Good Shepherd College
Year 11/12 Subject Selection Guide
A Message from the Principal

Welcome to the VCE Curriculum Handbook for 2017. In this handbook you will find valuable information related to our VCE and VET studies for students in Years 11 and 12. It is vital that students carefully consider their future ambitions, goals and pathways when making subject choices and this handbook assists them in so doing.

At Good Shepherd College, we strive for students to achieve their personal best in education. We encourage students to grow their capabilities and endeavour to teach subjects which are rigorous, while at the same time providing students with the necessary skills to meet the challenges in post-secondary study and the workforce.

We offer a variety of subject choices at VCE level, and believe that our college provides individualised and personal tuition for every student. We have developed partnerships with a range of educational providers both locally and state-wide to ensure that each student has the greatest opportunity to begin their desired post-secondary pathway.

I recommend all senior students take the time to carefully consider the subjects that will best prepare them for the journey beyond school. Importantly, this is a time where parents are encouraged to be deeply involved in the decision making process and should likewise develop an understanding of the programs offered here at Good Shepherd College. Throughout these deliberations, I also encourage students to consider those subjects in which they are interested. Subjects that you love, enjoy, feel challenged by and that will give the best possible opportunities for success in your VCE program.

As you move through the subject selection process I encourage you to talk with each other and our staff to gain their advice and wisdom. Learning has, and will continue to be, most effective when there are open and clear channels of communication between school and home.

There are an array of options available to students in the senior school and we have a proud history of being able to meet the individual needs of student pathways. As we strive to maintain this partnership I encourage you to do likewise and join us on this, the next journey in your child’s education, towards a future of lifelong learning.

Shane Jurecky
Principal
Subject Selection

Whilst the prospect of subject selection can cause some anxiety for students and parents, it is important to maintain a sense of perspective. Decisions made during this time should not be seen as career defining or channelling, life changing or character forming. Inappropriate subject selection could result in some frustration or short-term inconvenience. However, there are many pathways to achieving personal goals and parents and students are encouraged to maintain an open mind to future possibilities and consider all the advice and options given in this book and by teachers.

Whilst the formal requirements for tertiary course selection should not be the only element of a student’s choice of studies in Years 11 and 12, careful consideration of the implication of their study choices are needed.

In choosing studies for 2017, current Years 10 and 11 students should consider the following:

- **Personal Interest/Ability**
  Simply put, choosing subjects you enjoy (or believe you will enjoy) and are good at. It is likely that these will be the VCE students that will bring not only personal satisfaction and involvement, but also your best results. They will also help you stay motivated.

- **Prerequisite Studies**
  Prerequisites are subjects that must be completed at VCE level in order to gain direct entry into some university courses. Prerequisites for courses are listed in VICTER. Usually these subjects must be completed at Unis 3 and 4 level, but sometimes they are required only at Units 1 and 2 level. Prerequisites can be listed as specific studies or as a range of studies from which students can choose. Students who are unsure of what they wish to do post-school should choose a broad range of subjects to keep options open. Typically, this should include at least one mathematics subject at least one science.

- **Teacher Advice**
  Your subject teacher has a good idea of your ability and commitment in their subject and you should discuss your plans with them. Any recommendations they make should be carefully considered. You should also make sure you consult your parents, the VCE Coordinator and Principal. You need to be aware of all the implications of study choices.

- **Tertiary Entrance Requirements**
  The minimum requirement for completing the VCE is not sufficient for tertiary selection. To be eligible for entry into a tertiary institution must have:
  - Satisfactorily completed the VCE
  - Satisfactorily completed a Unit 3 and 4 English subject
  - The correct prerequisites to the prescribed standard
  - Completed enough assessment to attain an ATAR
  - Fulfilled any extra requirements such as attending interviews, pre-selection kit, preparing a folia or attending pre-selection tests

Throughout the process of selecting VCE subject’s students should make extensive use of the resources available from the Distance Education Co-ordinator and in the Senior Study Centre. Attendance at Open Days and Careers Expo’s will also help students become aware of their options.

Tertiary study is only one option open to students when they leave school and alternative pathways can be just as challenging and rewarding. Please speak to the Principal for further advice on these options.
Subject Selection – Things to Avoid

- Do not choose subjects because of friends or who you think may be teaching it.
  
  Staffing changes from year to year. Your relationships with friends and teachers also change. Choosing subjects based on this is not recommended.

- Choosing subjects because they ‘scale’ up.
  
  VTAC adjusts the Study Score for each study to take account of how strong the students were in the study and how difficult it was to achieve the middle ranking. The strength of competition in each study is measured by how well the students performed in all their other subjects.

  In each study, the Study Scores are adjusted so that the overall level of scores in that study matches the scores obtained by the same group of students in all of their other studies.

  However, in essence: a bad score in a difficult subject is unlikely to scale higher than a good score in an easier subject.

  More information on scaling and how Study Scores are calculated can be found on the VCAA website.

Subject Selection Process

In July current Year 10 and 11 parents will receive information about the subject selection process. Please read this handbook carefully before making your subject choices for 2017. If students or parents have questions regarding subject selection, please see the VCE Coordinator or the Principal. Specific subject questions should be directed to the relevant teaching staff.

Once the subject selections close the information is used to generate a set of subject blocks designed to satisfy as many students’ preferences as possible.

When selecting subjects, students should do so under the premise that they will study the subjects for the entire year. Continuity and stability during the VCE is vital and changing a course mid-year is sometimes very difficult and can cause significant impact on a student’s overall program, goals and ATAR.

It is inevitable that some student subject combinations will not be able to be scheduled or some subjects originally offered will not run. In such cases, students may have to make a decision between two subjects that are blocked together, or choose an alternative. At times, this hurdle may be overcome by undertaking a subject via Distance Education.

If students are not able to take all preferred subjects, they are encouraged to speak to the Careers Adviser or Principal if they are worried about how this might impact their future options. In almost all cases, alternative pathways can be found.

Students wishing to enrol in a Vocational Education and Training (VET) Program, either on-campus or off-campus, will need to submit a VET Application Form and should select a reserve VCE preference in case their application is not approved.
Timeline for 2017 Subject Selections

Information for current Year 10 and 11 students.

<table>
<thead>
<tr>
<th>Term 3</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Tuesday 12th July</td>
<td>Copies of the Year 11/12 VCE Curriculum Handbook 2017 distributed to students. Preference Sheets will be available for students to complete.</td>
</tr>
<tr>
<td>Week 2</td>
<td>Wednesday 20th July (7.00pm)</td>
<td>Year 9-12 Subject Selection Information Evening (Music Room). Preference Sheets will be available for students to complete.</td>
</tr>
<tr>
<td></td>
<td>Friday 22nd July (4.00pm)</td>
<td>All Preference Sheets will need to be submitted to the senior campus Front Office by 4.00pm. No Preference Sheets will be accepted beyond the time.</td>
</tr>
<tr>
<td>Week 3</td>
<td>Wednesday 27th July</td>
<td>Subject Selection forms will be sent home with the suggested elective lines. Students are asked to complete this form and return it to the Front Office.</td>
</tr>
<tr>
<td>Week 4</td>
<td>Friday 5th August (4.00pm)</td>
<td>All Subject Selection forms will need to be completed and returned to the senior campus Front Office by 4.00pm</td>
</tr>
<tr>
<td>Week 5</td>
<td>Monday 8th August</td>
<td>Year 10 into Year 11 and Year 11 into Year 12 interviews commence for VET, VCE extension and alternative pathways.</td>
</tr>
<tr>
<td>Week 10</td>
<td>Monday 12th September</td>
<td>Students will receive confirmation of their subjects for 2017 from the college.</td>
</tr>
</tbody>
</table>
Victorian Certificate of Education (VCE)

The VCE is a common credential for students completing their secondary education. It is coordinated by the Victorian Curriculum Assessment Authority (VCAA). Subjects have been organised into “studies” of four semester units. Units 1 and 2 are equivalent to Year 11 subjects. Units 3 and 4 are equivalent to Year 12 subjects. Units 3 and 4 must be studied as a sequential pair.

A unit is equivalent to a minimum of 50 hours of scheduled classroom instruction over one semester. The VCE curriculum offered at Good Shepherd in 2017 can be completed as a combination of face-to-face offerings and online (Distance Education)/external offering, including the following units of study:

### Face to Face Options
- English Units 1-4 (compulsory)
- Mathematics: General Units 1-2 (compulsory Year 11)
- Mathematics: Further Units 3-4 (compulsory Year 12)
- Biology Units 1-4
- Chemistry Units 1-4

### Online (Distance Education) Options
- Literature Units 1-4
- Philosophy Units 1-4
- Accounting Units 1-4
- Physics Units 1-4
- Geography Units 1-4
- History Units 1-4

### Vocational Education and Training Options
- Certificate II and III - Agriculture
- Certificate II and III – Building and Construction
- Certificate II - Hair and Beauty
- Certificate II and III - Sport and Recreation
- Certificate II and III - Business

- Psychology Units 1-4
- Media Units 1-4
- Chemistry Units 1-4
- Classical Studies Units 1-4
- Business Management Units 1-4
- Maths Methods Units 1-4

VET certificates are also available, both on and off campus, and they too contribute to the VCE.

- Certificate II and III - Education Support
- Certificate III – Tourism
- Certificate II and III in Screen and Media
- Certificate II – Automotive
- Certificate II and III - Hospitality

### Satisfactory Completion of VCE

To qualify for the award of the VCE, students must satisfactorily complete at least 16 units of study, including:
- Three units of English
- A total of at least four sequences of 3 and 4 level units (English or equivalent is mandatory)

<table>
<thead>
<tr>
<th>English – Unit 1</th>
<th>Subject 1 – Unit 1</th>
<th>Subject 2 – Unit 1</th>
<th>Subject 3 – Unit 1</th>
<th>Subject 4 – Unit 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>English – Unit 2</td>
<td>Subject 1 – Unit 2</td>
<td>Subject 2 – Unit 2</td>
<td>Subject 3 – Unit 2</td>
<td>Subject 4 – Unit 2</td>
</tr>
<tr>
<td>English – Unit 3</td>
<td>Subject 1 – Unit 3</td>
<td>Subject 2 – Unit 3</td>
<td>Subject 3 – Unit 3</td>
<td>Subject 4 – Unit 3</td>
</tr>
<tr>
<td>English – Unit 4</td>
<td>Subject 1 – Unit 4</td>
<td>Subject 2 – Unit 4</td>
<td>Subject 3 – Unit 4</td>
<td>Subject 4 – Unit 4</td>
</tr>
</tbody>
</table>

Satisfactory completion of each unit is based on achievement of learning outcomes defined in the official VCAA Study Design. These outcomes including both knowledge and skills.
Study Score

For each student the Victorian Curriculum Assessment Authority calculate a Study Score for each Unit 3/4 VCE study sequence which has been satisfactorily completed and for which the student has received grades for the coursework and examination/s. The Study Score is a score on a scale of 0 to 50 showing the students’ achievement relative to that of all other students doing a particular study. The Study Scores are normalised to a mean of 30 and a standard deviation of seven. Scores of 23 to 37 indicate that the student is in the middle range. A score above 37 is evidence that the student is in the top 15% of students taking the study. The following table shows the approximate proportion of students who will achieve a Study Score higher than the stated values.

<table>
<thead>
<tr>
<th>Study Score (Relative Position)</th>
<th>Percentage of students above this position (approximate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>2</td>
</tr>
<tr>
<td>40</td>
<td>9</td>
</tr>
<tr>
<td>35</td>
<td>24</td>
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<tr>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>76</td>
</tr>
<tr>
<td>20</td>
<td>92</td>
</tr>
</tbody>
</table>

This table summarises that internal and external assessment that contributes to a Study Score

<table>
<thead>
<tr>
<th>Subject</th>
<th>School Assessment</th>
<th>External Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Further Mathematics</td>
<td>Unit 3 Coursework</td>
<td>Written Examination 1</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>Written Examination 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.5 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.5 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33%</td>
</tr>
<tr>
<td>Biology</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2.5 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>1.5 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>34%</td>
</tr>
<tr>
<td>Health and Human Development</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Food Studies</td>
<td>Unit 3/4 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>School Assessed Task</td>
<td>1.5 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>Accounting</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Literature</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>History</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Physics</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2.5 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2.5 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>Psychology</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>Media</td>
<td>Unit 3/4 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>School Assessed Task</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45%</td>
</tr>
<tr>
<td>Classical Studies</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Business Management</td>
<td>Unit 3 Coursework</td>
<td>Written Examination</td>
</tr>
<tr>
<td></td>
<td>Unit 4 coursework</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50%</td>
</tr>
</tbody>
</table>
Vocation Education and Training (VET)

VET is a program that allows students to include vocational studies within their VCE. These vocational studies (VET) may be in the area of a student’s interest or passion.

VET subjects have equal status in the VCE with all other VCE subjects. A VET subject may offer scored assessment in the form of a written examination and provide a Study Score (selected programs only – referred to as VCE VET)

Alternatively, a Block Credit Recognition of 10% increment towards the ATAR may be awarded, where a student has 5 or less other VCE or VCE VET Unit 3/4 studies.

VET offers students the opportunity to:
  - Combine academic and vocational studies
  - Explore career options and pathways
  - Undertake learning in the workplace
  - Undertake practical learning in an adult learning environment
  - Gain a nationally recognised qualification, which contributes to completion of VCE
  - Develop skills which will equip them for the workforce

VET subjects conducted off-campus may require students to travel independently from their home school to the host school or venue for weekly classes.

It is a requirement of some VET courses that students participate in Structured Workplace Learning. This must be aligned to the course being studied and may have to be undertaken in the student’s own time. Competency in a VET subject is based on successfully completing units of work and a set number of hours. On completion of the VET course a stand-alone, industry recognised certificate, or Statement of Attainment (accredited Australia wide) is awarded to the student.

Fees

Additional fees apply to VET courses. The College will generally subsidise 50% of these fees for students, the remaining 50% is payable in addition to our tuition fees.

Students are expected to pay for their own tools, protective clothing and equipment.

Fees incurred are different for each course and change from year-to-year. For further information regarding external VET fees, please speak to the Principal.

VET Courses

Students wishing to undertake a VET program must complete the VET Application Form and arrange to attend an interview with the Principal. Only College-endorsed VET Programs will be considered. If unsure whether a program is endorsed, see the Principal. Due to timetabling and subject constraints students are discouraged from cancelling or changing VET programs why have enrolled in off campus. Students must arrange to attend an interview with the Principal prior to making any changes to their VET subjects.

Courses available may include Hair and Beauty, Allied Health, Building, IT, Children’s Services, Agriculture, Engineering Studies and others.

School-Based Apprenticeships

School Based Apprenticeships (Traineeships) are becoming an important part of the curriculum for Year 10, 11 and 12 students. Some example of School Based Apprenticeships may include:
  - Hospitality
  - Allied Health
  - Building and Construction
  - Agriculture
VCE SUBJECTS
Accounting
Unit 1: Establishing and operating a service business

Areas of Study
Going into business - In this area of study students investigate the reasons for establishing a small business, factors that lead to success or failure, sources of finance and how pre-operational decisions are made.

Recording financial data and reporting accounting information - In this area of study students investigate the role of accounting in the generation of financial data and accounting information for the owner of a service business. The focus is on the recording of financial data and the reporting of accounting information using a single entry recording system.

Outcomes
On completion of this unit the student should be able to:
- Describe the resources required, and explain and discuss the knowledge and skills necessary, to set up a small business.
- Identify and record the financial data, and report and explain accounting information, for a sole proprietor of a service business.

Prerequisites
Nil

Where this study might lead
Many students who study VCE Accounting will go on to further studies and careers in business and finance.

Accounting
Unit 2: Accounting for a trading business

Areas of Study
Recording financial data and reporting accounting information - In this area of study students record financial data and report accounting information for a single activity sole trader using the single entry accounting system.

ICT in accounting - In this area of study students develop an understanding of the role of ICT in the accounting process. Students use a commercial accounting software package to record financial data and report accounting information for a single activity sole trader, and to demonstrate their understanding of the importance of ICT in the accounting process.

Evaluation of business performance - This area of study focuses on an evaluation of the performance of a business using particular criteria such as stock and debtors. Based on this information, students discuss strategies that may improve business performance.

Outcomes
On completion of this unit the student should be able to:
- Record financial data and report accounting information for a sole trader.
- Record financial data and report accounting information for a single activity sole trader using a commercial accounting software package, and discuss the use of ICT in the accounting process.
- Select and use financial and non-financial information to evaluate the performance of a business and discuss strategies that may improve business performance.

Prerequisites
Nil
Accounting  
Unit 3: Recording and reporting for a trading business  

Areas of Study  
Recording financial data - This area of study focuses on identifying and recording financial data for a single activity sole trader. Students record data using double entry accounting to provide the owner with accounting information, enabling the owner to make informed decisions about the operation of the business.  
Balance day adjustments and reporting and interpreting accounting information - Students complete the accounting processes required at balance day and apply the accrual method of accounting in the preparation of accounting reports. They identify the differences between cash and profit and explain the implications of these differences when using reports to make decisions.  

Outcomes  
On completion of this unit the student should be able to:  
- Record financial data for a single activity sole trader using a double entry system, and discuss the function of various aspects of this accounting system.  
- Record balance day adjustments and prepare and interpret accounting reports.  

Prerequisites  
Nil  

Where this study might lead  
Many students who study VCE Accounting will go on to further studies and careers in business and finance.  

Accounting  
Unit 4: Control and analysis of business performance  

Areas of Study  
Extension of recording and reporting - Students collect, measure, process and communicate financial data and accounting information using double entry accounting and an accrual-based reporting system. Students explore alternative depreciation methods in the recording and reporting process.  
Financial planning and decision making - Students focus on preparing budgeted accounting reports and analysing financial and nonfinancial information for a single activity sole trader. Students evaluate this information and suggest strategies to the owner on how to improve the performance of the business.  

Outcomes  
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.  
- 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.  

Prerequisites  
Students must undertake Unit 3 prior to undertaking Unit 4.
Agricultural and Horticultural Studies
Unit 1: Agricultural and horticultural operations

Areas of Study
Influences on agricultural and horticultural systems - This area of study focuses on the components that constitute Australian agricultural and horticultural systems. These components include the biological aspects: varieties/breeds, structure, function and growth of plants and animals; physical aspects: soils, water, climate and weather, infrastructure, inputs and outputs; and human resources. Students learn how these components influence the type of agricultural and/or horticultural enterprises undertaken in their local area.

Agricultural and horticultural operations - In this area of study students plan and conduct a small business project involving the monitoring and care of living plants or animals. Students develop a detailed business and operational plan for the small business project. As part of the planning and implementation of the business, students consider the viability of a business opportunity and the requirements for the production of plants and/or animals. Students consider the financial aspects and use tools, equipment and production skills. They record production data and evaluate the progress of the business.

Outcomes
On completion of this unit the student should be able to:
- Describe a range of biological, physical and human resources and their influence on agricultural and/or horticultural systems in the local area, and explain the importance of the application of scientific principles in production.
- Plan, implement and evaluate management and production activities to operate a small agricultural and/or a horticultural business project involving the care and monitoring of living plants or animals.

Prerequisites
Nil

Where this study might lead
The broad applied nature of the study of agribusiness operations prepares students to make decisions about career opportunities or further studies in agriculture, horticulture, land management, agricultural business practice and natural resource management. It complements the skills focus of competency based training available through VET certificates in Agriculture, Horticulture and Conservation and Land Management.

Agricultural and Horticultural Studies
Unit 2: Production

Areas of Study
Biological and environmental factors - This area of study focuses on nutrition, reproduction and genetics in plants and animals, and how these relate to agricultural and horticultural systems. Students consider the influence of biological factors, such as disease causing organisms and pests which increase or decrease production, along with the impacts of climate extremes such as frost or wind chill. Students develop an understanding of the role of scientific research to improve efficiency of plant and/or animal production.

Production systems and processes - In this area of study students explore the role of agricultural and horticultural businesses in adding value to primary products. The student’s small agricultural and/or horticultural business project is used to investigate and report on factors related to production processes, risk management and marketing. Students consider sustainable production and marketing processes, and how they contribute to the value of a product and are influenced by and have an impact upon the environment in which they operate.

Outcomes
On completion of this unit the student should be able to:
- Describe the nutritive and reproductive processes of plants and animals, their application to agricultural and/or horticultural production systems, and specific biological and environmental factors that influence production systems.
- Plan, implement, monitor and evaluate the production processes and marketing for a small agricultural and/or horticultural business project, demonstrating how the business adds value to the product and manages risk.

Prerequisites
Nil
Agricultural and Horticultural Studies
Unit 3: Technology, innovation and business practices

Areas of Study

Current management techniques - In this area of study students explore the technologies and management techniques used by commercial agricultural and/or horticultural businesses. They investigate techniques used by business operators to modify specific aspects of plant and/or animal growing environments including climate, soil/growing media and topography. Students explore how land and water resources are managed.

New or emerging technology - In this area of study, students focus on new or emerging technology. They assess the impact of innovative developments in areas selected from biotechnology, biological control, reproduction manipulation, genetic manipulation, plant or animal breeding, alternative energy sources, chemical pest or disease control, resource management methods, information and communications innovation, Global Positioning System (GPS) technology, precision agriculture/horticulture, radiation usage, alternative materials and environment or system modelling.

Business design - In this area of study each student designs a small business project including aspects of production, marketing and financial planning, for a small commercial agricultural and/or horticultural business. Students consider production strategies for local, national and global markets.

Outcomes
On completion of this unit the student should be able to:

- Analyse and evaluate a range of technologies commonly used in agricultural and/or horticultural businesses, and explain the reasons for the selection and application of technology for a specific business.
- Describe and analyse a range of new or emerging technologies, and evaluate the likely impact of a selected innovation on the sustainability of a specific agricultural and/or horticultural business.
- Design, implement and report on progress of a small commercial agricultural and/or horticultural business that involves the management and care of living plants or animals.

Prerequisites
Nil

Where this study might lead
The broad applied nature of the study of agribusiness operations prepares students to make decisions about career opportunities or further studies in agriculture, horticulture, land management, agricultural business practice and natural resource management. It complements the skills focus of competency based training available through VET certificates in Agriculture, Horticulture and Conservation and Land Management.

Agricultural and Horticultural Studies
Unit 4: Sustainable management

Areas of Study

Sustainability in agriculture and horticulture - In this area of study students focus on concepts of environmental sustainability and how they relate to productivity. Students learn that the ability to identify, rectify and prevent environmental degradation is intrinsic to sustainable practice, and involves an understanding of how ecological and production management practices work together to create sustainable businesses. Students consider the effects of climate change and the need to adapt management techniques in response to these effects.

Resource management and maintenance - In this area of study students consider sustainable resource management practices within agricultural and/or horticultural systems. Students examine case studies that explore economic, social and environmental resources, concepts and strategies that apply to agricultural and/or horticultural businesses. Students learn about the development of a property management plan.

Business plan implementation and evaluation - In this area of study students continue to operate their small business project. They continue to monitor progress, modify operations as required, and record the production skills used in management of the small business. Students evaluate the performance of the business against its business plan and make recommendations to improve the sustainability of the business.

Outcomes
On completion of this unit the student should be able to:

- Explain and evaluate sustainable resource management practices within agriculture and/or horticulture, and analyse adaptations in response to climate change.
- Apply and analyse management techniques that promote the economic, social and environmental sustainability of agricultural and/or horticultural businesses.
- Monitor the progress of, and complete the operation of, a small business project, and evaluate and report on its operation and outcomes in relation to the business plan, and its adherence to sustainability concepts.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Biology
Unit 1: How do living things stay alive?

Areas of Study
How do organisms function? - 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.

How do living systems sustain life? - In this area of study students examine the structural, physiological and behavioural adaptations of a range of organisms. 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. They explore the importance and implications of organising and maintaining biodiversity and examine the nature of an ecosystem. 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.

Practical investigation - 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.

Outcomes
On completion of this unit the student should be able to:
- Investigate and explain how cellular structures and systems function to sustain life.
- Explain how various adaptations enhance the survival of an individual organism, investigate the relationships between organisms that form a living community and their habitat, and analyse the impacts of factors that affect population growth.
- Design and undertake an investigation related to the survival of an organism or species, and draw conclusions based on evidence from collected data.

Prerequisites
Nil

Where this study may lead
VCE Biology provides for continuing study pathways within the discipline and leads to a range of careers. Branches of biology include botany, genetics, immunology, microbiology, pharmacology and zoology. In addition, biology is applied in many fields of endeavour including biotechnology, dentistry, ecology, education, food science, forestry, health care, horticulture, medicine, optometry, physiotherapy and veterinary science.

Biology
Unit 2: How is continuity of life maintained?

Areas of Study
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. 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. 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 human prenatal development and their 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.

Investigation of an issue - The increasing uses and applications of genetics knowledge and reproductive science in society both provide benefits for individuals and populations and raise social, economic, legal and ethical questions. Human cloning, genetic modification of organisms, the use of forensic DNA databanks, assisted reproductive technologies and prenatal and predictive genetic testing challenge social and ethical norms. In this area of study students investigate an issue involving reproduction and/or inheritance.

Outcomes
On completion of this unit the student should be able to:
- Compare the advantages and disadvantages of asexual and sexual reproduction, explain how changes within the cell cycle may have an impact on cellular or tissue system function and identify the role of stem cells in cell growth and cell differentiation and in medical therapies.
- Apply an understanding of genetics to describe patterns of inheritance, analyse pedigree charts, predict outcomes of genetic crosses and identify the implications of the uses of genetic screening and decision making related to inheritance.
- Investigate and communicate a substantiated response to a question related to an issue in genetics and/or reproductive science.

Prerequisites
Nil
In addition, biology is applied in many fields of endeavour including biotechnology, dentistry, ecology, education, food science, forestry, health care, horticulture, medicine, optometry, physiotherapy and veterinary science.

**Areas of Study**

**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. 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 response. Students examine unique molecules called antigens and how they elicit an immune response, the nature of immunity and the role of vaccinations in providing immunity.

**Outcomes**

On completion of this unit the student should be able to:
- Explain the dynamic nature of the cell in terms of key cellular processes including regulation, photosynthesis and cellular respiration, and analyse factors that affect the rate of biochemical reactions.
- Apply a stimulus-response model to explain how cells communicate with each other, outline human responses to invading pathogens, distinguish between the different ways that immunity may be acquired, and explain how malfunctions of the immune system cause disease.

**Prerequisites**

Students entering Unit 3 without Units 1 and/or 2 may be required to undertake additional preparation as prescribed by their teacher.

**Where this study may lead**

VCE Biology provides for continuing study pathways within the discipline and leads to a range of careers. Branches of biology include botany, genetics, immunology, microbiology, pharmacology and zoology. In addition, biology is applied in many fields of endeavour including biotechnology, dentistry, ecology, education, food science, forestry, health care, horticulture, medicine, optometry, physiotherapy and veterinary science.

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**Areas of Study**

**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.

**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.

**Practical investigation** - Students design or adapt an investigation related to cellular processes. 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.

**Outcomes**

On completion of this unit the student should be able to:
- Analyse evidence for evolutionary change, explain how relatedness between species is determined, and elaborate on the consequences of biological change in human evolution.
- Describe how tools and techniques can be used to manipulate DNA, explain how biological knowledge is applied to biotechnical applications, and analyse the interrelationship between scientific knowledge and its applications in society.
- Design and undertake an investigation related to cellular processes and/or biological change and continuity over time, and present methodologies, findings and conclusions in a scientific poster.

**Prerequisites**

Students must undertake Unit 3 prior to undertaking Unit 4.
Business Management  
Unit 1: Planning a business

**Areas of Study**

**The business idea** - In this area of study students investigate how business ideas are created and how conditions can be fostered for new business ideas to emerge. Students explore some of the issues that need to be considered before a business can be established.

**External environment** - Students consider factors from the external environment such as legal, political, social, economic, technological, global and corporate social responsibility factors and the effects these may have on the decisions made when planning a business. Students investigate how the internal environment relates to the external environment and the effects of this relationship on planning a business.

**Internal environment** - Students explore the factors within the internal environment and consider how planning decisions may have an effect on the ultimate success of a business.

**Outcomes**

On completion of this unit the student should be able to:
- Describe how and why business ideas are created and developed, and explain the methods by which a culture of business innovation and entrepreneurship may be fostered in a nation.
- Describe the external environment of a business and explain how the macro and operating factors within it may affect business planning.
- Describe the internal business environment and analyse how factors from within it may affect business planning.

**Prerequisites**

Nil

**Where this study may lead**

The study of Business Management leads to opportunities across all facets of the business and management field such as small business owner, project manager, human resource manager, operations manager or executive manager. Further study can lead to specialisation in areas such as marketing, public relations and event management.

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Business Management  
Unit 2: Establishing a business

**Areas of Study**

**Legal requirements and financial considerations** - In this area of study students are introduced to the legal requirements and financial considerations that are vital to establishing a business. They also consider the implications for the business if these requirements are not met.

**Marketing a business** - In this area of study students develop their understanding that marketing encompasses a wide range of management practices, from identifying the needs of the target market and establishing a brand presence, through to considerations on price, product features and packaging, promotion, place, people, physical evidence and processes. They also consider effective public relations strategies and the benefits and costs these can bring to a business.

**Staffing a business** - In this area of study students examine the staffing requirements that will meet the needs and objectives of the business and contribute to productivity and effectiveness. They research the processes undertaken by the business with relation to the recruitment, selection and induction of staff. Students consider the opportunities that the skills and capabilities of staff can contribute to the business, the legal obligations that must be addressed and the relationship between employers and employees within a business.

**Outcomes**

On completion of this unit the student should be able to:
- Explain the importance when establishing a business of complying with legal requirements and financial record keeping, and establishing effective policies and procedures.
- Explain the importance of establishing a customer base and a marketing presence to achieve the objectives of the business, analyse effective marketing and public relations strategies and apply these strategies to business-related case studies.
- Discuss the staffing needs for a business and evaluate the benefits and limitations of management strategies in this area from both an employer and an employee perspective.

**Prerequisites**

Nil
Business Management
Unit 3: Managing a business

Areas of Study
Business foundations - This area of study introduces students to the key characteristics of businesses and their stakeholders. Students investigate potential conflicts between and the different demands of stakeholders on a business. They examine a range of management styles and management skills that may be used when managing a business and apply these to contemporary business case studies.

Managing employees - In this area of study students investigate essential factors such as motivation and training involved in effectively managing employees during their time at a business to ensure the business objectives are achieved. Using theories and motivation strategies, students propose and justify possible solutions to employee management in contemporary business case studies. Students gain an overview of workplace relations, including the main participants and their roles in the dispute resolution process.

Operations management - In this area of study students examine operations management and consider the best and most responsible use of available resources for the production of a quality final good or service in a competitive, global environment.

Outcomes
On completion of this unit the student should be able to:

- Discuss the key characteristics of businesses and stakeholders, and analyse the relationship between corporate culture, management styles and management skills.
- Explain theories of motivation and apply them to a range of contexts, and analyse and evaluate strategies related to the management of employees.
- Analyse the relationship between business objectives and operations management, and propose and evaluate strategies to improve the efficiency and effectiveness of business operations.

Prerequisites
Nil

Where this study may lead
The study of Business Management leads to opportunities across all facets of the business and management field such as small business owner, project manager, human resource manager, operations manager or executive manager. Further study can lead to specialisation in areas such as marketing, public relations and event management.

Business Management
Unit 4: Transforming a business

Areas of Study
Reviewing performance – the need for change - In this area of study students develop their understanding of the need for change. Students investigate the ways a business can search for new business opportunities as a source of future business growth and consider current forces for change on a business.

Implementing change - In this area of study students explore how businesses respond to evaluation data. Students consider the importance of leadership in change management, how leaders can inspire change and the effect change can have on the stakeholders in a business. Students evaluate business practice against theory, considering how corporate social responsibility can be incorporated into the change process.

Outcomes
On completion of this unit the student should be able to:

- Explain the way business change may come about, use key performance indicators to analyse the performance of a business, discuss the driving and restraining forces for change and evaluate management strategies to position a business for the future.
- Evaluate the effectiveness of a variety of strategies used by managers to implement change and discuss the effect of change on the stakeholders of a business.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Chemistry
Unit 1: How can the diversity of materials be explained?

Areas of Study
How can knowledge of elements explain the properties of matter? - In this area of study students focus on the nature of chemical elements, their atomic structure and their place in the periodic table. Students examine the periodic table as a unifying framework into which elements are placed based upon similarities in their electronic configurations. Students investigate the nature of metals and their properties, including metallic nanomaterials.

How can the versatility of non-metals be explained? - In this area of study students explore a wide range of substances and materials made from non-metals including molecular substances, covalent lattices, carbon nanomaterials, organic compounds and polymers. Students investigate the relationship between the electronic configurations of non-metallic atoms and the resultant structures and properties of a range of molecular substances and covalent lattices. Students study a variety of organic compounds and how they are grouped into distinct chemical families.

Research investigation - In this area of study students investigate a selected question related to materials. They apply critical and creative thinking skills, science inquiry skills and communication skills to conduct and present the findings of an independent investigation into one aspect of the discoveries and research that have underpinned the development, use and modification of useful materials or chemicals.

Outcomes
On completion of this unit the student should be able to:
- Relate the position of elements in the periodic table to their properties, investigate the structures and properties of metals and ionic compounds, and calculate mole quantities.
- Investigate and explain the properties of carbon lattices and molecular substances with reference to their structures and bonding, use systematic nomenclature to name organic compounds, and explain how polymers can be designed for a purpose.
- Investigate a question related to the development, use and/or modification of a selected material or chemical and communicate a substantiated response to the question.

Prerequisites
Nil

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

Chemistry
Unit 2: What makes water such a unique chemical?

Areas of Study
How do substances interact with water? - In this area of study students focus on the properties of water and the reactions that take place in water including acid-base and redox reactions. Students relate the properties of water to the water molecule’s structure, polarity and bonding. Students investigate issues associated with the solubility of substances in water. Students compare acids with bases and learn to distinguish between acid strength and acid concentration.

How are substances in water measured and analysed? - In this area of study students focus on the use of analytical techniques, both in the laboratory and in the field, to measure the solubility and concentrations of solutes in water, and to analyse water samples for various solutes including chemical contaminants. Instrumental techniques include the use of colorimetry and/or UV-visible spectroscopy to estimate the concentrations of coloured species in solution, atomic absorption spectroscopy data to determine the concentration of metal ions in solution and high performance liquid chromatography data to calculate the concentration of organic compounds in solution.

Practical investigation - In this area of study students design and conduct a practical investigation into an aspect of water quality. 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.

Outcomes
On completion of this unit the student should be able to:
- Relate the properties of water to its structure and bonding, and explain the importance of the properties and reactions of water in selected contexts.
- Measure amounts of dissolved substances in water and analyse water samples for salts, organic compounds and acids and bases.
- Design and undertake a quantitative laboratory investigation related to water quality, and draw conclusions based on evidence from collected data.

Prerequisites
Nil
Chemistry
Unit 3: How can chemical processes be designed to optimise efficiency?

Areas of Study
What are the options for energy production? - In this area of study students focus on analysing and comparing a range of energy resources and technologies, including fossil fuels, biofuels, galvanic cells and fuel cells, with reference to the energy transformations and chemical reactions involved, energy efficiencies, environmental impacts and potential applications.

How can the yield of a chemical product be optimised? - In this area of study students explore the factors that increase the efficiency and percentage yield of a chemical manufacturing process while reducing the energy demand and associated costs. Students represent the establishment of equilibrium and the effect of changes to an equilibrium system using concentration-time graphs. Students investigate a range of electrolytic cells with reference to their basic design features and purpose, their operating principles and the energy transformations that occur.

Outcomes
On completion of this unit the student should be able to:
- Compare fuels quantitatively with reference to combustion products and energy outputs, apply knowledge of the electrochemical series to design, construct and test galvanic cells, and evaluate energy resources based on energy efficiency, renewability and environmental impact.
- Apply rate and equilibrium principles to predict how the rate and extent of reactions can be optimised, and explain how electrolysis is involved in the production of chemicals and in the recharging of batteries.

Prerequisites
Students entering Unit 3 without Units 1 and/or 2 may be required to undertake additional preparation as prescribed by their teacher.

Where this study may lead
VCE Chemistry provides for continuing study pathways within the discipline and leads to a range of careers. Branches of chemistry include organic chemistry, inorganic chemistry, analytical chemistry, physical chemistry and biochemistry. In addition, chemistry is applied in many fields of endeavour including agriculture, bushfire research, dentistry, dietetics, education, engineering, environmental sciences, forensic science, forestry, horticulture, medicine, metallurgy, meteorology, pharmacy, sports science, toxicology, veterinary science and viticulture.

Chemistry
Unit 4: How are organic compounds categorised, analysed and used?

Areas of Study
How can the diversity of carbon compounds be explained and categorised? - In this area of study students explore why such a vast range of carbon compounds is possible. They examine the structural features of members of several homologous series of compounds, including some of the simpler structural isomers, and learn how they are represented and named. Students learn to deduce or confirm the structure and identity of organic compounds by interpreting data from mass spectrometry, infrared spectroscopy and proton and carbon-13 nuclear magnetic resonance spectroscopy.

What is the chemistry of food? - In this area of study students explore the importance of food from a chemical perspective. Students examine the hydrolysis reactions in which foods are broken down, the condensation reactions in which new biomolecules are formed and the role of enzymes, assisted by coenzymes, in the metabolism of food.

Practical investigation - Students design or adapt a practical investigation related to energy and/or food. 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 requirements. 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.

Outcomes
On completion of this unit the student should be able to:
- Compare the general structures and reactions of the major organic families of compounds, deduce structures of organic compounds using instrumental analysis data, and design reaction pathways for the synthesis of organic molecules.
- Distinguish between the chemical structures of key food molecules, analyse the chemical reactions involved in the metabolism of the major components of food including the role of enzymes, and calculate the energy content of food using calorimetry.
- Design and undertake a practical investigation related to energy and/or food, and present methodologies, findings and conclusions in a scientific poster.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Classical Studies
Unit 1: Mythical worlds

Areas of Study
Heroes and monsters - In this area of study, students explore myth in ancient Greece and/or ancient Rome. Students explore quest narratives in Greek and/or Roman myth. They examine the characteristics, content and function of these stories. Students study conventions governing the communication of myth including the oral tradition.

Myth and archaeology - This area of study traces the search for evidence related to selected myths from the classical world. Students follow the history of archaeology in the Mediterranean Basin, from the early period of treasure hunting to the beginnings of modern archaeology in the nineteenth century, to the archaeological record that is accepted today.

Myths in art and literature - Students explore the ways in which myths are represented in classical works. Students also investigate the social and artistic contexts of these works. They examine ways in which myths were perpetuated in ancient Greece and Rome such as through festivals, religious rituals, art and architecture.

Outcomes
On completion of this unit the student should be able to:
- Explain the nature of myth in ancient Greece and/or Rome.
- Explain the relationship between myth and archaeology
- Recognise and discuss the representation of a Greek and/or Roman myth.

Prerequisites
Nil

Where this study may lead
VCE Classical Studies is a multidisciplinary study. Students develop skills in textual and art analysis, constructing arguments, challenging assumptions and thinking creatively. These skills are valuable for further study and work as they are readily transferable across a range of disciplines.

Classical Studies
Unit 2: Classical imaginations

Areas of Study
Society through culture - In this area of study, students examine classical Greece and/or Rome through the exploration of a classical work or works. Students analyse classical works by examining the techniques used by writers and artists to express their ideas.

Classics through time - In this area of study, students explore the ways in which classical works are reference points for later ages to aspire to or react against. Students investigate how powerful ideas presented in classical works have ensured the lasting relevance of ancient Greek and Roman culture. They also consider how classical narratives and forms are evident in contemporary popular culture.

Outcomes
On completion of this unit the student should be able to:
- Analyse the ways in which a classical work or classical works present aspects of classical Greek and/or Roman society.
- Discuss the relationship between classical works and a work from a later period.

Prerequisites
Nil
Classical Studies
Units 3 and 4: Classical worlds

Areas of Study
Individual study - Students analyse the ways in which classical artists and writers use techniques to express ideas. Through this type of close analysis students develop an understanding of ways in which knowledge is produced in Classical Studies. They are able to evaluate the importance of sections of a classical work to the work as a whole, or, in the case of art/architecture, of the artwork to its form. Students appreciate that the classical literature they are reading is in translation.

Comparative study - Comparison of classical works enables students to understand the socio-historical contexts in which they were produced. Exploring classical works from different periods highlights the ways in which ideas and societies change over the course of time. Students consider that form of a classical work and how this shapes the meaning of the work.

Outcomes
On completion of this unit the student should be able to:

- Analyse the ideas and techniques of a classical work and discuss the relationship of the work to its socio-historical context.
- Compare the ideas and techniques in two classical works and discuss the relationships of these works to their socio-historical contexts.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.

Where this study may lead
VCE Classical Studies is a multidisciplinary study. Students develop skills in textual and art analysis, constructing arguments, challenging assumptions and thinking creatively. These skills are valuable for further study and work as they are readily transferable across a range of disciplines.
English
Unit 1

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. 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 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.

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 explore the use of language for persuasive effect and the structure and presentation of argument. In considering the presentation of arguments in oral form, students also learn about the conventions of oral communication for persuasive purposes. 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.

Outcomes
On completion of this unit the student should be able to:
- Produce analytical and creative responses to texts.
- Analyse how argument and persuasive language can be used to position audiences, and create their own texts intended to position audiences.

Prerequisites
Nil

Where this study may lead
English helps equip students for participation in a democratic society and the global community.

English
Unit 2

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. Students explore how features of texts convey ideas, issues and themes that reflect the world and human experiences. 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 use the features of written analysis and textual evidence soundly and appropriately, dealing in detail with the ideas encountered in the texts.

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. 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 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.

Outcomes
On completion of this unit the student should be able to:
- Compare the presentation of ideas, issues and themes in two texts.
- Identify and analyse how argument and persuasive language are used in text/s that attempt to influence an audience, and create a text which presents a point of view.

Prerequisites
Nil
English
Unit 3

Areas of Study
Reading and creating texts - In this area of study students identify, discuss and analyse how the features of selected texts create meaning and how they influence interpretation. In identifying and analysing explicit and implied ideas and values in texts. Students prepare sustained analytical interpretations of selected texts, discussing how features of the texts create meaning. Students present sustained creative responses to selected texts, demonstrating their understanding of the world of the texts and how texts construct meaning.

Analysing argument - In this area of study students analyse and compare the use of argument and language in texts that debate a topical issue. Considering information about the purpose, audience and context of a text, students explore the argument of a persuasive piece. Students develop written and spoken critical analyses of the use of argument and language in written, spoken, and/or multimodal texts. They compare different written texts presenting argument on similar ideas or issues, considering different ways authors use language to express arguments.

Outcomes
On completion of this unit the student should be able to:
- Produce an analytical interpretation of a selected text, and a creative response to a different selected text.
- Analyse and compare the use of argument and persuasive language in texts that present a point of view on an issue currently debated in the media.

Prerequisites
Nil

Where this study may lead
English helps equip students for participation in a democratic society and the global community.

English
Unit 4

Areas of Study
Reading and comparing texts - In this area of study students explore the meaningful connections between two texts. By comparing the texts, they gain a deeper understanding of the ideas, issues and themes that reflect the world and human experiences. Through discussion and preparatory drafting, they compare in detail the ideas encountered in the texts and the features of the texts on which the comparison is based. They apply the conventions of written analysis and textual evidence.

Presenting argument - In this area of study students build their understanding of both the analysis and construction of texts that attempt to influence audiences. Students use their understanding of argument and language as the basis for the development of an oral presentation of their points of view. Students consider how oral conventions may be used to influence the audience. Students develop, test and practise argument, critically analysing their own developing text. Students reflect on their intentions in positioning the reader and consider how their use of language expresses their argument.

Outcomes
On completion of this unit the student should be able to:
- Produce a detailed comparison which analyses how two selected texts present ideas, issues and themes.
- Construct a sustained and reasoned point of view on an issue currently debated in the media.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Food Studies
Unit 1: Food Origins

Areas of Study
Food around the world - In this area of study students explore the origins and cultural roles of food, from early civilisations through to today’s industrialised and global world. Through an overview of the earliest food production regions and systems, students gain an understanding of the natural resources, climatic influences and social circumstances that have led to global variety in food commodities, cuisines and cultures. The practical component explores the use of ingredients available today that were used in earlier cultures.

Food in Australia - In this area of study students focus on the history and culture of food in Australia. They look at indigenous food prior to European settlement and the attempts of the first non-indigenous settlers to establish a secure and sustainable food supply. Students consider the development of food production, processing and manufacturing industries and conduct a critical inquiry into how Australian food producers and consumers today have been influenced by immigration and other cultural factors.

Outcomes
On completion of this unit the student should be able to:
- Identify and explain major factors in the development of a globalised food supply, and demonstrate adaptations of selected food from earlier cuisines through practical activities.
- Describe patterns of change in Australia’s food industries and cultures, and use foods indigenous to Australia and those introduced through migration in the preparation of food products.

Prerequisites
Nil

Where this study may lead
VCE Food Studies complements and supports further training and employment opportunities in the fields of home economics, food technology, food manufacturing and hospitality.

Food Studies
Unit 2: Food makers

Areas of Study
Food industries - In this area of study students focus on commercial food production in Australia. Students apply an inquiry approach, with emphasis on the ever-changing and dynamic nature of our food industries and their ongoing importance to Australia’s economy. Students investigate the characteristics of the various food industries and identify current and future challenges and opportunities. Students investigate new food product development and innovation, and the processes in place to ensure a safe food supply.

Food in the home - In this area of study students further explore food production, focusing on domestic and small-scale food production. They consider the influences on the effective provision and preparation of food. Their practical skills are extended through designing and adapting recipes, encompassing a range of dietary requirements commonly encountered by the food service sector and within families.

Outcomes
On completion of this unit the student should be able to:
- Describe Australia’s major food industries, analyse relationships between food suppliers and consumers, discuss measures in place to ensure a safe food supply and design a brief and a food product that demonstrates the application of commercial principles.
- Compare and evaluate similar foods prepared in different settings, explain the influences on effective food provision and preparation in the home, and design and create a food product that illustrates potential adaptation in a commercial context.

Prerequisites
Nil
Food Studies
Unit 3: Food in daily life

Areas of Study
The science of food - In this area of study students focus on the science of food. They investigate the physiology of eating and microbiology of digesting, and the absorption and utilisation of macronutrients. They investigate food allergies, food intolerances and the microbiology of food contamination. Students learn and apply food science terminology relating to chemical changes that occur during food preparation and cooking, and undertake hands-on experimentation to demonstrate techniques and effects.

Food choice, health and wellbeing - In this area of study students focus on patterns of eating in Australia and the influences on the food we eat. Students look at relationships between social factors and food access and choice, as well as the social and emotional roles of food in shaping and expressing identity, and how food may link to psychological factors. In this area of study students undertake a practical component developing a repertoire of healthy meals suitable for children and families.

Outcomes
On completion of this unit the student should be able to:
- Explain the processes of eating and digesting food and absorption of macronutrients, explain causes and effects of food allergies, food intolerances and food contamination, analyse food selection models, and apply principles of nutrition and food science in the creation of food products.
- Explain and analyse factors affecting food access and choice, analyse the influences that shape an individual's food values, beliefs and behaviours, and apply practical skills to create a range of healthy meals for children and families.

Prerequisites
Nil

Where this study may lead
VCE Food Studies complements and supports further training and employment opportunities in the fields of home economics, food technology, food manufacturing and hospitality.

Food Studies
Unit 4: Food issues, challenges and futures

Areas of Study
Environment and ethics - In this area of study students address debates concerning Australian and global food systems, relating to issues on the environment, ethics, technologies, food access, food safety, and the use of agricultural resources. They research one selected debate in depth, seeking clarity on disparate points of view, considering proposed solutions and analysing work undertaken to solve problems and support sustainable futures. Students will consider environmental and ethical issues relating to the selected debate and apply their responses in practical ways.

Navigating food information - In this area of study students focus on food information and misinformation and the development of food knowledge, skills and habits. They investigate a selected food fad, trend or diet and assess its credibility and the reliability of its claims. Students practise and improve their food selection skills by interpreting food labels and interrogating the marketing terms on food packaging. The practical component of this area of study provides opportunities for students to extend their food production repertoire by creating recipes that reflect the Australian Dietary Guidelines.

Outcomes
On completion of this unit the student should be able to:
- Explain a range of food systems issues, respond to a selected debate with analysis of problems and proposals for future solutions, apply questions of sustainability and ethics to the selected food issue and develop and create a food repertoire that reflects personal food values and goals.
- Explain a variety of food information contexts, analyse the formation of food beliefs, evaluate a selected food trend, fad or diet and create food products that meet the Australian Dietary Guidelines.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
General Mathematics
Units 1 and 2

Areas of Study

Algebra and structure - In this area of study students cover representation and manipulation of linear relations and equations, including simultaneous linear equations.

Arithmetic and number - In this area of study students cover mental, by-hand and technology assisted computation with rational numbers, practical arithmetic and financial arithmetic.

Discrete mathematics - In this area of study students cover matrices, graphs and networks, and number patterns and recursion.

Geometry, measurement and trigonometry - In this area of study students cover shape, measurement and trigonometry and their application to formulating and solving two- and three-dimensional problems involving length, angle, area and surface area, volume and capacity, and similarity and the application of linear scale factors to measurement.

Graphs of linear and non-linear relations - In this area of study students cover continuous models involving linear and non-linear relations and their graphs, linear inequalities and programming, and variation.

Statistics - In this area of study students cover representing, analysing and comparing data distributions and investigating relationships between two numerical variables, including an introduction to correlation.

Outcomes

On completion of this unit the student should be able to:

- Define and explain key concepts as specified in the selected content from the areas of study, and apply a range of related mathematical routines and procedures.
- Select and apply mathematical facts, concepts, models and techniques from the topics covered in the unit to investigate and analyse extended application problems in a range of contexts.
- Select and use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.

Prerequisites

Nil

Where this study may lead

VCE General Mathematics provides general preparation for employment or further study, in particular where data analysis, recursion and number patterns are important.
Further Mathematics
Unit 3

Areas of Study
Core - In this area of study students consider applications of data analysis and financial modelling. Within the area of data analysis, students investigating data distributions, associations between two variables, and modelling linear associations and time series data. With respect to financial modelling students use recursion to model depreciation of assets, compound interest, reducing balance loans, annuities and perpetuities.

Outcomes
On completion of this unit the student should be able to:
- Define and explain key concepts and apply related mathematical techniques and models as specified in Area of Study 1 in routine contexts.
- Select apply the mathematical concepts, models and techniques as specified in Area of Study 1 in a range of contexts of increasing complexity.
- Select and appropriately use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.

Prerequisites
Nil

Where this study may lead
VCE Further Mathematics provides general preparation for employment or further study, in particular where data analysis, recursion and number patterns are important.

Further Mathematics
Unit 4

Areas of Study
Applications - Students must complete two modules selected from the following four modules.

Matrices - This module covers definition of matrices, different types of matrices, matrix operations, transition matrices and the first-order linear matrix recurrence relations.

Networks and decision mathematics - This module covers definition and representation of different kinds of undirected and directed graphs, eulerian trails, eulerian circuits, bridges, hamiltonian paths and cycles, and the use of networks to model and solve problems involving travel, connection, flow, matching, allocation and scheduling.

Geometry and measurement - This module covers the use of measurement, geometry and trigonometry to formulate and solve problems involving angle, length, area and volume in two and three dimensions, with respect to objects, the plane and the surface of the earth.

Graphs and relations - This module covers the use of linear relations, including piecewise defined relations, and non-linear relations to model a range of practical situations, including optimisation problems by linear programming.

Outcomes
On completion of this unit the student should be able to:
- Define and explain key concepts as specified in the content from the two selected modules, and apply related mathematical techniques and models in routine contexts.
- Select and apply the mathematical concepts, models and techniques from the two selected modules in a range of contexts of increasing complexity.
- Select and appropriately use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Health and Human Development
Unit 1: The health and development of Australia’s youth

Areas of Study
Understanding youth health and human development - In this area of study students develop understanding of the concepts of youth health and individual human development, and explore the interrelationships that exist within and between them. Students become aware of the differing methods for measuring health status and develop a greater understanding of the health status of youth.

Youth issues - In this area of study students develop understanding of a range of determinants and their ability to influence youth health and individual human development. Students explore the importance of nutrition and the developmental functions it performs in the body. Students form conclusions about personal, community and government strategies and programs designed to influence and promote youth health and individual human development.

Outcomes
On completion of this unit the student should be able to:

- Describe the dimensions of, and the interrelationships within and between, youth health and individual human development, and analyse the health status of Australia’s youth using appropriate measurements.
- Describe and explain the factors that have an impact on the health and individual human development of Australia’s youth, outline health issues relevant to Australia’s youth and, in relation to a specific health issue, analyse strategies or programs that have an impact on youth health and development.

Prerequisites
Nil

Where this study may lead
VCE Health and Human Development offers students a range of pathways and caters to those who wish to pursue further formal study in areas such as health promotion, community health research and policy development, humanitarian aid work, allied health practices, education, and the health profession.

Health and Human Development
Unit 2: Individual human development and health issues

Areas of Study
Prenatal health and individual development - In this area of study students develop understanding of the health and individual human development of Australia’s unborn children. Students study the physical changes that occur from conception to birth. Students investigate how determinants influence prenatal health and individual human development.

Child health and individual development - The focus of this area of study is the development of students’ understanding of the health and individual human development of Australia’s children. They explore the physical, social, emotional and intellectual changes that occur from birth to late childhood. Students investigate how determinants influence child health and development.

Adult health and individual development - The focus of this area of study is the development of students’ understanding of the health and individual human development of Australia’s adults, including older adults. Students explore the physical, social, emotional and intellectual changes that occur during adulthood and describe the health status of Australia’s adults.

Outcomes
On completion of this unit the student should be able to:

- Describe and explain factors that affect the health and individual human development during the prenatal stage.
- Describe and explain factors that affect the health and individual human development of Australia’s children.
- Describe and explain the factors that affect the health and individual human development of Australia’s adults.

Prerequisites
Nil
Health and Human Development
Unit 3: Australia’s health

Areas of Study
Understanding Australia’s health - In this area of study students develop understanding of the health status of Australians by investigating the burden of disease and the health of population groups in Australia. Students use key health measures to compare health in Australia and analyse how determinants of health, including the physical environment, biological, behavioural and social, contribute to variations in health status.

Promoting health in Australia - This area of study examines different models of health and health promotion. Students investigate the roles and responsibilities of governments in addressing health needs and promoting health for all through the provision of a national health system and health promotion initiatives. They examine the role of government and non-government organisations in providing programs and support for the promotion of healthy eating.

Outcomes
On completion of this unit the student should be able to:
- Compare the health status of Australia’s population with that of other developed countries, compare and explain the variations in health status of population groups within Australia and discuss the role of the National Health Priority Areas in improving Australia’s health status.
- Discuss and analyse approaches to health and health promotion, and describe Australia’s health system and the different roles of government and non-government organisations in promoting health.

Prerequisites
Nil

Where this study may lead
VCE Health and Human Development offers students a range of pathways and caters to those who wish to pursue further formal study in areas such as health promotion, community health research and policy development, humanitarian aid work, allied health practices, education, and the health profession.

Health and Human Development
Unit 4: Global health and human development

Areas of Study
Introducing global health and human development - This area of study explores global health, human development and sustainability. Students analyse similarities and differences in the health status between people living in developing countries and Australians. The role of the United Nations’ Sustainable Development Goals is investigated in relation to achieving sustainable improvements in health status and human development.

Promoting global health and human development - This area of study explores the role of international organisations in achieving sustainable improvements in health and human development. Students consider strategies designed to promote health and sustainable human development globally, as well as Australia’s contribution to international health programs and contributions to non-government organisations.

Outcomes
On completion of this unit the student should be able to:
- Analyse factors contributing to variations in health status between Australia and developing countries, and explain the contribution the United Nations’ Sustainable Development Goals can make to promoting global health and sustainable human development.
- Describe and evaluate programs implemented by international and Australian government and non-government organisations, and analyse the interrelationships between health, human development and sustainability.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
History
Unit 1: The making of empires 1400 – 1775

Areas of Study
Exploration and expansion - In this area of study students examine the reasons for voyages of exploration mounted by European empires in the Early Modern period and the impact of these voyages on the expansion of empires.

Disruptive ideas - In this area of study students examine how new ideas of the Early Modern period challenged old certainties and assisted in the expansion of empires.

Outcomes
On completion of this unit the student should be able to:
- Explain the reasons for European voyages of exploration and analyse the motivations of new globally oriented empires.
- Explain how new ideas and discoveries challenged old certainties and strengthened European empires.

Prerequisites
Nil

Where this study may lead
The study of history equips students to take an informed position on such matters, helping them develop as individuals and citizens.

History
Unit 2: Empires at work 1400 – 1775

Areas of Study
New colonies, new profits - In this area of study students investigate how and why new colonies were established by European empires and the significance of new global systems of exchange. They explore how Early Modern imperialism expressed itself in a variety of strategic, commercial, religious and cultural ways, studying in depth at least one European colony in the Americas, Africa or the Caribbean.

Challenges of empires - In this area of study students investigate the difficulties faced by colonial powers and their effectiveness at dealing with these challenges.

Outcomes
On completion of this unit the student should be able to:
- Analyse the methods used by European powers to establish colonies and the historical significance of new global systems of exchange.
- Analyse the effectiveness of a global empire in dealing with colonial challenges and assess the empire’s global standing by 1775.

Prerequisites
Nil
Australian History
Unit 3: Transformations: Colonial society to nation

Areas of Study
Area of Study 1 - The reshaping of Port Phillip District/Victoria, 1834 –1860 - In this area of study students investigate questions such as: how did Aboriginal and British arrivals' understanding of land management and land ownership differ in the Port Phillip District/ Victoria? What were the demographic and political consequences of the gold rushes? and what were the responses of and outcomes for Aboriginal people following the arrival of the pastoral and gold rush colonists?

Area of Study 2 Making a people and a nation 1890 – 1920 - In this area of study students consider the visions that drove the formation of the Australian nation. They investigate the measures that were introduced between Federation and 1914 to implement this vision. The context of Australia’s participation in World War One is used to analyse the effect on Australians’ visions as a new nation.

Outcomes
On completion of this unit the student should be able to:
- Analyse the nature of change in the Port Phillip District/ Victoria in the period 1834–1860.
- Analyse the visions and actions that shaped the new nation from 1890 to 1920, and the changes and continuities to these visions that resulted from participation in World War One.

Prerequisites
Nil

Where this study may lead
The study of history equips students to take an informed position on such matters, helping them develop as individuals and citizens.

Australian History
Unit 4: Transformations: Old certainties and new visions

Areas of Study
Crises that tested the nation 1929 —1945 - Students investigate the reasons for Australia’s involvement in external crises between 1929 and 1945. They consider the social, economic and political consequences that these crises had on the nation with specific referent to the effect on the cohesion of the nation.

Voices for change 1965 —2000 - In this area of study students consider questions including: What changes were sought in Australian society 1965 —2000 and why? What debates were generated about change? and To what extent was significant change achieved?

Outcomes
On completion of this unit the student should be able to:
- Analyse the social, economic and political consequences of a crisis on the nation.
- Analyse and evaluate two key social, economic and political changes in late twentieth century Australia.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
History
Units 3 and 4: Revolutions

Areas of Study
Causes of revolution - In this area of study students analyse the long-term causes and short-term triggers of revolution. They evaluate how revolutionary outbreaks are caused by the interplay of significant events, ideas, individuals and popular movements and assess how these were directly or indirectly influenced by the social, political, economic and cultural conditions. Students analyse significant events and evaluate how particular conditions profoundly influenced and contributed to the outbreak of revolution. Students evaluate historical interpretations about the causes of revolution and explain why differing emphases are placed on the role of events, ideas, individuals and popular movements.

Consequences of revolution - In this area of study students analyse the consequences of the revolution and evaluate the extent to which it brought change to society. They analyse the significant challenges that confronted the new regime after the initial outbreak of revolution. Students evaluate the success of the new regime’s responses to these challenges and the extent to which the consequences of revolution resulted in dramatic and wide reaching social, political, economic and cultural change, progress or decline. Students evaluate historical interpretations about the success of the revolution, the new regime’s consolidation of power, their compromise of revolutionary ideology and the degree of change brought to the society.

Outcomes
On completion of this unit the student should be able to:
- Analyse the causes of revolution, and evaluate the contribution of significant ideas, events, individuals and popular movements.
- Analyse the consequences of revolution and evaluate the extent of change brought to society.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.

Where this study may lead
The study of history equips students to take an informed position on such matters, helping them develop as individuals and citizens.
Literature
Unit 1: Approaches to literature

Areas of Study
Reading practices - In this area of study students consider how language, structure and stylistic choices are used in different literary forms and types of text. They consider both print and non-print texts, reflecting on the contribution of form and style to meaning. Students reflect on the degree to which points of view, experiences and contexts shape responses to text. They develop an awareness of initial readings of texts against more considered and complex response to texts.

Ideas and concerns in texts - In this area of study students investigate the ideas and concerns raised in texts and the ways social and cultural contexts are represented. Students learn to select and discuss aspects of the texts that facilitate their interpretation and understanding of the point of view being presented. They consider those facets of human experience that are seen as important within the texts and those that are ignored or disputed.

Outcomes
On completion of this unit the student should be able to:
- Respond to a range of texts and reflect on influences shaping these responses.
- Analyse the ways in which a selected text reflects or comments on the ideas and concerns of individuals and particular groups in society.

Prerequisites
Nil

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

Literature
Unit 2: Context and connections

Areas of Study
The text, the reader and their contexts - In this area of study students focus on the interrelationships between the text, readers and their social and cultural contexts. Students explore the text to understand its point of view, and identify the language and the representations in the text that reflect the period or culture. Students develop an understanding that contextual meaning is already implicitly or explicitly inscribed in a text. They examine and reflect on how the reader’s interpretation is influenced by what they bring to the text.

Exploring connections between texts - In this area of study students focus on the ways that texts relate to and influence each other. Students learn that meanings of texts are evolving and open to a range of interpretations and change in relation to other texts. They investigate and analyse how different interpretations of texts are influenced by language features and structures.

Outcomes
On completion of this unit the student should be able to:
- Analyse and respond critically and creatively to the ways a text from a past era and/or a different culture reflect or comment on the ideas and concerns of individuals and groups in that context.
- Compare texts considering the dialogic nature of texts and how they influence each other.

Prerequisites
Nil
Literature
Unit 3: Form and transformation

Areas of Study
Adaptations and transformations - In this area of study students focus on how the form of text contributes to the meaning of the text. Students develop an understanding of the typical features of a particular form of text and how the conventions associated with it. Students use this understanding to reflect upon the extent to which changing the form of the text affects its meaning.

Creative responses to texts - In this area of study students focus on the imaginative techniques used for creating and recreating a literary work. Students use their knowledge of how the meaning of texts can change as form changes to construct their own creative transformations of texts. They learn how writers develop images of people and places, and they develop an understanding of language, voice, form and structure.

Outcomes
On completion of this unit the student should be able to:
- Analyse the extent to which meaning changes when a text is adapted to a different form.
- Respond creatively to a text and comment on the connections between the text and the response.

Prerequisites
Nil

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

Literature
Unit 4: Interpreting texts

Areas of Study
Literary perspectives - In this area of study students focus on how different readings of texts may reflect the views and values of both writer and reader. Students identify the issues, ideas and contexts writers choose to explore, the way these are represented in the text/s and the cultural, social, historical and ideological contexts in which they were created. Students enquire into the ways readers may arrive at differing interpretations about a text and the grounds on which they are developed.

Close analysis - In this area of study students focus on detailed scrutiny of the language, style, concerns and construction of texts. Students attend closely to textual details to examine the ways specific features and/or passages in a text contributes to their overall interpretations.

Outcomes
On completion of this unit the student should be able to:
- Produce an interpretation of a text using different literary perspectives to inform their view.
- Analyse features of texts and develop and justify interpretations of texts.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Mathematical Methods
Unit 1

Areas of Study
Functions and graphs - In this area of study students cover the graphical representation of simple algebraic functions.

Algebra - This area of study supports students’ work in the ‘Functions and graphs’, ‘Calculus’ and ‘Probability and statistics’ areas of study, with a focus on the algebra of polynomial functions of low degree and transformations of the plane.

Calculus - In this area of study students cover constant and average rates of change and an introduction to instantaneous rate of change of a function in familiar contexts.

Probability and statistics - In this area of study students cover the concepts of event, frequency, probability and representation of finite sample spaces and events using various forms. This includes consideration of impossible, certain, complementary, mutually exclusive, conditional and independent events involving one, two or three events.

Outcomes
On completion of this unit the student should be able to:
- Define and explain key concepts as specified in the content from the areas of study, and apply a range of related mathematical routines and procedures.
- Apply mathematical processes in non-routine contexts, including situations requiring problem-solving, modelling or investigative techniques or approaches, and analyse and discuss these applications of mathematics.
- Use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.

Prerequisites
Nil

Where this study may lead
VCE Mathematical Methods provides background for further study in, for example, science, humanities, economics and medicine.

Mathematical Methods
Unit 2

Areas of Study
Functions and graphs - In this area of study students cover graphical representation of functions of a single real variable and the key features of graphs of functions.

Algebra - This area of study supports students’ work in the ‘Functions and graphs’, ‘Calculus’ and ‘Probability and statistics’ areas of study with a focus on the algebra of some simple transcendental functions and transformations of the plane.

Calculus - In this area of study students cover first principles approach to differentiation, differentiation and anti-differentiation of polynomial functions and power functions by rule.

Probability and statistics - In this area of study students cover introductory counting principles and techniques and their application to probability and the law of total probability in the case of two events.

Outcomes
On completion of this unit the student should be able to:
- Define and explain key concepts as specified in the content from the areas of study, and apply a range of related mathematical routines and procedures.
- Apply mathematical processes in non-routine contexts, including situations requiring problem-solving, modelling or investigative techniques or approaches, and analyse and discuss these applications of mathematics.
- Select and use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.

Prerequisites
Nil
Mathematical Methods
Units 3 and 4

Areas of Study
Functions and graphs - In this area of study students cover transformations of the plane and the behaviour of some elementary functions of a single real variable, including key features of their graphs such as axis intercepts, stationary points, points of inflection, domain, co-domain and range, asymptotic behaviour and symmetry.

Algebra - In this area of study students cover the algebra of functions, including composition of functions, simple functional relations, inverse functions and the solution of equations. Students also cover recognition of equations and systems of equations that are solvable using inverse operations, factorisation, graphical and numerical approaches.

Calculus - In this area of study students cover graphical treatment of limits, continuity and differentiability of functions of a single real variable, and differentiation, anti-differentiation and integration of these functions.

Probability and statistics - In this area of study students cover discrete and continuous random variables, their representation using tables, probability functions; the calculation and interpretation of central measures and measures of spread; and statistical inference for sample proportions.

Outcomes
On completion of this unit the student should be able to:

- Define and explain key concepts as specified in the content from the areas of study, and apply a range of related mathematical routines and procedures.
- Apply mathematical processes in non-routine contexts, including situations requiring problem-solving, modelling or investigative techniques or approaches, and analyse and discuss these applications of mathematics.
- Select and appropriately use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.

Where this study may lead
VCE Mathematical Methods provides background for further study in, for example, science, humanities, economics and medicine.
Media
Unit 1: Representation and technologies of representation

Areas of Study
Representation - This area of study focuses on an analysis of media representations and how such representations depict. Students learn that media texts are created through a process of selection, construction and representation. Students develop an understanding of how media representations are subject to multiple readings by audiences who construct meaning based on a range of personal, contextual, social and institutional factors.

Technologies of representation - In this area of study students produce representations in two or more media forms. Students consider the use of codes and conventions to convey ideas and meaning in representations within the context of the technologies used to construct these representations.

New media - In this area of study students explore the emergence of new media technologies. Students investigate the changes, possibilities and issues that arise from the development of new technologies and how these alter audience experience and understanding of the media. They develop an understanding that these changes may also challenge notions of industry, ownership, copyright, privacy and access.

Outcomes
On completion of this unit the student should be able to:
- Describe the construction of specific media representations and explain how the process of representation reproduces the world differently from direct experience of it.
- Construct media representations in two or more media forms and compare these representations that are produced by the application of different media technologies.
- Discuss creative and cultural implications of new media technologies for the production and consumption of media products.

Prerequisites
Nil

Where this study may lead
This study is relevant for students who wish to pursue further formal study at tertiary level or in vocational education and training settings.

Media
Unit 2: Media production and the media industry

Areas of Study
Media production - This area of study focuses on media production undertaken by students within a collaborative context and the student’s explanation of the process. Students develop an understanding that as each media product progresses through the various stages of production, the work practices and conventions of each specific stage and role help shape the nature of the final media product.

Media industry production - In this area of study students focus on national, international and global media industry issues, and the developments in the media industry and their impact on media production stages, and specialist roles within these stages. Students learn that the degree of specialisation among production personnel varies according to the scale and context of the media production process, and that specialist stages and roles require different skills and training.

Australian media organisations - In this area of study students analyse Australian media organisations within a social, industrial and global framework. Students learn that production, distribution and circulation are affected by laws, self-regulatory codes of conduct, industry pressures, the practices of particular media organisations and global trends.

Outcomes
On completion of this unit the student should be able to:
- Demonstrate specialist production skills within collaborative media productions, and explain and reflect on the media production process.
- Discuss media industry issues and developments relating to the production stages of a media product, and describe specialist roles within the media industry.
- Describe characteristics of Australian media organisations and discuss the social, cultural and industrial framework within which such organisations operate.

Prerequisites
Nil
Media
Unit 3: Narrative and media production design

Areas of Study
Narrative - In this area of study students analyse the narrative organisation of fictional film, television or radio drama texts. Students learn that narrative is a fundamental element in the construction of meaning in media products.

Media production skills - This area of study focuses on the development of specific media production skills and technical competencies using media technologies and processes. Students plan, undertake and evaluate two production exercises to develop skills appropriate to the technical equipment, applications and media processes available to them.

Media production design - In this area of study students focus on the preparation of a production design plan for a media product designed for a specific audience in a selected media form. Students develop and record concepts and ideas for production, documenting the intention of the proposed production, the audience/s for which the production is planned, how and where the production is designed to be consumed, and the intended effects on the specified audience.

Outcomes
On completion of this unit the student should be able to:
- Analyse the nature and function of production and story elements in narrative media texts, and discuss the impact of these elements on audience engagement.
- Use a range of technical equipment, applications and media processes and evaluate the capacity of these to present ideas, achieve effects and explore aesthetic qualities in media forms.
- Prepare and document a media production design plan in a selected media form for a specified audience.

Prerequisites
Nil

Where this study may lead
This study is relevant for students who wish to pursue further formal study at tertiary level or in vocational education and training settings.

Media
Unit 4: Media: process, influence and society's values

Areas of Study
Media process - In this area of study students complete a media product with a specific production process and set of work practices that are both appropriate to the particular medium and to the type of product being produced within that form.

Media texts and society's values - In this area of study students focus on the relationship between society's values and media texts. Students undertake the study of an identified significant idea, social attitude or discourse located in a range of media texts to critically analyse its representation in the media.

Media influence - This area of study students explore the complexity of the relationship between the media, its audiences and the wider community in terms of the nature and extent of the media's influence. Students examine arguments and evidence arising from a range of historical and contemporary developments that offer a range of perspectives about the nature, characteristics and extent of media influence on individuals and society at large.

Outcomes
On completion of this unit the student should be able to:
- Produce a media product for an identified audience from the media production design plan prepared in Unit 3.
- Discuss and analyse the construction, distribution and interpretation of society's values as represented in media texts.
- Analyse and present arguments about the nature and extent of media influence.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Philosophy
Unit 1: Existence, knowledge and reasoning

Areas of Study
Metaphysics - This area of study introduces students to metaphysics - the study of the basic structures and categories of what exists, or of reality. It is the attempt to work out a logical account of everything that we know or believe about existence.

Epistemology - This area of study introduces students to basic epistemological problems through a study of questions associated with selected themes. Students also consider philosophical problems in contemporary debates, including the implications of accepting particular views about knowledge.

Introduction to logic and reasoning - This area of study introduces students to the distinctive nature of philosophical thinking and a variety of approaches to philosophical inquiry. They practise some basics of formal and informal logic and other techniques of critical thinking.

Outcomes
On completion of this unit the student should be able to:

- Analyse metaphysical problems, evaluate viewpoints and arguments arising from these, and identify philosophical problems in relevant contemporary debates.
- Analyse epistemological problems, evaluate viewpoints and arguments arising from these, and analyse philosophical problems in relevant contemporary debates.
- Apply methods of philosophical inquiry to the analysis of philosophical viewpoints and arguments, including those in metaphysics and epistemology.

Prerequisites
Nil

Where this study may lead
The ability to think philosophically is highly regarded in careers where conceptual analysis, strategic thinking, insightful questioning and carefully reasoned arguments are needed.

Philosophy
Unit 2: Questions of value

Areas of Study
Ethics and moral philosophy - In this area of study students are introduced to key debates in moral philosophy that stretch back thousands of years. Students investigate if there are basic principles and underlying ideas of morality and assessing ethical viewpoints and arguments according to standards of logic and consistency.

Further problems in value theory - Students explore how philosophical methods can be brought to bear on a range of questions regarding a range of other types of values, including social, political and aesthetic value.

Techniques of reasoning - In this area of study students develop their abilities to analyse philosophical arguments, apply techniques of logic, construct and manipulate chains of reasoning, identify and describe reasoning errors and analyse and develop analogies in response to philosophical problems.

Outcomes
On completion of this unit the student should be able to:

- Analyse problems in ethics and moral theory and related contemporary debates, evaluate viewpoints and arguments in response to these problems, and discuss the interplay between philosophical thinking and contemporary ethical and moral debates.
- Analyse selected problems in value theory, evaluate viewpoints and arguments in response to these problems, and discuss philosophical issues in the context of relevant contemporary debates.
- Apply methods of philosophical inquiry to the analysis of philosophical viewpoints and arguments, including those in value theory.

Prerequisites
Nil
Philosophy
Unit 3: Minds, bodies and persons

Areas of Study
Minds and bodies - Students examine the views of those who deny the existence of anything that falls outside the scope of physics, as well as those who have argued that the psyche or the mind is something quite different from the physical body, and can exist independently of it.

Personal identity - In this area of study students explore selected theories of personal identity and the arguments for and against them. They will consider how thought experiments can be used to explore and challenge theories of personal identity. Students apply their understanding of philosophical concepts and problems related to personal identity to analyses of contemporary debates such as organ transplants and cloning.

Outcomes
On completion of this unit the student should be able to:

- Discuss concepts relating to the mind, psyche and body, and analyse and evaluate viewpoints and arguments concerning the relationship between the mind and body, and psyche and body, found within and across the set texts and in contemporary debates.
- Analyse, compare and evaluate theories of personal identity in the set texts and discuss related contemporary debates.

Prerequisites
Nil

Where this study may lead
The ability to think philosophically is highly regarded in careers where conceptual analysis, strategic thinking, insightful questioning and carefully reasoned arguments are needed.

Philosophy
Unit 4: The good life

Areas of Study
Conceptions of the good life - This area of study exposes students to philosophical debates and perspectives on the nature of the good life through a study of philosophical texts from ancient, modern and contemporary sources.

Living the good life in the twenty-first century - In this area of study students develop and justify responses to debates on consumerism, technology and our obligations to others in relation to the good life. They explore the interplay between the changing conditions of contemporary life and our ability to live a good life, considering how the strength of the interplay is dependent not only on the nature of developments in contemporary life but on the conception of the good life.

Outcomes
On completion of this unit the student should be able to:

- Analyse, compare and evaluate the philosophical viewpoints and arguments in the set texts in relation to the good life.
- Discuss contemporary debates related to the good life and the interplay between social and technological developments and conceptions of the good life.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Physical Education
Unit 3: Physical activity participation and physiological performance

Areas of Study
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 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.

Physiological responses to physical activity - In this area of study students 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. Through practical activities students explore the relationship between the energy systems during physical activity.

Outcomes
On completion of this unit the student should be able to:
- Analyse individual and population levels of sedentary behaviour and participation in physical activity, and evaluate initiatives and strategies that promote adherence to Australia's Physical Activity and Sedentary Behaviour Guidelines.
- Use data collected in practical activities to analyse how the major body and energy systems work together to enable movements to occur, and explain the fatigue mechanisms and recovery strategies.

Prerequisites
Nil

Where this study may lead
This VCE study is suitable for students with a wide range of aspirations, including those who wish to pursue further formal study at tertiary level or in vocational education and training settings. The study prepares students for such fields as the health sciences, exercise science and education, as well as providing valuable knowledge and skills for participating in their own sporting and physical activity pursuits to develop as critical practitioners and lifelong learners.

Physical Education
Unit 4: Enhancing performance

Areas of Study
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. They participate in fitness testing and an individual training program and evaluate this from a theoretical perspective.

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.

Outcomes
On completion of this unit the student should be able to:
- Plan, implement and evaluate training programs to enhance specific fitness components.
- Analyse and evaluate strategies designed to enhance performance or promote recovery.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Physics
Unit 1: What ideas explain the physical world?

Areas of Study
How can thermal effects be explained? - In this area of study students investigate the thermodynamic principles related to heating processes. Students examine the environmental impacts of Earth’s thermal systems and human activities. 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? - 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? - In this area of study 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.

Outcomes
On completion of this unit the student should be able to:
- Apply thermodynamic principles to analyse, interpret and explain changes in thermal energy in selected contexts, and describe the environmental impact of human activities with reference to thermal effects and climate science concepts.
- Apply a basic DC circuit model to simple battery-operated devices and household electrical systems, apply mathematical models to analyse circuits, and describe the safe and effective use of electricity by individuals and the community.
- Explain the origins of atoms, the nature of subatomic particles and how energy can be produced by atoms.

Prerequisites
Nil

Where this study may lead
VCE Physics provides for continuing study pathways within the discipline and leads to a range of careers. Physicists may undertake research and development in specialist areas including acoustics, astrophysics and cosmology, atmospheric physics, computational physics, education, energy research, engineering, instrumentation, lasers and photonics, medical physics, nuclear science, optics, pyrotechnics and radiography. Physicists also work in cross-disciplinary areas such as bushfire research, climate science, forensic science, geology, materials science, neuroscience and sports science.

Physics
Unit 2: What do experiments reveal about the physical world?

Areas of Study
How can motion be described and explained? - In this area of study students analyse motion using concepts of energy, including energy transfers and transformations, and apply mathematical models during experimental investigations of motion.

Options - One option is to be selected by the student from the following: • What are stars? • Is there life beyond Earth’s Solar System? • How do forces act on the human body? • How can AC electricity charge a DC device? • How do heavy things fly? • How do fusion and fission compare as viable nuclear energy power sources? • How is radiation used to maintain human health? • How do particle accelerators work? • How can human vision be enhanced? Unit 2: What do experiments reveal about the physical world? • How do instruments make music? • How can performance in ball sports be improved? • How does the human body use electricity?

Practical investigation - In this area of study students design and conduct a 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.

Outcomes
On completion of this unit the student should be able to:
- Investigate, analyse and mathematically model the motion of particles and bodies.
- Apply concepts of relevant physical processes to describe and analyse the concept under investigation.
- Design and undertake an investigation of a physics question related to the scientific inquiry processes of data collection and analysis, and draw conclusions based on evidence from collected data.

Prerequisites
Nil
**Physics**  
**Unit 3: How do fields explain motion and electricity?**

**Areas of Study**

**How do things move without contact?** - In this area of study students examine the similarities and differences between gravitational, electric and magnetic fields. Students explore how positions in fields determine the potential energy of an object and the force on an object.

**How are fields used to move electrical energy?** - 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?** - In this area of study students use Newton’s laws of motion to analyse relative motion, circular motion and projectile motion. 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.

**Outcomes**

On completion of this unit the student should be able to:

- Analyse gravitational, electric and magnetic fields, and use these to explain the operation of motors and particle accelerators and the orbits of satellites.
- Analyse and evaluate an electricity generation and distribution system.
- Investigate motion and related energy transformations experimentally, analyse motion using Newton’s laws of motion in one and two dimensions, and explain the motion of objects moving at very large speeds using Einstein’s theory of special relativity.

**Prerequisites**

Students entering Unit 3 without Units 1 and/or 2 may be required to undertake additional preparation as prescribed by their teacher.

**Where this study may lead**

VCE Physics provides for continuing study pathways within the discipline and leads to a range of careers. Physicists may undertake research and development in specialist areas including acoustics, astrophysics and cosmology, atmospheric physics, computational physics, education, energy research, engineering, instrumentation, lasers and photonics, medical physics, nuclear science, optics, pyrotechnics and radiography. Physicists also work in cross-disciplinary areas such as bushfire research, climate science, forensic science, geology, materials science, neuroscience and sports science.

**Physics**  
**Unit 4: How can two contradictory models explain both light and matter?**

**Areas of Study**

**How can waves explain the behaviour of light?** - In this area of study students use evidence from experiments to explore wave. 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.

**How are light and matter similar?** - In this area of study 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** - Students design a practical investigation related to waves, fields or motion. 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.

**Outcomes**

On completion of this unit the student should be able to:

- Apply wave concepts to analyse, interpret and explain the behaviour of light.
- Provide evidence for the nature of light and matter, and analyse the data from experiments that supports this evidence.
- Design and undertake a practical investigation related to waves or fields or motion, and present methodologies, findings and conclusions in a scientific poster.

**Prerequisites**

Students must undertake Unit 3 prior to undertaking Unit 4.
Psychology
Unit 1: How are behaviour and mental processes shaped?

Areas of Study
How does the brain function? - 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. Students explore how brain plasticity and brain damage can affect a person’s functioning.

What influences psychological development? - In this area of study students explore how these factors influence different aspects of a person’s psychological development. They consider the interactive nature of hereditary and environmental factors and investigate specific factors that may lead to development of typical or atypical psychological development in individuals.

Student-directed research investigation - In this area of study students investigate a question related to brain function and/or psychological development. Students analyse the scientific evidence that underpins the research then communicate the findings of their research investigation and explain the psychological concepts, outline contemporary research and present conclusions based on the evidence.

Outcomes
On completion of this unit the student should be able to:

- Describe how understanding of brain structure and function has changed over time, explain how different areas of the brain coordinate different functions, and explain how brain plasticity and brain damage can change psychological functioning.
- Identify the varying influences of nature and nurture on a person’s psychological development, and explain different factors that may lead to typical or atypical psychological development.
- Investigate and communicate a substantiated response to a question related to brain function and/or development, including reference to at least two contemporary psychological studies and/or research techniques.

Prerequisites
Nil

Where this study may lead
VCE Psychology provides for continuing study pathways within the discipline and leads to a range of careers. Fields of applied psychology include educational, environmental, forensic, health, sport and organisational psychology. Specialist fields of psychology include counselling and clinical contexts, as well as neuropsychology, social psychology and developmental psychology.

Psychology
Unit 2: How do external factors influence behaviour and mental processes?

Areas of Study
What influences a person’s perception of the world? - 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.

How are people influenced to behave in particular ways? - 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.

Student-directed practical investigation - In this area of study students design and conduct a practical investigation related to external influences on behaviour. 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.

Outcomes
On completion of this unit the student should be able to:

- Compare the sensations and perceptions of vision and taste, and analyse factors that may lead to the occurrence of perceptual distortions.
- Identify factors that influence individuals to behave in specific ways, and analyse ways in which others can influence individuals to behave differently.
- Design and undertake a practical investigation related to external influences on behaviour, and draw conclusions based on evidence from collected data.

Prerequisites
Nil
Psychology
Unit 3: How does experience affect behaviour and mental processes?

Areas of Study
How does the nervous system enable psychological functioning? - In this area of study, 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. Students evaluate how biological, psychological and social factors can influence a person's nervous system functioning.

How do people learn and remember? - 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.

Outcomes
On completion of this unit the student should be able to:
- Explain how the structure and function of the human nervous system enables a person to interact with the external world and analyse the different ways in which stress can affect nervous system functioning.
- Apply biological and psychological explanations for how new information can be learnt and stored in memory, and provide biological, psychological and social explanations of a person's inability to remember information.

Prerequisites
Nil

Where this study may lead
VCE Psychology provides for continuing study pathways within the discipline and leads to a range of careers. Fields of applied psychology include educational, environmental, forensic, health, sport and organisational psychology. Specialist fields of psychology include counselling and clinical contexts, as well as neuropsychology, social psychology and developmental psychology. Psychologists also work in cross-disciplinary areas such as medical research or as part of on-going or emergency support services in educational, institutional and industrial settings.

Psychology
Unit 4: How is wellbeing developed and maintained?

Areas of Study
How do levels of consciousness affect mental processes and behaviour? - In this area of study students focus on states of consciousness and the relationship between consciousness and thoughts, feelings and behaviours. 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.

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 explore the concepts of resilience and coping and investigate the psychological basis of strategies that contribute to mental wellbeing.

Practical investigation - Students design or adapt a practical investigation related to mental processes and psychological functioning. The investigation requires the student to identify an aim, develop a question, formulate a research hypothesis including operationalised variables and plan a course of action to answer the question and that takes into account safety and ethical guidelines. Students then undertake an experiment that involves the collection of primary qualitative and/or 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 which may be undertaken.

Outcomes
On completion of this unit the student should be able to:
- Explain consciousness as a continuum, compare theories about the purpose and nature of sleep, and elaborate on the effects of sleep disruption on a person's functioning.
- Explain the concepts of mental health and mental illness including influences of risk and protective factors, apply a biopsychosocial approach to explain the development and management of specific phobia, and explain the psychological basis of strategies that contribute to mental wellbeing.
- Design and undertake a practical investigation related to mental processes and psychological functioning, and present methodologies, findings and conclusions in a scientific poster.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
Religion and Society
Unit 1: The role of religion in society

Areas of Study
The nature and purpose of religion - In this area of study students are introduced to the nature and purpose of religion in general, exploring the role of religion in shaping and giving expression to spiritual experience. They identify the aspects common to religions, explore the interrelation of these aspects generally and explain why these aspects are common to all religions studied.

Religion through the ages - In this area of study students investigate how society and religion influence each other, and the roles of religion in society. They consider the factors that influence these roles and the effect that developments in society might have on religion.

Religion in Australia - In this area of study students consider religions in Australia, past and present, and the influences on Australian religious composition. They explore how the communities and later institutions of these religions perceived themselves and expressed their collective identity in Australia. Students also examine the influence of religion on the personal identity of members. They explore the influence of religions on the development of social infrastructure in Australia.

Outcomes
On completion of this unit the student should be able to:
- Discuss the nature and purpose of religion and explain the aspects of religion.
- Discuss the changing roles and influence of religion in society.
- Discuss the presence of religion in Australia, past and present.

Prerequisites
Nil

Where this study may lead
This study fosters an appreciation of the complexity of societies where multiple worldviews coexist and develops skills in research and analysis, helping students to become informed citizens and preparing them for work and further study in fields such as anthropology, theology, philosophy, sociology, journalism, politics and international relations.

Religion and Society
Unit 2: Religion and ethics

Areas of Study
Ethical decision-making and moral judgment - In this area of study students are introduced to the nature of ethical decision-making in societies where multiple worldviews coexist. Students explore concepts that underpin ethical decision-making and influences on practical moral judgment.

Religion and ethics - In this area of study students examine religious ethical perspectives and other influences on moral judgments. They also explore the philosophical traditions which have contributed to each religion’s understanding of ethics.

Ethical issues in society - In this area of study students examine debates about ethical issues conducted in the public arena of societies in which multiple religious and non-religious worldviews coexist. They analysis why the issue is regarded as an ethical issue, identify contributors to the debate, consider the influence of participants’ contributions, and investigate the basis of ethical perspectives and moral judgments used in the debates.

Outcomes
On completion of this unit the student should be able to:
- Explain the variety of influences on ethical decision making and moral judgment in societies where multiple worldviews coexist.
- Explain how ethical perspectives and moral judgments are formed within at least two religious traditions, in societies in which multiple worldviews coexist.
- Explain two or more debates on ethical issues in societies in which multiple worldviews coexist.

Prerequisites
Nil
Studio Arts
Unit 1: Studio inspiration and techniques

Areas of Study
Researching and recording ideas - In this area of study students explore ideas and identify sources of inspiration to be used as starting points for exploring materials and techniques. Through this exploration they begin to understand and develop their visual language.

Studio practice - In this area of study students learn about studio practice and focus on the use of materials and techniques. They investigate the way various visual effects and aesthetic qualities can be created in artworks. Students explore subject matter to convey individual ideas through the use of materials and techniques.

Interpreting art ideas and use of materials and techniques - In this area of study students focus on the way artists from different times and cultures have interpreted ideas and sources of inspiration and used materials and techniques in the production of artworks. Through the analysis of art elements and art principles, students become familiar with the terminology used to interpret artworks.

Outcomes
On completion of this unit the student should be able to:

- Identify sources of inspiration and artistic influences and outline individual ideas, art forms and aesthetic qualities, and translate these into visual language.
- Produce at least one finished artwork and progressively record the development of their studio practice, conveying individual ideas through the exploration of materials and techniques in the selected art form/s.
- Discuss the artistic practice of artists from different times and cultures, their sources of inspiration, materials and techniques for at least two artworks by each artist.

Prerequisites
Nil

Where this study may lead
VCE Studio Arts broadens students’ understanding of, and ability to engage with, artworks. It equips students with the knowledge and skills to pursue an art studio practice and follow tertiary and industry pathways in fine art, research and education.

Studio Arts
Unit 2: Studio exploration and concepts

Areas of Study
Exploration of studio practice and development of artworks - In this area of study students focus on developing artworks through an individual studio process based on visual research and inquiry. Students experiment with materials and techniques and apply them to a selected art form.

Ideas and styles in artworks - In this area of study students focus on the analysis of historical and contemporary artworks. Students develop an understanding of the use of other artists’ works in the making of new artworks, which may include the ideas and issues associated with appropriation such as copyright and artists’ moral rights.

Outcomes
On completion of this unit the student should be able to:

- Develop an individual exploration proposal to form the basis of a studio process, and from this produce and document a variety of potential directions in a visual diary for at least one artwork.
- Compare a range of historical and contemporary art periods, styles or movements, and analyse the ways in which artists communicate ideas, develop styles and demonstrate aesthetic qualities in artworks.

Prerequisites
Nil
Studio Arts
Unit 3: Studio practices and processes

Areas of Study
Exploration proposal - In this area of study students focus on the development of an exploration proposal that creates a framework for the individual studio process. The exploration proposal addresses the focus and subject matter to be developed, ideas to be explored and the art forms through which the studio process will be developed.

Studio process - In this area of study students progressively refine their ideas, techniques, materials and processes and aesthetic qualities discussed in the exploration proposal. The studio process is developed in sufficient breadth and depth to support students to produce a range of potential directions that will be progressively developed and evaluated.

Artists and studio practices - In this area of study students focus on professional studio practices. Students investigate the ways in which artists have interpreted subject matter, influences, historical and cultural contexts, and communicated ideas and meaning in their artworks.

Outcomes
On completion of this unit the student should be able to:
- Prepare an exploration proposal that formulates the content and parameters of an individual studio process including a plan of how the proposal will be undertaken.
- Progressively present an individual studio process recorded in written and visual form that produces a range of potential directions, and reflects the concepts and ideas documented in the exploration proposal and work plan.
- Examine the practice of at least two artists, with reference to two artworks by each artist, referencing the different historical and cultural context of each artwork.

Prerequisites
Nil

Where this study may lead
VCE Studio Arts broadens students’ understanding of, and ability to engage with, artworks. It equips students with the knowledge and skills to pursue an art studio practice and follow tertiary and industry pathways in fine art, research and education.

Studio Arts
Unit 4: Studio practice and art industry contexts

Areas of Study
Production and presentation of artworks - In this area of study students focus on the refinement and presentation of artworks developed from the selected potential directions identified in the individual studio process in Unit 3. The artworks are created in selected art form/s, presented in a manner appropriate to those art form/s, and reflect an understanding of the art form/s and related materials and techniques.

Evaluation - In this area of study students reflect on the selection of potential directions that form the basis, development and presentation of artworks. When the artworks have been completed, students examine and reflect on the communication of ideas, the use of materials and techniques, the demonstration of aesthetic qualities and the relationships that have been formed through the presentation of artworks.

Art industry contexts - In this area of study students focus on the analysis of artworks and the requirements and conditions of the environments where artworks are displayed. Students examine a variety of art exhibitions and review the methods and considerations involved in the preparation, presentation and conservation of artworks.

Outcomes
On completion of this unit the student should be able to:
- Present at least two finished artworks based on selected and evaluated potential directions developed through the studio process, which demonstrate refinement and application of materials and techniques, and that realise and communicate the student’s ideas expressed in the exploration proposal.
- Provide visual and written documentation that identifies and evaluates the extent to which the artworks reflect the selected potential directions, and effectively demonstrates a cohesive relationship between the works.
- Compare the methods used by artists and considerations of curators in the preparation, presentation, conservation and promotion of specific artworks in at least two different exhibitions.

Prerequisites
Students must undertake Unit 3 prior to undertaking Unit 4.
VET OPTIONS
VET Option
CERTIFICATE II in AUTOMOTIVE (Hamilton District Skills Centre)

Rationale
This pre-apprenticeship program provides hands on skills and basic mechanical knowledge which will assist in obtaining an automotive apprenticeship.

Outline
This program provides students with skills and knowledge at an entry level standard to enhance their career prospects within the Automotive industry.

Skill Development
Students acquire knowledge and skills in:
- Applying safe working practices
- Use and maintain workplace tools and equipment
- Job seeking skills
- Carry out industry research
- Remove and refit batteries
- Participate in basic vehicle servicing operations
- Recharge batteries
- Remove and replace suspension

Prerequisite
Must be Year 10 or at least 15 years old at the beginning of the year.

Time
Fridays 11.20am – 4.30pm. Time will be allocated in the timetable to catch up lessons missed.

Costs
There are additional costs in this selecting this subject to cover books, resources, tools and uniform. The college will cover the tuition costs.

Future Pathway
This subject is designed to prepare students for Automotive Mechanics, Engine Reconditioning, Automotive Electrician and Electronics.

VET Option
CERTIFICATE II in BUILDING & CONSTRUCTION (Hamilton District Skills Centre)

Rationale
This course is designed for students who have an interest in the Building and Construction industry. This is a partial certificate qualification, with the option of a third year.

Outline
This is a pre-apprenticeship course that deal in acquiring tool skills, both hand and electrical. Students also complete the CI card (construction industry induction) which allows them access to, and to work on, construction sites.

Skill Development
Students acquire knowledge and skills in:
- Safe workshop behaviour
- CI Card
- Hand and power tools
- Construction joints
- Safe operation and practices with plant and equipment

Prerequisite
Must be Year 10 or at least 15 years old at the beginning of the year.

Time
Fridays 11.20am – 4.30pm. Time will be allocated in the timetable to catch up lessons missed.

Costs
There are additional costs in this selecting this subject to cover books, resources, tools and uniform. The college will cover the tuition costs.

Future Pathway
This subject is designed to prepare students for Cabinet Making, Joinery Production, Furniture Design or Building and Construction.
VET Option
CERTIFICATE II in HAIRDRESSING and MAKE-UP (Hamilton District Skills Centre)

Rationale
This course is designed for students who have an interest in the Hair and Beauty industry.

Outline
This program provides students with the skills and knowledge at an entry level standard to enhance their career prospects within the hair and beauty industry.

Skill Development
Students acquire knowledge and skills in:
- Applying salon safety procedures
- Maintain and organise tools
- Greet and prepare clients for salon service
- Dry hair to shape
- Apply hair colour products
- Recommend hair, beauty and cosmetic products and services
- Perform head, neck and shoulder massages

Prerequisite
Must be Year 10 or at least 15 years old at the beginning of the year.

Time
Fridays 11.20am – 4.30pm. Time will be allocated in the timetable to catch up lessons missed.

Costs
There are additional costs in this selecting this subject to cover books, resources, tools and uniform. The college will cover the tuition costs.

Future Pathway
This subject is designed to prepare students for Hairdressing and Beauty industries.

VET Option
CERTIFICATE II in CREATIVE INDUSTRIES
(Hamilton District Skills Centre / Academy of Interactive Entertainment)

Rationale
This course provides students with the opportunity to learn the creative potential of 3D animation software used in the games, film and visual effects industry.

Outline
This course culminates in a production unit where students use the skills learnt to produce a short animated film by planning animation concept art, storyboards, modelling and animating their designs.

Skill Development
Students acquire knowledge and skills in:
- 3D modelling
- Texturing
- Animation
- Lighting
- Character design
- Environmental design
- Short movie production

Prerequisite
Must be Year 10 or at least 15 years old at the beginning of the year.

Time
Fridays 11.20am – 4.30pm. Time will be allocated in the timetable to catch up lessons missed.

Costs
There are additional costs in this selecting this subject to cover books, resources, tools and uniform. The college will cover the tuition costs.

Future Pathway
This subject is designed to prepare students for Certificate III in Screen and Media.
VET Option
CERTIFICATE II in CONSERVATION & LAND MANAGEMENT (Hamilton District Skills Centre / SW TAFE)

Rationale
This course provides the opportunity to acquire and develop the skills, knowledge and confidence to work in areas of conservation and land management.

Outline
This is a pre-apprenticeship course that deal in acquiring tool skills, both hand and electrical. Students also complete the CI card (construction industry induction) which allows them access to, and to work on, construction sites.

Skill Development
Students acquire knowledge and skills in:
- Recognising fauna and plants
- Carry out natural restoration work
- Treat weeds
- Install, maintain and repair fencing
- Propagation
- Seed collection

Prerequisite
Must be Year 10 or at least 15 years old at the beginning of the year.

Time
Fridays 11.20am – 4.30pm. Time will be allocated in the timetable to catch up lessons missed.

Costs
There are additional costs in this selecting this subject to cover books, resources, tools and uniform. The college will cover the tuition costs.

Future Pathway
This subject is designed to prepare students for horticultural and agriculture, Certificate III and Diploma of Conservation and Land Management.

VET Option
CERTIFICATE II in AGRICULTURE (Rural Industries Skills Training)

Rationale
This traineeship can be delivered as a school based traineeship, or as part of a full or part time job the involves work on the farm.

Outline
This course is geared towards ensuring minimal disruption whilst maximising learning opportunities for the Trainee. Delivery is structured around individual farming needs.

Skill Development
Students acquire knowledge and skills in:
- OH&S
- First Aid (Level 2)
- Operate ride-on vehicles
- Working dog training
- Livestock husbandry
- Environmental practices
- Dairy units
- Wool units
- Operation and maintenance of machinery

Prerequisite
Must be Year 10 or at least 15 years old at the beginning of the year.

Time
Flexible times throughout the year. Time will be allocated in the timetable to catch up lessons missed.

Costs
There are additional costs in this selecting this subject to cover books, resources, tools and uniform.

Future Pathway
This subject is designed to prepare students for further qualifications including Certificate III in Agriculture, Certificate IV in Agriculture and Diploma of Agriculture.
**VET Option**  
**CERTIFICATE II in SPORT AND RECREATION (Foundation Education)**

**Rationale**  
This course is for someone who is interested in providing supporting in the provision of sport and recreation programs, grounds and facilities maintenance, retail and customer service assistance, administrative assistance and in areas such as fitness centres, outdoor sporting grounds or aquatic centres.

**Outline**  
This qualification reflects the type of role individuals who apply the skills and knowledge to work in the sport and recreation industry in a generalist capacity.

**Skill Development**  
Students acquire knowledge and skills in:
- Participating in WH&S
- Participating in First Aid (Level 2)
- Organising and complete daily work activities
- Assist with activity sessions
- Respond to emergency situations
- Maintain sport, fitness and recreation industry knowledge
- Maintain equipment for activities
- Communicate effectively with others
- Coaching – sports injury prevention
- Coaching – knowledge of coaching practices

**Prerequisite**  
Must be Year 10 or at least 15 years old at the beginning of the year.

**Time**  
In addition to school time, 35 hours of work placement is required to successfully complete the certificate.

**Costs**  
There are additional costs in this selecting this subject to cover books, resources, tools and uniform.

**Future Pathway**  
This subject is designed to prepare students for further qualifications including Certificate III in Sport and Recreation.

**VET Option**  
**CERTIFICATE II in BUSINESS (Foundation Education)**

**Rationale**  
This qualification will provide students with the skills and knowledge to gain an entry level role in business, working under direct supervision. Students undertaking this course will refine skills in computer operations, business record-keeping, WH&S, customer service, communication and document creation.

**Outline**  
This course meets VCE requirements and students receive four VCE units of credit at Units 1 and 2.

**Skill Development**  
Students acquire knowledge and skills in:
- Delivering a service to customers
- Working effectively in a business environment
- Processing and maintaining workplace information
- Contributing to workplace innovation
- Participate in environmentally sustainable practices
- Contributing to health and safety of self and others
- Communicating electronically
- Creating and use spreadsheets
- Organising and complete daily work activities
- Using business technology

**Prerequisite**  
Must be Year 10 or at least 15 years old at the beginning of the year.

**Time**  
The total number of hours is 320. This will mean that students will need to undertake additional study outside of normal school time to complete the course.

**Costs**  
There are additional costs in this selecting this subject to cover books, resources, tools and uniform.

**Future Pathway**  
This subject is designed to prepare students for further qualifications including Certificate III in Business.
Glossary of Terms

**School Assessed Coursework (SAC)**
School assessed coursework, done mainly in class time, to establish how students are performing in Units 3 and 4. It must conform to the Study Design.

**Australian Tertiary Entrance Rank (ATAR)**
VCE students who satisfactorily complete scored VCE receive a Tertiary Entrance Rank, which indicates where they are placed on the percentile ranking of the relevant group in a given year. The ATAR is calculated after scaling (comparison) by the VTAC. The scaled results in English and the next best three studies, plus up to two increments (at 10%) are added for each student. They are then ranked on a scale of 0 – 99.95.

**Extra Requirements**
Requirements such as test, interviews, completing of extra forms, etc. must be fulfilled for applications to be eligible for the course.

**General Achievement Test (GAT)**
A GAT is a test that is done by all students doing a Unit 3 and 4 sequence. It is used by the Victorian Curriculum and Assessment Authority to check that schools are marking school-assessed tasks to the same standard. It does not count towards students’ VCE graduation, but GAT results are reported to students with their Statement of Results.

**Increment**
For a fifth and sixth study at Unit 3 and 4 level, 10% of the score for each study will be used in the creation of an ATAR. Any study may be counted for this purpose. Satisfactory completion of VET programs can count as the 5th or 6th study (10% of the average of the primary four subjects).

**Learning Outcomes**
What students must know, or be able to do, by the times they have finished a unit.

**Pre-requisite Studies**
These studies must be satisfactorily completed before students can be considered for that course. Usually these studies must be completed at Unit 3 and 4 level, but sometimes they are required at Units 1 and 2 level. Prerequisites can be listed as specific studies or as a range of studies from which the student can choose. Some courses require that a particular level of performance must also be achieved before that study can be counted as a prerequisite.

**Satisfactory Completion**
In plain language, this means student have passed a unit, that is, received an ‘S’ for the unit. If student do not satisfactory complete a unit, they gen an ‘N’ for it.

**Statement of Results**
A set of documents which formally state the results you achieved in the VCE, and whether students have graduated.

**School-Assessed Task**
A School Assessed Task is done in school to assess how students are performing in Units 3 and 4. These are set and marked by teachers according to Victorian Curriculum and Assessment Authority specifications (Studio Arts only).

**Study Design**
The Study Design is the description of the content of a study, and how students’ work is to be assessed. The Victorian Curriculum and Assessment Authority publish a Study Design for each VCE study. Schools and other VCE providers must adhere to the Study Designs.

**Study Score (Relative Position)**
A score from zero to 50 which shows how students performed in a study, relative to all other students doing that same study. It is based on results in school assessments and examinations.

**Units**
Units are the parts of a study. There are usually for units in a study, numbered 1, 2, 3 & 4.

**Victorian Curriculum and Assessment Authority (VCAA)**
The VCAA is a Victorian State Government authority responsible to the Minister of Education for conducting the VCE and other educational duties.

**Victorian Tertiary Admission Centre (VTAC)**
In the agency of Victorian Tertiary Institutions responsible for administering a joint selection system into those institutions. It does not select applicants.

**Vocational Education and Training (VET) subjects**
These subjects combing general VCE studies with vocational training and experience in the workplace.

**Scaling**
A study score provides an indication of your performance in a particular study. It does not provide an indication of your overall performance compared with all students across all studies. To provide an overall measure of the performance of all students across all studies, VTAC adjusts the study score based on the overall VCE performance of the students taking that study. This process is called “scaling”.

**Distance Education**
Student numbers determine which subjects are offered. If a subject is necessary for your career pathway than study by Distance Education can be an option. Distance Education units require motivation, organisation, focus and dedication.