and explore strategies to optimise their own approach to performance. Students study aural, theory and analysis concepts to develop their musicianship skills and apply this knowledge when preparing and presenting performances.

**Assessment:**
- Area of Study 1 - Performance
- Area of Study 2 – Performance technique
- Area of Study 3 – Musicianship

#### Unit 4 – Music Performance

In this unit, students continue to build their performance and musicianship skills. They study strategies for developing technical and expressive performance skills relevant to group and solo works they are preparing for performance. Students study specific concepts to build their music knowledge and skills and devise an original composition or improvisation.

**Assessment:**
- Area of Study 1 – Performance
- Area of Study 2 – Performance technique
- Area of Study 3 – Musicianship
- Area of Study 4 – Organisation of sound

#### Unit 3 – Music Performance

This unit prepares students to present convincing performances of group or solo works. Students select a program of group or solo works representing a range of styles and diversity of character for performance. Instrumental or vocal techniques are developed to enable students to interpret the works and expressively shape their performances. Students develop skills in performance, aural perception, comprehension, transcription, music theory and analysis.

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

**Performance examination:** Students choose whether they will present their external end-of-year performance examination program as a member of a group OR as a soloist.

**Assessment:**
- Area of Study 1 – Performance
- Area of Study 2 – Performance technique
- Area of Study 3 – Musicianship
- Contribution to final assessment
  - School-Assessed Coursework for Unit 3 will contribute 20 per cent.
  - End-of-year examinations
    - The level of achievement for Unit 3 is also assessed by an end-of-year group OR solo performance examination that contributes 50 per cent, and an end-of-year aural and written examination that contributes 20 per cent.

#### Unit 4 – Music Performance

In this unit, students refine their ability to present convincing performances of group or solo works. Students select group or solo works that complement works selected in Unit 3. They further develop and refine instrumental or vocal 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 and songwriters.

Students continue preparation to complete the end-of-year performance examination as a member of a group OR as a soloist.

**Assessment:**
- Area of Study 1 – Performance
- Area of Study 2 – Performance technique
<table>
<thead>
<tr>
<th>Area of Study 3 – Musicianship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to final assessment</td>
</tr>
<tr>
<td>School-assessed Coursework for Unit 4 will contribute 10 per cent.</td>
</tr>
<tr>
<td>End-of-year examinations</td>
</tr>
<tr>
<td>The level of achievement for Unit 4 is also assessed by an end-of-year group OR solo performance examination that contributes 50 per cent, and an end-of-year aural and written examination that contributes 20 per cent.</td>
</tr>
</tbody>
</table>
### Science Learning Area

In 2016, Year 11 students will embark on new VCE study designs in all science subjects. Current (2015) Year 11 students will remain on the present study design as they are completing units 3 & 4 in 2016.

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<table>
<thead>
<tr>
<th>Biology</th>
<th>Units 1 – 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 1</strong></td>
<td><strong>How Do Living Things Stay Alive?</strong></td>
</tr>
<tr>
<td>How do organisms function?</td>
<td>- In this area of study students examine the structure and functioning of cells and how the plasma membrane contributes to survival by controlling the movement of substances into and out of the cell. Although the internal structure of a cell varies, all cells require a relatively stable internal environment for optimal functioning. Whether life forms are unicellular or multicellular, or heterotrophic or autotrophic, whether they live in a deep ocean trench, a tropical rain forest, an arid desert or on the highest mountain peak, all individual organisms are faced with the challenge of obtaining nutrients and water, exchanging gases, sourcing energy and having a means of removal of waste products. How do living systems sustain life? - In this area of study students examine the structural, physiological and behavioural adaptations of a range of organisms that enable them to survive in a particular habitat and to maintain a viable population size over time. Students consider the distinction between the external and internal environment of an organism and examine how homeostatic mechanisms maintain the internal environment within a narrow range of values for factors including temperature, blood glucose and water balance. They explore the importance and implications of organising and maintaining biodiversity and examine the nature of an ecosystem in terms of the network of relationships within a community of diverse organisms. Students identify a keystone species, explore an organism's relationship to its habitat and evaluate the impact of abiotic factors on the distribution and abundance of organisms within the community. Factors affecting population size and growth are analysed. Practical investigation - Survival requires control and regulation of factors within an and often outside the individual. In this area of study students design and conduct a practical investigation into the survival of an individual or a species. The investigation requires the student to develop a question, plan a course of action 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. The investigation is to be related to knowledge and skills developed in Areas of Study 1 and/or 2 and is conducted by the student through laboratory work, fieldwork and/or observational studies.</td>
</tr>
</tbody>
</table>

| Unit 2 | **How Is Continuity of Life Maintained?** |
| How does reproduction maintain the continuity of life? | - In this area of study students consider the need for the cells of multicellular organisms to multiply for growth, repair and replacement. They examine the main events of the cell cycle in prokaryotic and eukaryotic cells. Students become familiar with the key events in the phases of the cell cycle, and focus on the importance of the processes involved in a cell's preparation for cell division. Students investigate and use visualisations and modelling to describe the characteristics of each of the phases in mitosis. Cytokinesis is explained for both plant and animal cells. Students describe the production of gametes in sexual reproduction through the key events in meiosis and explain the differences between asexual and sexual reproduction in terms of the genetic makeup of daughter cells. Students consider the role and nature of stem cells, their differentiation and the consequences for prenatal development and potential use to treat injury and disease. How is inheritance explained? - In this area of study students build on their understanding of the nature of genes and the use of genetic language to read and interpret patterns of inheritance and predict outcomes of genetic crosses. They gain an understanding that a characteristic or trait can be due solely to one gene and its alleles, or due to many genes acting together, or is the outcome of genes interacting with external environmental or epigenetic factors. Students apply their knowledge to consider social and ethical implications of genetic applications in society including genetic screening and decision making regarding the inheritance of autosomal and sex-linked conditions. |

| 2017 | **Unit 3** |
| How do cells maintain life? |
| How do cellular processes work? | - In this area of study students focus on the cell as a complex chemical system. They examine the chemical nature of the plasma membrane to compare how hydrophilic and hydrophobic substances move across it. They model the formation of DNA and proteins from their respective subunits. The expression of the information encoded in a sequence of DNA to form a protein is explored and the nature of the genetic code outlined. Students use the lac operon to explain prokaryotic gene regulation in terms of the ‘switching on’ and ‘switching off’ of genes. Students learn why the chemistry of the cell usually takes place at relatively low, and within a narrow range of, temperatures. They examine how reactions, including photosynthesis and cellular respiration, are made up of many steps that are controlled by enzymes and assisted by coenzymes. Students explain the mode of action of enzymes and the role of coenzymes in the reactions of the cell and investigate the factors that affect the rate of cellular reactions. How do cells communicate? - In this area of study students focus on how cells receive specific signals that elicit a particular response. Students apply the stimulus-response model to the cell in terms of the types of signals, the position of receptors, and the transduction of the information across the cell to an effector that then initiates a... |
2017
Unit 4
How does life change and respond to challenges over time?

How are species related? - In this area of study students focus on changes to genetic material over time and the evidence for biological evolution. They investigate how changes to genetic material lead to new species through the process of natural selection as a mechanism for evolution. Students examine how evolutionary biology and the relatedness of species is based upon the accumulation of evidence. They learn how interpretations of evidence can change in the light of new evidence as a result of technological advances, particularly in molecular biology. The human fossil record is explored to identify the major biological and cognitive trends that have led to a complex interrelationship between biology and culture.

How do humans impact on biological processes? - In this area of study students examine the impact of human culture and technological applications on biological processes. They apply their knowledge of the structure and function of the DNA molecule to examine how molecular tools and techniques can be used to manipulate the molecule for a particular purpose. Students describe gene technologies used to address human issues and consider their social and ethical implications. Scientific knowledge can both challenge and be challenged by society. Students examine biological challenges that illustrate how the reception of scientific knowledge is influenced by social, economic and cultural factors.

Practical investigation - A student-designed or adapted investigation related to cellular processes and/or biological change and continuity over time is undertaken in either Unit 3 or Unit 4, or across both Units 3 and 4. The investigation is to relate to knowledge and skills developed across Units 3 and 4 and may be undertaken by the student through laboratory work and/or fieldwork. The investigation requires the student to identify an aim, develop a question, formulate a hypothesis and plan a course of action to answer the question and that complies with safety and ethical guidelines. The student then undertakes an experiment that involves the collection of primary qualitative and/or quantitative data, analyses and evaluates the data, identifies limitations of data and methods, links experimental results to science ideas, reaches a conclusion in response to the question and suggests further investigations which may be undertaken. The results of the investigation are presented in a scientific poster format according to the template provided. A practical logbook must be maintained by the student for record, authentication and assessment purposes.

2016
Unit 3
Signatures of life

Signatures of Life: In this area of study, students investigate the activities of cells at a molecular level; the synthesis of biomacromolecules that form components of cells and the role of enzymes in catalysing biochemical processes. Students investigate energy transformations in cells and how autotrophs and heterotrophs obtain their energy requirements, particularly through the processes of photosynthesis and cellular respiration. Students gain an understanding that DNA and proteins are the key molecules of life forms, and that DNA codes for the production of proteins. Students explore applications of molecular biology in medical diagnosis. Students investigate how signalling molecules, such as hormones and neurotransmitters, assist in coordinating and regulating cell activities by binding to specific receptors on membranes of target cells, initiating a series of molecular changes in response. Students examine the barriers and mechanisms that protect organisms from invasion infection by pathogenic organisms.

2016 Unit 4 - Continuity and change

Heredity: This study focuses on molecular genetics and the investigation not only of individual units of inheritance, but also of the genomes of individuals and species. Students investigate inheritance in asexually reproducing organisms and the mechanism and patterns of transmission of heritable traits in sexually reproducing organisms. Students examine the process of meiosis in terms of inputs and outputs and, in accounting for variations in offspring, consider the interplay between genotype and environmental factors, the significance of mutations in DNA and the relationship between alleles. Students investigate the techniques and technologies that are used to amplify DNA, identify the genetic profile of organisms and manipulate and modify the genomes of organisms.

Change over Time: This area of study focuses on change to genetic material that occurs over time and the changing nature and reliability of evidence that supports the concept of evolution of life forms. Students investigate how species evolve and examine the process of natural selection as a mechanism for evolution. Students examine how evolutionary biology has been based upon changes in evidence obtained by accumulation of information over time, changes in interpretation and more recently from molecular biology. Students investigate technological advances that have increased understanding of evolutionary processes and phylogenetic relationships. Students consider how the interaction between human, cultural and technological evolution may have affected evolutionary processes. They also look at how applying selective breeding and gene technologies to develop traits in species for particular purposes may affect evolutionary processes in the future. Students consider the application of gene technologies to genetic screening and profiling of individuals, and gene therapies that affect gene lines, and the bioethical, environmental and legal issues raised.
## Science Learning Area

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Students that choose to do chemistry will learn how the world works on an atomic level. The subject will be useful for students considering a career in the fields of Chemical Engineering, Medicine, Pharmacy, Physiotherapy, Dentistry, Bio science and Science. Note that the above list is only a sample of career's that use Chemistry.

<table>
<thead>
<tr>
<th>Chemistry Units 1 – 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2016 Unit 1</strong></td>
</tr>
<tr>
<td>How can the diversity of materials be explained?</td>
</tr>
<tr>
<td>In unit 1 we will be building up a strong foundation of basic chemistry knowledge to prepare the students in their future studies of chemistry. The following subjects will be undertaken in the first semester.</td>
</tr>
<tr>
<td><strong>Areas of study</strong></td>
</tr>
<tr>
<td>- Elements and the periodic table</td>
</tr>
<tr>
<td>- Bonding types (Metallic, ionic, covalent)</td>
</tr>
<tr>
<td>- Organic chemistry including polymers</td>
</tr>
<tr>
<td>- Introduction of the Mole.</td>
</tr>
<tr>
<td>On the completion of the unit students should have a strong basic understanding on how atoms interact with their surroundings and students will take this knowledge and build on it further in upcoming units.</td>
</tr>
</tbody>
</table>

| **2016 Unit 2** |
| What makes water such a unique chemical? |
| Water has amazing properties and is an important factor for life on earth. We use water every day for a variety of application. In this unit we are introduced to many scientific concepts that will help explain water’s unique properties why it’s an amazing solvent. |
| **Areas of study** |
| - Properties of water |
| - Water as a solvent |
| - Acid – base reactions in water |
| - Redox reactions in water |
| - Water sample analysis |
| - Measurement of solubility and concentration |
| - Analysis for salts, organic compounds, acids & bases in water. |

| **2017 Unit 3 – How can chemical processes be designed to optimise efficiency?** |
| Students must have completed units 1 and 2 to be able to undertake unit 3 with confidence. In this unit students explore energy options and the chemical production of materials with reference to efficiencies, renewability and the minimization of their impact on the environment. |
| **Areas of study** |
| - Obtaining energy from fuels |
| - Fuel choices – the comparison between fossil fuels and biofuels |
| - Galvanic cells as a source of energy |
| - Fuel cells as a source of energy |
| - Rate of chemical reactions |
| - Extent of chemical reactions |
| - Production of chemicals by electrolysis |
| - Rechargeable batteries |

| **2017 Unit 4 – How are organic compounds categorised, analysed and used?** |
| In this unit 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 will also be studying the major components of food with reference to their structures, properties and functions. |
Areas of study
- Structure and naming of organic compounds
- Categories, properties and reactions of organic compounds
- Analysis of organic compounds
- Key food molecules
- Metabolism of food in the human body
- Energy content of food

2016 Unit 3
Chemical Pathways

In this unit students investigate the scope of techniques available to the analytical chemist. Chemical analysis is vital in the work of the forensic scientist, the quality control chemist at a food manufacturing plant, the geologist in the field, and the environmental chemist monitoring the health of a waterway.

Each technique of analysis depends on a particular property or reaction of the chemical being investigated. Consequently, an understanding of the chemistry is necessary in learning how and why the techniques work. Some techniques of analysis have been refined over many years to make them quicker and more accurate. Other techniques are now used in combination to provide higher and more reliable levels of accuracy, for example gas chromatography and mass spectrometry.

Students investigate organic reaction pathways and the chemistry of particular organic molecules. A detailed knowledge of the structure and bonding of organic chemicals is important to the work of the synthetic organic chemist. Synthesis of new medicines is one of the growth industries for the coming decades. Students investigate the role of organic molecules in the generation of biochemical fuels.

Students use the language and symbols of chemistry, and chemical formulas and equations to explain observations and data collected from experiments.

2016 Unit 4
Chemistry at work

In this unit students investigate the industrial production of chemicals and the energy changes associated with chemical reactions.

Chemical reactions produce a diverse range of products we use and depend on every day. Access to large quantities of raw materials and reliable energy supplies for these reactions is necessary to maintain continuous production of high quality useful chemicals. Features that affect chemical reactions such as the rate and yield or equilibrium position are investigated. Students explore how an understanding of these features is used to obtain optimum conditions in the industrial production of a selected chemical.

Our society uses a range of energy sources, including coal to generate electricity and gas for heating, oil for transport, and solar and wind for small and large scale production of electricity. Students investigate the renewability of a range of energy sources and consider their energy efficiencies.

Galvanic cells and electrolytic cells operate by transforming chemical and electrical energy. Students investigate their operating principles, both in the laboratory and in important commercial and industrial applications including fuel cells. These cells are used in smaller appliances such as mobile phones, CD players, personal computers, and in larger scale systems such as cars and motor bikes, and in the production of chemicals.

Students continue to use the language and symbols of chemistry, and chemical formulas and equations to explain observations and data collected from experiments.
Science Learning Area

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We study Physics to help us to make sense of the everyday world around us - whether we are trying to understand what causes a rainbow, the dangers of wind chill factor or the inner workings of a nuclear reactor. We develop the principles of physics by exploring real situations and completing practical investigations.

### Physics

**Units 1 – 4**

<table>
<thead>
<tr>
<th>Year 2016</th>
<th>In this unit students undertake a range of experiments and study theoretical concepts from such topics as:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 1</strong></td>
<td></td>
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</tbody>
</table>

  - How can thermal effects be explained? 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. They analyse the strengths and limitations of the collection and interpretation of thermal data in order to consider debates related to climate science.  
  
  - How do electric circuits work? Modelling is a useful tool in developing concepts that explain physical phenomena that cannot be directly observed. In this area of study students develop conceptual models to 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 apply and critically assess mathematical models during experimental investigations of DC circuits.  
  
  - What is matter and how is it formed? 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. |

<table>
<thead>
<tr>
<th>Year 2016 - Unit 2</th>
<th>In this unit students undertake a range of experiments and study theoretical concepts from such topics as:</th>
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</thead>
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</table>

  - How can motion be described and explained? 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. Students model how the mass of finite objects can be considered to be at a point called the centre of mass. They describe and analyse graphically, numerically and algebraically the motion of an object, using specific physics terminology and conventions.  
  
  - Detailed Study: Choice of one of 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?  
  
  - Practical Investigation: 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. The student designs and undertakes an investigation involving two independent variables one of which should be a continuous variable. A practical logbook must be maintained by the student for recording, authentication and assessment purposes. |

| Year 2017 | The aims of Unit 3 are to develop an understanding of motion, gravity and structures and materials; explain things using physics; understand the technological and social applications of physics; develop the practical skills of scientific investigation and develop the ability to communicate about physics.  
Students will study:  
How do things move without contact? Students examine the similarities and differences between three fields: gravitational, electric and magnetic. Field models are used to explain the motion of objects when there is no apparent contact. Students explore how positions in fields determine the potential energy of an object and the force on an object. They investigate how concepts related to field models can be applied to construct motors, maintain |
<table>
<thead>
<tr>
<th>Year</th>
<th>Unit</th>
<th>Aims</th>
<th>Study Topics</th>
</tr>
</thead>
</table>
| 2016 | Unit 4 | To develop an understanding of the physics involved in electric power and electronics; explain things using physics; understand the technological and social applications of physics; develop practical skills of scientific investigation and develop the ability to communicate about physics. | - Electric power - The generation, transmission and distribution of electric power.  
- Interactions of light and matter - A study of the nature of light - is it a wave or a particle? |
| 2016 | Unit 3 | To develop an understanding of motion, gravity and structures and materials; explain things using physics; understand the technological and social applications of physics; develop the practical skills of scientific investigation and develop the ability to communicate about physics. | - Electronics and photonics – the study of electronic devices and the use of light in communication technology.  
- Motion - Extend the study of motion made in Units 1 and 2 into two-dimensional motions such as-circular motion, projectile motion and collisions between bodies.  
- Structure and materials - A study of how the strength and stability of a structure depends on the arrangements and strength of the materials of which it is made. |
| 2017 | Unit 4 | The aims of Unit 4 are to develop an understanding of the physics involved in electric power and electronics; explain things using physics; understand the technological and social applications of physics; develop practical skills of scientific investigation and develop the ability to communicate about physics. | How are fields used to move electrical energy? The production, distribution and use of electricity has had a major impact on human lifestyles. In this area of study students use empirical evidence and models of electric, magnetic and electromagnetic effects to explain how electricity is produced and delivered to homes. They explore magnetic fields and the transformer as critical to the performance of electrical distribution systems.  
How fast can things go? Students use Newton’s laws of motion to analyse relative motion, circular motion and projectile motion. Newton’s laws of motion give important insights into a range of motion both on Earth and beyond. At very high speeds, however, these laws are insufficient to model motion and Einstein’s theory of special relativity provides a better model. Students compare Newton’s and Einstein’s explanations of motion and evaluate the circumstances in which they can be applied. They explore the relationships between force, energy and mass.  
How can waves explain the behaviour of light? Students use evidence from experiments to explore wave concepts in a variety of applications. Wave theory has been used to describe transfers of energy, and is important in explaining phenomena including reflection, refraction, interference and polarisation. Do waves need a medium in order to propagate and, if so, what is the medium? Students investigate the properties of mechanical waves and examine the evidence suggesting that light is a wave. They apply quantitative models to explore how light changes direction, including reflection, refraction, colour dispersion and polarisation.  
How are light and matter similar? Students explore the design of major experiments that have led to the development of theories to describe the most fundamental aspects of the physical world – light and matter.  
Practical investigation: The investigation requires the student to develop a question, formulate a hypothesis and plan a course of action to answer the question and that complies with safety and ethical guidelines. Students then undertake an experiment that involves the collection of primary quantitative data, analyse and evaluate the data, identify limitations of data and methods, link experimental results to science ideas, reach a conclusion in response to the question and suggest further investigations that may be undertaken. The student is expected to design and undertake an investigation involving two continuous independent variables. Results are communicated in a scientific poster format. A practical logbook must be maintained by the student for record, authentication and assessment purposes. |
## Science Learning Area

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### Psychology

**Units 1 – 4**

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit</th>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Unit 1</td>
<td>How are behaviour and mental processes shaped?</td>
<td>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. How does the brain function? Advances in brain research methods have led to new ways of understanding the relationship between the mind, brain and behaviour. In this area of study students examine how our understanding of brain structure and function has changed over time and how the brain enables us to interact with the external world around us. They analyse the roles of specific areas of the brain and the interactions between different areas of the brain that enable complex cognitive tasks to be performed. Students explore how brain plasticity and brain damage can affect a person’s functioning. Lifespan Psychology looks at the way that we change over time. From a tiny baby to retirement, we change constantly over time. Our moral choices change, our ability to understand the world and relationships with others change. How does how we develop during childhood affect who we become. Student-directed research investigation. Students apply and extend their knowledge and skills, to investigate a question related to brain function and/or psychological development.</td>
</tr>
<tr>
<td>2016</td>
<td>Unit 2</td>
<td>How do external factors influence behaviour and mental processes?</td>
<td>What influences a person’s perception of the world? Human perception of internal and external stimuli is influenced by a variety of biological, psychological and social factors. In this area of study students explore two aspects of human perception – vision and taste – and analyse the relationship between sensation and perception of stimuli. They consider how biological, psychological and social factors can influence a person’s perception of visual and taste stimuli, and explore circumstances where perceptual distortions of vision and taste may occur. How are people influenced to behave in particular ways? A person’s social cognition and behaviour influence the way they view themselves and the way they relate to others. In this area of study students explore the interplay of biological, psychological and social factors that shape the behaviour of individuals and groups. They consider how these factors can be used to explain the cause and dynamics of particular individual and group behaviours, including attitude formation, prejudice, discrimination, helping behaviour and bullying. Students examine the findings of classical and contemporary research as a way of theorising and explaining individual and group behaviour. Student-directed practical investigation. On completion of this unit the student should be able to design and undertake a practical investigation related to external influences on behaviour, and draw conclusions based on evidence from collected data.</td>
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<td>2017</td>
<td>Unit 3: How does experience affect behaviour and mental processes?</td>
<td>How does the nervous system enable psychological functioning? Students explore the role of different branches of the nervous system in enabling a person to integrate, coordinate and respond to internal and external sensory stimuli. They explore the specialised structures and functioning of neurons that allow the nervous system to transmit neural information. Students evaluate how biological, psychological and social factors can influence a person’s nervous system functioning. In particular, they consider the ways in which stress can affect the mind and body, the role that the nervous system plays in these processes and how stress can be managed. How do people learn and remember? Memory and learning are core components of human identity: they connect past experiences to the present and shape futures by enabling adaption to daily changes in the environment. In this area of study students study the neural basis of memory and learning and examine factors that influence the learning of new behaviours and the storage and retention of information in memory. They consider the influence of biological, psychological and social factors on the fallibility of memory.</td>
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<td>2017</td>
<td>Unit 4: How is wellbeing developed and maintained?</td>
<td>How do levels of consciousness affect mental processes and behaviour? Differences in levels of awareness of sensations, thoughts and surroundings influence individuals’ interactions with their environment and with other people. In this area of study students focus on states of consciousness and the relationship between consciousness and thoughts, feelings and behaviours. They explore the different ways in which consciousness can be studied from physiological and psychological perspectives and how states of consciousness can be altered. Students consider the nature and importance of sleep and apply biological, psychological and social factors to analyse the effects of sleep disturbances on psychological functioning, including</td>
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mood, cognition and behaviour.

What influences mental wellbeing? In this area of study, students examine what it means to be mentally healthy. They explore the concept of a mental health continuum and factors that explain how location on the continuum for an individual may vary over time. Students apply a biopsychosocial approach to analyse mental health and mental disorder, and evaluate the roles of predisposing, precipitating, perpetuating and protective factors in contributing to a person's mental state. Specific phobia is used to illustrate how a biopsychosocial approach can be used to explain how biological, psychological and social factors are involved in the development and management of a mental disorder. Students explore the concepts of resilience and coping and investigate the psychological basis of strategies that contribute to mental wellbeing.

Practical investigation. A student-designed or adapted practical investigation related to mental processes and psychological functioning

| 2016 Unit 3 | This unit focuses on the study of the relationship between the brain and the mind through examining the basis of consciousness, behaviour, cognition and memory. It is undertaken through the related areas of study:
Mind, brain and body: Why do I think and feel the way I do? How does my brain work? What is the relationship between my brain and my mind? What happens when I sleep? Students will look at the relationship between the brain, states of consciousness, and behaviour.
Memory: Why do I remember some things and forget others? How are memories formed? Can I improve my memory? Memory is essential to our identity: it connects our past experiences to the present and shapes our future. Students will look at theories that explain the neural basis of memory and factors that affect its retention. They will also evaluate the effectiveness of techniques for improving and manipulating memory. |
| 2016 Unit 4 | In this unit, students study the interrelationship between learning, the brain and its response to experiences and behaviour.
Learning: How do we learn? Why do some people learn faster than others? How important are the roles models in shaping behaviour? Students will learn about the neural basis of learning, and compare and contrast different theories of learning and their applications.
Mental Health: What does mental health mean? How can 'normality' be defined? Is feeling stressed 'normal'? How can mental wellbeing be enhanced? Students will differentiate between mental health and mental illness and use a bio-psychosocial framework to explain the causes and management of stress. Simple phobias, schizophrenia, depression and pathological gambling are possible studies in this unit. |
Vocational Education & Training (VET)

What is VET?
Vocational Education and Training (VET) are programs undertaken by students as part of their senior secondary certificate. These programs provide credit towards a nationally recognised VET qualification within the Australian Qualifications Framework. The training that students receive reflects specific industry competency standards and is delivered by a Registered Training Organisation or a school in partnership with a RTO.

Subjects
For a list of available subjects, please refer to the NMVC 2016 handbook.

Features of VET
VET programs are done part time over 2 year. They enable students to complete a vocational qualification and a senior secondary certificate such as VCE or VCAL at the same time. VET can assist students with pathways to employment or further education and training at TAFE. VET focuses on students developing industry specific and workplace skills, designed to meet the basic needs of industry. A VET in Schools course usually comprises of Units of Competency delivered by a Registered Training Organisation (RTO or TAFE) at a student's school or at a school close by.

1. Structured Workplace Learning (SWL)
Structured workplace learning (SWL) a component of most VCE/VET programs. SWL compliments the training undertaken at the school/provider and should be spread across the duration of the training program. It provides context for: enhancement of skills development, practical application of industry knowledge, assessment of units of competency/modules, as determined by the registered training organisation (RTO) and increased employment opportunities. SWL involves an employer accepting a student on a “one day” a week or as a 5 – 10 day block. Structured Workplace Learning is an essential part of VET and is highly recommended. For some VET courses it is compulsory.

2. Contribution to VCE and VCAL
VCE/VET programs with a study score can contribute directly to the ATAR score as one of a student’s primary four scaled studies or as a 5th or 6th study. Students who undertake Vocational Education and Training (VET) or Further Education (FE) qualifications that are not included in the suite of approved VCE VET programs and School-based Apprenticeships and Traineeships may be eligible for credit towards their VCE. This credit is called Block Credit Recognition. VET contributes to a successful completion, for VCAL Industry Specific Skills and Work Related Skills Strands.

VET Program Costs
VET programs are subject to fees. The fees vary in amount course to course according to the materials required to complete the program. VET course materials fees generally cover: trade materials, books and some equipment. It is preferable that VET fees are paid by the end of February 2016 and before the first VASS enrolment date.

VET opportunities
VET provides an opportunity for students to explore possible areas of interest which promote further study and work choices. It allows students to develop links with industry and the local community employers, whereby students may be offered part time/casual work, through completion of SWL. VET can improve employment prospects and help students to gain knowledge of employers’ expectations and real working conditions. VET can assists in a student’s transition from school to Further Education and Training and employment.

VET - Language, Literacy and Numeracy support
Students requiring additional assistance to achieve successful outcomes in their VET programs need to indicate this on the VET application form. Arrangements can be made between the Home and Host Schools regarding the level of support required. Any formal assessment will be undertaken by the Home School prior to the completion of the VET application form.

Northern Melbourne VET Cluster (NMVC) & the Inner Melbourne VET Cluster (IMVC).
BSC is a member of both the Northern Melbourne VET Cluster (NMVC) & the Inner Melbourne VET Cluster (IMVC).

Students considering a VET course as part of their senior education, will receive a VET Course handbook at the Brunswick Secondary College VCE/VCAL/VET information evenings. The handbook contains details about VET courses and the application process. Information about VET Orientation sessions, usually held at the VET Host Schools, will be provided to students who have applied for VET courses at the end of Term 3 and in early Term 4.

VET Timetabling
Students doing VCE (Year 11) must select a course that is on a Wednesday afternoon. VCAL students are able to attend VET courses on Wednesday morning or afternoon.

VCE students doing VET are signed out to attend VET, usually 1 hour and 15 minutes, prior to their VET class starting time.

Please note that where a VET program clashes with a VCE subject on the student’s timetable, changes will need to be made to the subject or VET course choice, to resolve the clash.

Students are requested to indicate their interest in doing a VET course, by completing an application form provided at the Year 11 Information evening. If you have any questions about VET, please contact the VET & Pathways Coordinator cowcher.catherine.c@edumail.vic.gov.au