# Index

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the Senior School</td>
<td>1</td>
</tr>
<tr>
<td>Key Dates</td>
<td>2</td>
</tr>
<tr>
<td><strong>The Arts</strong></td>
<td>8</td>
</tr>
<tr>
<td>Drama</td>
<td>9</td>
</tr>
<tr>
<td>Media</td>
<td>12</td>
</tr>
<tr>
<td>Music Performance</td>
<td>15</td>
</tr>
<tr>
<td>Music Style and Composition</td>
<td>18</td>
</tr>
<tr>
<td>Studio Arts</td>
<td>21</td>
</tr>
<tr>
<td>Theatre Studies</td>
<td>25</td>
</tr>
<tr>
<td>Visual Communication &amp; Design</td>
<td>27</td>
</tr>
<tr>
<td><strong>The English Group</strong></td>
<td>31</td>
</tr>
<tr>
<td>VCE Englishes</td>
<td>32</td>
</tr>
<tr>
<td>English &amp; English as an Additional Language (EAL)</td>
<td>33</td>
</tr>
<tr>
<td>English Language</td>
<td>35</td>
</tr>
<tr>
<td>Literature</td>
<td>38</td>
</tr>
<tr>
<td><strong>Health &amp; Physical Education</strong></td>
<td>41</td>
</tr>
<tr>
<td>Health &amp; Human Development</td>
<td>42</td>
</tr>
<tr>
<td>Physical Education</td>
<td>46</td>
</tr>
<tr>
<td><strong>Humanities (Including Business)</strong></td>
<td>50</td>
</tr>
<tr>
<td>Accounting</td>
<td>51</td>
</tr>
<tr>
<td>Australian &amp; Global Politics</td>
<td>54</td>
</tr>
<tr>
<td>Business Management</td>
<td>56</td>
</tr>
<tr>
<td>Economics</td>
<td>59</td>
</tr>
<tr>
<td>History</td>
<td>63</td>
</tr>
<tr>
<td>Legal Studies</td>
<td>66</td>
</tr>
<tr>
<td>Philosophy</td>
<td>69</td>
</tr>
<tr>
<td><strong>Computing</strong></td>
<td>72</td>
</tr>
<tr>
<td>Computing Units 1 &amp; 2</td>
<td>73</td>
</tr>
<tr>
<td>Informatics Units 3 &amp; 4</td>
<td>74</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>76</td>
</tr>
<tr>
<td>VCE Mathematics Choices</td>
<td>77</td>
</tr>
<tr>
<td>Foundation Mathematics Units 1 &amp; 2</td>
<td>78</td>
</tr>
<tr>
<td>General Mathematics (GM) Units 1 &amp; 2</td>
<td>79</td>
</tr>
<tr>
<td>Further Mathematics Units 3 &amp; 4</td>
<td>80</td>
</tr>
<tr>
<td>Mathematical Methods Units 1 &amp; 2</td>
<td>82</td>
</tr>
<tr>
<td>Mathematical Methods Units 3 &amp; 4</td>
<td>83</td>
</tr>
<tr>
<td>Specialist Mathematics (SM) Units 1 &amp; 2</td>
<td>85</td>
</tr>
<tr>
<td>Specialist Mathematics (SM) Units 3 &amp; 4</td>
<td>86</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>88</td>
</tr>
<tr>
<td>Biology</td>
<td>89</td>
</tr>
<tr>
<td>Chemistry</td>
<td>93</td>
</tr>
<tr>
<td>Physics</td>
<td>97</td>
</tr>
<tr>
<td>Psychology</td>
<td>101</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>105</td>
</tr>
<tr>
<td>Food Studies</td>
<td>106</td>
</tr>
<tr>
<td>Product Design &amp; Technology</td>
<td>109</td>
</tr>
<tr>
<td>Systems Engineering</td>
<td>113</td>
</tr>
<tr>
<td>Vocational Education &amp; Training (VET)</td>
<td>115</td>
</tr>
<tr>
<td>The Victorian Certificate of Applied Learning – VCAL</td>
<td>117</td>
</tr>
<tr>
<td>Careers Information</td>
<td>122</td>
</tr>
<tr>
<td>Program Outlines</td>
<td>125</td>
</tr>
<tr>
<td><strong>Glossary of Terms</strong></td>
<td>129</td>
</tr>
</tbody>
</table>
Introduction to the Senior School

Wellington has always taken a great deal of pride in the academic success of its students, however success can be measured in many ways: academic skills, personal or social achievements. At Wellington, we work with students to help them achieve their dreams and goals in life. Therefore, at the conclusion of their senior studies, students depart Wellington Secondary College in the knowledge that they had a first rate education, they have a direction in life and the skills, ability and confidence to meet the life challenges that lie ahead.

Students are easily identified by their navy College pullover and enjoy a number of privileges due to their seniority. As members of the College Community, senior students are expected to be positive role models by their consistent application to studies and total commitment to all areas of the College Program.

In all VCE studies, assessment methods focus on completion of tasks both during normal class time and after school. After school assessment allows for fairness and consistency in all classes in a given subject. All units require a minimum class attendance rate of 90% to achieve a satisfactory result.

VCAL students attend classes at school three days a week in addition to attending a VET course and undertaking Work Placement or part-time/casual employment. They must be organised to manage each of these components of their course.

Senior studies are stressful and require a lot of dedication. The Senior School Team of Year Level Coordinators as well as the Careers and Student Welfare Teams are always here to assist students. If you have any queries, please do not hesitate to contact me by phone or via Compass.

Jennifer LAVIN
Head of Senior School
## Key Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>June/July 2016</td>
<td>Publication of the Senior School Handbook</td>
</tr>
<tr>
<td></td>
<td>Year 9 – brief overview by the Director of Student Pathways</td>
</tr>
<tr>
<td></td>
<td>Year 10 – brief overview by the Head of Senior School and the Director of Student Pathways</td>
</tr>
<tr>
<td>Wednesday 20th July</td>
<td>Information Sessions:</td>
</tr>
<tr>
<td></td>
<td>Session 1: Existing Year 10 Students – 4.30-6pm in the Wellbeing Centre</td>
</tr>
<tr>
<td></td>
<td>Session 2: New Families Year 8-12 commencing at 6.15pm in the MJP Theatre</td>
</tr>
<tr>
<td>Monday 25th July</td>
<td>Course Selection with Course Counsellors for Year 11 students</td>
</tr>
<tr>
<td>Friday 29th July</td>
<td>Course Selection with Course Counsellors for Year 10 students</td>
</tr>
<tr>
<td>August</td>
<td>Planning regarding studies/subjects to be offered by Wellington Secondary College</td>
</tr>
<tr>
<td>September</td>
<td>Preliminary time-table blocking of units</td>
</tr>
<tr>
<td>October/November</td>
<td>Further counselling on course selections, where necessary, based on review of this year’s results. Individual interviews with students/parents where necessary</td>
</tr>
<tr>
<td>November</td>
<td>Final blocking of units and course selection completed. Confirmation to students of 2017 studies</td>
</tr>
<tr>
<td>Wednesday 1st February 2017</td>
<td>Commence 2017 Senior School classes</td>
</tr>
</tbody>
</table>

Note: The College will endeavour to offer as many VCE/VCAL/VET units as possible. All offers of units are initially provisional and final classes are dependent on staff availability, level of student interest and blocking constraints of the timetable.

### Further Assistance

If parents or students would like further assistance with any matters regarding VCE/VCAL/VET beyond that which is already offered, please ring the College and arrange an appointment.

### Contact Details

- **Head of Senior School:** Ms Jennifer LAVIN
- **Director of Student Pathways:** Ms Lucinda HUFFER
- **VCAL Coordinator:** Ms Jan MANN

Wellington Secondary College:

- **Telephone:** (03) 9547 6822
- **Facsimile:** (03) 9548 4483
- **Email:** wellington.sc@edumail.vic.gov.au
Introduction

The purpose of this Handbook is to provide a resource for students and their parents/guardians to assist them with planning for years 11 and 12.

In selecting courses and subjects students must plan carefully. These decisions form the basis of future pathways – whether this may be employment, an apprenticeship or further study at a tertiary institution (TAFE or University). Students should consider:

- The careers they are interested in pursuing. University courses have prerequisites (subjects which must be taken as part of VCE studies in order to be eligible for selection into a course). Subjects must be chosen with prerequisites in mind
- Their skills and abilities – they should ask themselves “what am I good at?” Consider past test and assessment results
- What they enjoy studying
- What will help provide more career options if they are undecided

Choosing between VCE & VCAL

At Wellington Secondary College students can choose to study the Victorian Certificate of Education (VCE) or the Victorian Certificate of Applied Learning (VCAL). These options are described in more detail later in the Handbook. The key differences are summarised below:

- VCE is a two-year certificate with scored assessments leading to the award of an ATAR. An ATAR is required for entry into University courses
- VCAL consists of several one-year certificates, making it more suited to students who are not intending to go on to University study, or who are not sure whether they intend to undertake year 12 studies. Students who complete Senior VCAL (studied at year 12 level) are eligible for entry into many TAFE courses. However, many students undertaking VCAL are planning to go on to a trade or employment
- VCE students typically select 6 subjects at year 11 level and 5 at year 12 level
- VCAL students select a Vocational Education and Training (VET) course, with the remainder of their study consisting of compulsory units

There is more information on VCAL in a later section of this Handbook. Interested students can also contact Mrs Jan Mann, the VCAL Coordinator.

Support with Course & Subject Selection

All year 10 classes will incorporate several lessons devoted to subject selection. Students will receive resources to help them identify prerequisites and plan their VCE or VCAL. In addition, there will be a course counselling day where each year 10 student will have an individual counselling appointment. Parents/guardians are invited to attend and notification regarding the day will be sent home via Compass.

Selecting a VCE Program

- Each VCE unit is numbered 1, 2, 3 or 4
- Units 1 & 2 are usually studied in Year 11, although some students may have already completed some Units 1 & 2 in Year 10
- Units 3 & 4 are normally completed in Year 12; however, some Units 3 & 4 may be studied by students in Year 11
• Most students at Wellington Secondary College will do 22 units over two years:
  • Year 11: 6 Units in Semester 1 and 6 Units in Semester 2 = 12 Units
  • Year 12: 5 Units in Semester 1 and 5 Units in Semester 2 = 10 Units

Units 1 & 2 of a study can be done separately or as a sequence (i.e. a pair). Units 3 & 4 of all studies must be done as a sequence and completed in the same year in order for the student to be awarded a Study Score out of 50 which contributes to the ATAR.

Satisfying the Requirements for the Award of the VCE

The minimum requirement for the award of the VCE is satisfactory completion of 16 units, which must include at least three units from the English group. These units may be selected from English, English as an Additional Language (EAL – only for eligible students), Literature or English Language.

• If a student does not satisfy the requirements of both Unit 3 and Unit 4 of an English study, he or she will not receive a Study Score and will not be awarded an ATAR.

• Students must also satisfactorily complete at least three sequences of Unit 3 & 4 other than English – this can include Vocational Education and Training (VET) studies. Further information on the selection of a VET course can be obtained from Ms Huffer.

Sample program outlines have been included in a later section of this Handbook. These sample outlines cover the main areas of learning and are designed to give students some guidance in selecting a program which best suits their needs.

Assessment Structure for VCE Studies

Each VCE unit has a set of two to four learning outcomes set by the Victorian Curriculum and Assessment Authority (VCAA). For each outcome the student will be awarded either an ‘S’, indicating that he/she has produced and submitted work that meets the required standard, or an ‘N’, indicating that he/she has not produced work that meets the required standard or has not met the College attendance requirements. The award of satisfactory completion of a unit (reported to parents/guardians as an ’S’) is based on the students demonstrating achievement of the outcome. The teacher will assess the student’s performance.

In order to be awarded an ‘S’ a student must:

• Produce work that demonstrates achievement of the outcomes
• Submit work on time
• Submit work that is clearly his/her own
• Observe Victorian Curriculum and Assessment Authority (VCAA) and school rules, including meeting the 90% attendance requirement

Assessment of Units 1 & 2

In Units 1 and 2 some tasks are graded A to UG to indicate level of performance. These assessments will provide a useful record for each student and introduces the way in which assessment will work in Year 12. Grades on Unit 1 and 2 tasks indicate a student’s preparedness for Year 12 studies and may be used in course counselling interviews. A student would need to achieve good grades in Year 11 to be well prepared for success in Year 12 studies.

Please note: Year 11 students MUST sit Unit 1 & 2 exams to gain an ‘S’ (for ‘Satisfactory’) in each unit.
Assessment of Units 3 & 4

A student’s level of performance is assessed using school-based assessment and external examinations. The weighting of examinations varies from subject to subject. These assessments will be reported as grades A+ to UG (ungraded). These grades are awarded to students by VCAA.

There are two forms of graded school assessment for Units 3 & 4; school assessed coursework (SAC) and school assessed tasks (SAT):

- SATs are used in studies where products are assessed, such as Studio Arts, Product Design and Technology, Media and Visual Communication and Design
- SACs are the more common form of assessment tasks and are used to assess learning outcomes
- SACs provide teachers with the opportunity to monitor the progress and work of students and to provide students with feedback on how well they are achieving the outcome.

VCE Year 11 Course Structure

Students in Year 11 will select at least one subject from the English group at Units 1 & 2 level in addition to 5 other subjects. Where students are able to demonstrate commitment to their studies and are achieving very good or excellent results it may be appropriate to include a Unit 3 & 4 sequence in Year 11.

Year 11 Students Wishing to Undertake Units 3 & 4 Studies

Students interested in undertaking a Unit 3 & 4 study in Year 11 will apply through the normal course selection process. It is recommended that students have completed Unit 1 & 2 in the same study.

Students who wish to enrol in VCE Unit 3 & 4 studies in Year 11 must meet the following requirements:

- A high attendance rate for the current year
- Demonstrated academic excellence over the entire curriculum in the current year
- Some studies cannot be taken at Unit 3 & 4 level without the completion of Units 1 & 2. Where this is the case, students must satisfactorily complete both Units 1 & 2 and achieve results which indicate that they will succeed with Units 3 & 4 of the study
- Demonstrated commitment to study and well-developed time management skills

Please Note: Undertaking a Unit 1 & 2 study in Year 10 does not automatically qualify students to continue with Unit 3 & 4 of that study in Year 11.

Progression to Year 12

Year 11 students are required to satisfactorily complete a minimum of 8 units to advance to Year 12. Parent/guardians will be contacted where their child is at risk of not meeting this requirement. Each student’s performance will be reviewed on an individual basis.
VCE Year 12 Course Structure

Students in Year 12 will study at least one subject from the English group at Units 3 & 4 and four other subjects. This means that in the 6 block timetable each student will have a spare block for supervised private study. Students are not permitted to study fewer than 4 studies at Wellington Secondary College in each academic year.

Students planning to select a subject at Unit 3 & 4 level that they did not study at Unit 1 & 2 level are advised to seek advice from the Careers staff. Some subjects require completion of Units 1 & 2 as a prerequisite for Units 3 & 4. Studies which may be suitable to commence at Unit 3 & 4 level include:

- Biology
- Business Management
- Drama
- Economics
- Health and Human Development
- History
- Informatics
- Legal Studies
- Media
- Philosophy
- P.E.
- Psychology *

* more suited to students who have already studied a Science subject.

Extension Studies

High achieving students may wish to apply for Higher Education Extension Studies offered by universities. They would be required to meet the university selection requirements for entry and pay a charge for this study. Interested students can see Ms Lavin or Ms Huffer for further details.

Choice of Studies

While the school tries very hard to accommodate students’ subject selections, where there are clashes in the timetable or where a small number of students select a subject, some flexibility may be necessary.

Tertiary Entry Requirements & the ATAR

Each Unit 3 & 4 study will be scored out of 50 (known as a ‘study score’). The score which determines entry into university and TAFE courses, the ATAR, is calculated using:

- a student’s best score in any one of the English studies, plus
- the scores of their next best three permissible studies (which together with the English study make the ‘Primary Four’), plus
- 10 per cent of the scores for any fifth and sixth study which they may have completed (these are called increments).

These are added together to arrive at an aggregate score. The ATAR is a percentile ranking. For example, if a student achieves an ATAR of 60, this indicates that they have performed better than 60% of students who completed their VCE in the same year.
EAL Status – Non-English Speaking Background, Aboriginality, Hearing Impaired

Students whose major language of instruction has not been English for more than seven years may be considered eligible for EAL status. Students need to provide evidence (e.g. passport with date of entry stamp, documentary evidence of language of instruction) to support their application for EAL status. Students of Aboriginal or Torres Strait Islander descent or students who are hearing impaired may also be eligible for EAL status. All students in these categories should discuss the matter with the Head of Senior School. All students who wish to study EAL must complete the application form and get approval from Ms Lavin.

Special Provision

Students who may be eligible for Special Provision due to an ongoing medical condition or learning difficulty must provide current medical documentation to the Head of Senior School at the beginning of the year.

Students who experience a medical condition or difficulty that affects performance during an assessment task in Units 3 & 4 studies should apply for Special Provision to the Head of Senior School.
The Arts

Drama
Media
Music Performance
Music Style & Composition
Studio Arts
Theatre Studies
Visual Communication
& Design
Unit 1: Dramatic Storytelling

Topics Studied:

- Creating, presenting and analysing a devised performance that includes real or imagined characters and is based on stimulus material that reflects personal, cultural and/or community experiences and stories
- Analysis of the student’s own performance work and of a performance by professional drama practitioners
- Performance styles from a range of contexts associated with naturalism and non-naturalism
- Storytelling through the creation of solo and/or ensemble devised performance/s
- Expressive skills in the creation and presentation of characters
- How characters are portrayed in naturalistic and non-naturalistic performance styles
- How performance is shaped and given meaning
- Stimulus material and stagecraft, conventions and performance styles from a range of contexts
- The terms ‘character’, ‘performance’, ‘story’ and ‘style’ can be understood as one or more characters, performances, stories or styles

Areas of Study:

- Creating a devised performance
- Presenting a devised performance
- Analysing a devised performance
- Analysing drama performances presented by other practitioners

Learning Outcomes:

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

- Devise and document solo and/or ensemble drama work/s based on experiences and/or stories
- Perform a devised drama work/s to an audience
- Analyse the development and performance to an audience of their non-naturalistic devised work
- Analyse the portrayal of stories and characters in a drama performance by professional or other drama practitioners
Unit 2: Non-Naturalistic Australian Drama

Topics Studied:

- The processes involved in constructing a devised solo or ensemble performance that uses non-naturalistic performance styles
- Create, present and analyse a performance based on a person, an event, an issue, a place, an artwork, a text and/or an icon from a contemporary or historical Australian context
- Use a range of stimulus material in creating the performance and examine non-naturalistic performance styles from a range of contexts relevant to Australia and Australians
- Students’ knowledge of how dramatic elements can be enhanced or manipulated through performance is further developed in this unit
- Analyse performance work as well as undertake the analysis of a performance of an Australian work by other actors
- Use performance styles from a range of historical, cultural and social contexts including styles associated with non-naturalism

Areas of Study:

- Using Australia as inspiration
- Presenting a devised performance
- Analysing a devised performance
- Analysing Australian drama performance

Learning Outcomes:

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

- Devise and document the processes used to create a solo or ensemble non-naturalistic performance work
- Present a performance of a devised non-naturalistic work to an audience
- Analyse the creation, development and performance to an audience of their non-naturalistic devised work
- Analyse a performance of an Australian drama work

Assessment (Covers Units 1 & 2):

Devise and rehearse a devised non-naturalistic solo or ensemble drama and document the processes used in a journal; perform a solo and/or ensemble devised drama work/s that features stories and characters; analyse the drama work created and performed; undertake a written analysis.

Unit 3: Devised Non-Naturalistic Ensemble Performance

Topics Studied:

- Non-naturalistic performance styles and associated conventions from a diverse range of contemporary and cultural performance traditions and work collaboratively to devise, develop and present an ensemble performance
- Use and manipulate dramatic elements, conventions, performance and expressive skills, performance styles and stagecraft in non-naturalistic ways to shape and enhance the performance
- Stages involved in the creation, development and presentation of the ensemble performance
- Analyse a professional performance that incorporates non-naturalistic performance styles and production elements
Areas of Study:
- Devising and presenting non-naturalistic ensemble performance
- Responding to devised ensemble performances
- Analysing non-naturalistic performance

Learning Outcomes:
On completion of this unit the student should be able to:
- Develop and present character/s within a devised non-naturalistic ensemble performance
- Analyse the use of processes, techniques and skills to create and present a devised ensemble performance
- Analyse and evaluate a non-naturalistic performance

Unit 4: Non-Naturalistic Solo Performance

Topics Studied:
- Non-naturalistic performance styles and associated conventions from a diverse range of contemporary and cultural performance traditions
- Skill in extracting dramatic potential from stimulus material and use dramatic elements, conventions, performance styles and performance and expressive skills to develop and present a short solo performance
- Create a devised solo performance in response to a prescribed structure
- The stages involved in the creation, development and presentation of a solo performance.
- Students are encouraged to attend performances that incorporate non-naturalistic performance styles to support their work in this unit

Areas of Study:
- Working with stimulus material
- Devising a non-naturalistic solo performance
- Analysing devised non-naturalistic solo performance

Learning Outcomes:
On completion of this unit the student should be able to:
- Devise a solo performance in response to given stimulus material and describe the non-naturalistic qualities of the performance
- Create, develop and perform a non-naturalistic drama solo in response to a prescribed structure
- Analyse and evaluate the creation, development and presentation of a devised non-naturalistic solo performance

Assessment:
Percentage contributions to the study score in Drama are as follows:
- Units 3 and 4 School-assessed Coursework = 40%
- End-of-year performance examination = 35%
- End-of-year written examination = 25%
Media

Unit 1: Representation & Technologies of Representation

Topics Studied:
- The relationship between the media, technology and the representations present in media forms
- The relationships between media technologies, audiences and society
- Practical and analytical skills
- The creative and cultural impact of new media technologies

Areas of Study:
- Representation
- Technologies of representation
- New media

Learning 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

Unit 2: Media Production & the Media Industry

Topics Studied:
- The specialist production stages and roles within the collaborative organisation of media production
- Specific stages of a media production, with students developing practical skills in their designated role Media industry issues and developments relating to production stages and roles and the broader framework within which Australian media organisations operate

Areas of Study:
- Media production
- Media industry production
- Australian media organisations
Learning 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

Assessment (Covers Units 1 & 2):
Assessment tasks for Media are selected from the following: radio or audio sequences; audio-visual or video sequences; photographs; print layouts; multimedia sequences or presentations; posters; tests; written responses; oral reports.

Unit 3: Narrative & Media Production Design

Topics Studied:

- An understanding of film, television or radio drama production and story elements, and the role and significance of narrative organisation in fictional film, television or radio drama texts
- How production and story elements work together to structure meaning in narratives to engage audiences
- Practical skills through undertaking exercises related to aspects of the design and production process
- Complete a media production design plan for a specific media form and audience
- Present the relevant specifications as a written planning document, with visual representations that employ media planning conventions appropriate to the media form in which the student chooses to work

Areas of Study:

- Narrative
- Media production skills
- Media production design

Learning 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
Unit 4: Media: Process, Influence & Society’s Values

Topics Studied:
- Students further develop practical skills in the production of media products to realise the production design plan completed during Unit 3
- Organisational and creative skills are refined and applied throughout each stage of the production process
- The relationship between media texts, social values and discourses in the media
- The nature and extent of media influence, the relationship between the media, media audiences and media regulation are also critically analysed in this unit

Areas of Study:
- Media process
- Media texts and society’s values
- Media influence

Learning 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

Assessment:
Percentage contributions to the study score for Media are:
- Unit 3 School-assessed Coursework = 6%
- Unit 4 School-assessed Coursework = 12%
- School-assessed Task = 37%
- End-of-year examination = 45%
Music Performance

Unit 1: Music Performance

Topics Studied:

- Building students’ performance and musicianship skills to present performances of selected group and solo music works using one or more instruments
- Study the work of other performers and explore strategies to optimise the student’s own approach to performance
- Identify technical, expressive and stylistic challenges relevant to works the student is preparing for performance and endeavour to address these challenges
- Develop listening, aural, theoretical and analytical musicianship skills and apply this knowledge when preparing and presenting performances

Areas of Study:

- Performance
- Preparing for performance
- Music language

Learning Outcomes:

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

- Prepare and perform a program of group and solo works
- Demonstrate and discuss techniques relevant to the performance of selected works
- Identify, re-create, extend and notate music language components and short phrases, and describe ways elements of music may be interpreted

Unit 2: Music Performance

Topics Studied:

- Building performance and musicianship skills
- Present performances of selected group and solo music works using one or more instruments and take opportunities to perform in familiar and unfamiliar venues and spaces
- Study the work of other performers and refine selected strategies to optimise the student’s own approach to performance
- Identify technical, expressive and stylistic challenges relevant to works the student is preparing for performance and endeavour to address these challenges
- Develop listening, aural, theoretical and analytical musicianship skills and apply this knowledge when preparing and presenting performances

Areas of Study:

- Performance
- Preparing for performance
- Music language
- Organisation of sound
Learning Outcomes:
On completion of this unit the student should be able to:

- Prepare and perform a program of group and solo works
- Demonstrate and discuss techniques relevant to performance of selected works
- Re-create, extend and notate music language components and short phrases, and describe ways elements of music may be interpreted
- Devise a composition or an improvisation that uses music language evident in work/s being prepared for performance

Assessment (Covers Units 1 & 2):
Assessment tasks for Music Performance may include: Performances of at least three works, including at least one group work and one solo work with accompaniment; a test or other performance context; an explanation of how selected material supports the student’s development as an instrumentalist and their preparation of works performed - the explanation may be presented in written, oral or multimedia format; aural, written and practical tasks; a composition or an improvisation and accompanying documentation that describes use of music language in the exercise/s.

Unit 3: Music Performance

Topics Studied:

- Building and refining performance and musicianship skills
- Focus on either group or solo performance and preparation of a performance program to present in the end-of-year examination
- Present performances of both group and solo music works using one or more instruments and take opportunities to perform in familiar and unfamiliar venues and spaces
- Study the work of other performers and refine selected strategies to optimise the student’s own approach to performance
- Identify technical, expressive and stylistic challenges relevant to works the student is preparing for performance and endeavour to address these challenges
- Develop listening, aural, theoretical and analytical musicianship

Areas of Study:

- Performance
- Preparing for performance
- Music language
Learning Outcomes:
On completion of this unit the student should be able to:

- Prepare and perform a program of group and solo works, and demonstrate a diverse range of techniques and expressive qualities and an understanding of a wide range of music styles and performance conventions
- Demonstrate and discuss techniques relevant to performance of selected works
- Identify, re-create, notate and transcribe short excerpts of music, and discuss the interpretation of expressive elements of music in pre-recorded works

Unit 4: Music Performance

Topics Studied:

- Further development and refinement of performance and musicianship skills
- Focus on either group or solo performance and continue preparation of a performance program the student will present in the end-of-year examination
- Present performances of both group and solo music works using one or more instruments and take opportunities to perform in familiar and unfamiliar venues and spaces
- Through analyses of other performers’ interpretations and feedback on the student’s own performances, he/she refines interpretations and optimises performance
- Address challenges relevant to works being prepared for performance and to strengthen listening, aural, theoretical and analytical musicianship skills

Areas of Study:

- Performance
- Preparing for performance
- Music language

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

- Prepare and perform informed interpretations in a program of group and solo works, and demonstrate a diverse range of techniques, expressive qualities and understanding of a wide range of music styles and performance conventions
- Demonstrate and discuss techniques relevant to refining the performance of selected works
- Identify, re-create, notate and transcribe short excerpts of music, and discuss the interpretation of expressive elements of music in pre-recorded works

Assessment:
Percentage contributions to the study score in Music Performance are as follows:

- School-assessed Coursework for Unit 3 = 20%
- School-assessed Coursework for Unit 4 = 10%
- End-of-year performance examination = 50%
- End-of-year aural and written performance = 20%
Music Style & Composition

Unit 1: Music Style and Composition

Topics Studied:
- Develop an understanding of the diverse practice of music creators working in different times, places and traditions
- Listen and respond to a wide range of music to become familiar with ways composers/music creators treat elements of music and students use compositional devices to create music works that communicate the student’s own music ideas
- Analyse selected works from three distinct music styles including music that is not from the Western art music or popular repertoires, and consider the role that context plays in the creation of these works
- Compose and/or arrange brief creative exercises in response to understanding of the music and the creative processes studied

Areas of Study:
- Responses to music
- Organisation and context
- Creative responses

Learning Outcomes:
- On completion of this unit the student should be able to:
  - Identify and describe characteristics of music and describe their subjective responses to music
  - Identify and describe music characteristics and contexts of selected works
  - Compose and/or arrange short music works and describe the creative processes used

Unit 2: Music Style and Composition

Topics Studied:
- Extend understanding of the diverse practices of music creators as students investigate ways composers and/or creators treat elements of music and students will use compositional devices to create effects and elicit responses in multi-disciplinary forms
- Listen and respond to music from a wide range of music styles, to improve familiarity with elements of music and ways composers/music creators treat these elements and use compositional devices to create specific effects
- Analyse specific multi-disciplinary works that combine music and non-music elements and investigate how music combines with these other elements to achieve specific effects and elicit responses
- Students compose and/or arrange music for a multi-disciplinary work of their choice in response to their understanding of the music and the creative processes studied
Areas of Study:

- Responses to music
- Organisation and context
- Creative processes in music for multi-disciplinary forms

Learning Outcomes:

- On completion of this unit the student should be able to:
  - Identify and describe ways in which elements of music and compositional devices are used to create effects and elicit responses
  - Describe characteristics of music in two works that combine music and non-music features, and discuss the contexts and processes used to create the music
  - Create music for a work that combines music and non-music components, and describe the creative processes used

Assessment (Covers Units 1 & 2):

A folio of four to eight responses based on aural analysis of excerpts of music from a range of styles and/or traditions, including music that is not representative of the Western art or popular music traditions. Responses may be presented in one or more of the following formats: written, oral, multimedia including a written component; aural and visual analysis and description of characteristics of selected works presented in one of the following formats: a report, structured questions, a multimedia presentation, an annotated visual report, an oral presentation; a folio that includes at least two creative responses and accompanying documentation

Unit 3: Music Style and Composition

Topics Studied:

- Continue exploration of music works in a range of styles and genres to develop an understanding of the diverse practices of music creators working in different times, places and stylistic traditions
- Knowledge of ways composers/music creators manipulate elements of music and use compositional devices to create style and elicit responses
- Making critical responses to music excerpts
- Music characteristics and style of two selected works or collections of minor works, one of which must be by an Australian composer/creator, and develop understanding of the role that context plays in the creation of these works
- Compose brief creative exercises in response to understanding of the music characteristics and the creative processes evident in the works selected for study

Areas of Study:

- Responses to music
- Organisation and context
- Creative responses

Learning Outcomes:

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

- Aurally analyse music and make critical responses to music.
- Analyse and describe the use of the elements of music and compositional devices in music works, and discuss the style and the context from which the works emerged
- Create two original music exercises and describe the relationship between the exercises and the source music studied
Unit 4: Music Style and Composition

Topics Studied:
- Consolidate understanding of the diverse practices of music creators working in different times
- The ways composers/music creators manipulate elements of music and use compositional devices to create style, structure music works and elicit subjective responses
- Formulate and present critical responses to music excerpts
- Music characteristics and style of one short work, single movement or small collection of minor works created since 1950, and the role that context has played in the creation of this work
- Create an original music work and document the creative processes from initial intention to final outcome

Areas of Study:
- Responses to music
- Organisation and context
- Creative processes

Learning Outcomes:
On completion of this unit the student should be able to:
- Aurally analyse music and make critical responses to music
- Analyse and explain the use of the elements of music and compositional devices in a music work, and discuss the style and the context from which the work emerged
- Create, document and evaluate an original work

Assessment:
Percentage contributions to the study score for Music Style and Composition are as follows:
- School-assessed Coursework for Unit 3 = 15%
- School-assessed Coursework for Unit 4 = 15%
- Externally-assessed Task = 30%
- End-of-year aural and written examination = 40%
Studio Arts

Unit 1: Studio Inspiration and Techniques

Topics Studied:
- Understanding of the stages of studio practice and how to explore, develop, refine, resolve and present artworks
- Explore sources of inspiration, research artistic influences, develop individual ideas and explore a range of materials and techniques related to specific art forms
- Using documented evidence in a visual diary, students progressively refine and resolve their skills to communicate ideas in artworks
- Research and analyse the ways in which artists from different times and cultures have developed their studio practice to interpret and express ideas, source inspiration and apply materials and techniques in artworks

Areas of Study:
- Researching and recording ideas
- Studio practice
- Interpreting art ideas and use of materials and techniques

Learning 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

Unit 2: Studio Exploration and Concepts

Topics Studied:
- Establish and use a studio practice to produce artworks
- The studio practice includes the formulation and use of an individual approach to documenting sources of inspiration, and experimentation with selected materials and techniques relevant to specific art forms
- Explore and develop ideas and subject matter, create aesthetic qualities and record the development of the work in a visual diary as part of the studio process
- Study art movements and styles to understand the use of other artists’ work in the making of new artworks
- Develop skills in the visual analysis of artworks
- Artworks made by artists from different times and cultures are analysed to understand developments in studio practice
- Using a range of art periods, movements or styles, students develop a broader knowledge about the history of art
- Understand the artists’ ideas and how they have created aesthetic qualities and subject matter
- Comparisons of contemporary art with historical art styles and movements
Areas of Study:
- Exploration of studio practice and development of artworks
- Ideas and styles in artworks

Learning 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

Assessment:
Outcome 1
- undertaking an exploration proposal
- undertaking studio process
- producing at least one artwork

Outcome 2
Assessment tasks may be selected from the following: an extended response; short-answer responses; a presentation using digital technologies; an oral presentation.

Unit 3: Studio Practices and Processes

Topics Studied:
- Implement an individual studio process leading to the production of a range of potential directions
- Develop and use an exploration proposal to define an area of creative exploration
- Plan and apply a studio process to explore and develop their individual ideas. Analysis of these explorations and the development of the potential directions is an intrinsic part of the studio process to support the making of finished artworks in Unit 4
- The student determines the studio process. This process records trialling, experimenting, analysing and evaluating the extent to which art practices successfully communicate ideas presented in the exploration proposal
- Progressively develop and identify a range of potential directions
- The study of artists and their work practices and processes may provide inspiration for students’ own approaches to art making
- Investigate and analyse the response of artists to a wide range of source material and examine their use of materials and techniques
- Explore professional art practices of artists from different historical and cultural contexts in relation to particular artworks and art forms
Areas of Study:
Exploration proposal
- Studio process
- Artists and studio practices

Learning 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

Unit 4: Studio Practice and Art Industry Contexts

Topics Studied:
- Focus on the planning, production and evaluation required to develop, refine and present artworks that link cohesively according to the ideas resolved in Unit 3
- Present visual and written evaluation that explains why the student selected a range of potential directions from Unit 3 to produce at least two finished artworks in Unit 4
- The development of these artworks should reflect refinement and skilful application of materials and techniques, and the resolution of ideas and aesthetic qualities discussed in the exploration proposal in Unit 3
- Students provide an evaluation about the cohesive relationship between the artworks
- Investigate aspects of artists’ involvement in the art industry, focusing on at least two different exhibitions that the student has visited in the current year of study with reference to specific artworks in those exhibitions
- Investigate the methods and considerations of the artist and/or curator involved in the preparation, presentation and conservation of artworks displayed in exhibitions in at least two different galleries or exhibitions
- Examine a range of environments for the presentation of artworks including public galleries and museums, commercial and private galleries, university art galleries, artist-run spaces, alternative art spaces and online gallery spaces

Areas of Study:
- Production and presentation of artworks
- Evaluation
- Art industry contexts
Learning 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

Assessment:
Percentage contributions to the study score in Studio Arts are as follows:

- Unit 3 School-assessed Coursework = 5%
- Unit 4 School-assessed Coursework = 5%
- Unit 3 & 4 School-assessed Task = 60%
- End-of-year examination = 30%

Additional Information:

- Students taking photography as their focus area must have a 35mm camera
- Study in these areas will provide students with further insight into possible careers in fine art and design and help to prepare a folio for entry into art and design based studies and TAFEs and Universities
- There is a materials levy per year of study:
  - Units 1 & 2 = $120
  - Units 3 & 4 = $120
- If students wish to purchase materials specific to their individual project some extra costs may be incurred
Theatre Studies

Unit 1: Pre-Modern Theatre

Topics Studied:

- The application of acting and other stagecraft in relation to theatrical styles of the pre-modern era
- Work with play scripts from the pre-modern era of theatre, focusing on works created up to 1920 in both their written form and in performance
- Study theatrical and performance analysis and apply these skills to the analysis of a play in performance
- Periods from the pre-modern era of theatre include Ancient Greek, Roman, Liturgical drama such as morality/miracle/mystery plays, Italian and the Commedia Dell’Arte, Elizabethan and Shakespearean, Restoration comedies and dramas, Neo-classical, Spanish and French, Naturalism/Realism, and non-Western theatre such as Beijing Opera, Noh theatre, Bunraku and Kabuki and other traditional indigenous theatre forms

Areas of Study:

- Pre-modern theatre
- Interpreting play scripts
- Analysing a play in performance

Learning Outcomes:

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

- Identify and describe the distinguishing features of pre-modern theatre play scripts
- Apply acting and other stagecraft to interpret play scripts from the pre-modern era
- Analyse a performance of a play script

Unit 2: Modern Theatre

Topics Studied:

- Theatrical styles and stagecraft through working with play scripts in both their written form and in performance with an emphasis on the application of stagecraft
- Work with play scripts from the modern era, focusing on works from the 1920s to the present. Study theatrical analysis and production evaluation and apply these skills to the analysis of a play in performance
- Theatrical movements in the modern era include Epic Theatre, Constructivist theatre, Theatre of the Absurd, Political theatre, Feminist theatre, Expressionism, Eclectic theatre (contemporary theatre that incorporates a range of theatrical styles), Physical theatre, Verbatim theatre, Theatre in Education

Areas of Study:

- Modern theatre
- Interpretation through stagecraft
- Analysing a play in performance
Learning Outcomes:
On completion of this unit the student should be able to:

• Identify and describe the distinguishing features of modern era theatre playscripts
• Apply stagecraft to interpret playscripts from the modern era
• Analyse and evaluate stagecraft in a performance of a playscript

Assessment (Covers Unit 1 & 2):
Assessment tasks for these units are selected from the following: performance of playscripts from the pre-modern and modern era; oral/visual/multimedia reports/presentations; tests; responses to structured questions; research report.

At least one assessment task per unit must be performance-based and at least one task must be written.
Visual Communication & Design

Unit 1: Introduction to Visual Communication Design

Topics Studied:

- Using visual language to communicate messages, ideas and concepts
- Acquiring and applying design thinking skills as well as drawing skills to make messages, ideas and concepts visible and tangible
- Practise drawing what is observed and use visualisation drawing methods to explore ideas and concepts
- Develop an understanding of the importance of presentation drawings to clearly communicate final visual communications
- Through experimentation and through exploration of the relationship between design elements and design principles, students develop an understanding of how design elements and principles affect the visual message and the way information and ideas are read and perceived
- Review the contextual background of visual communication through an investigation of design styles
- The broader context of the place and purpose of design
- The three stages of the design process: researching designers, generating ideas and applying design knowledge and drawing skills to develop concepts

Areas of Study:

- Drawing as a means of communication
- Design elements and design principles
- Visual communication design in context

Learning Outcomes:

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

- Create drawings for different purposes using a range of drawing methods, media and materials
- Select and apply design elements and design principles to create visual communications that satisfy stated purposes
- Describe how a visual communication has been influenced by past and contemporary practices, and by social and cultural factors
**Unit 2: Applications of Visual Communication Design**

**Topics Studied:**
- The application of visual communication design knowledge, design thinking skills and drawing methods to create visual communications to meet specific purposes in designated design fields
- Presentation drawing methods that incorporate the use of technical drawing conventions to communicate information and ideas associated with the environmental or industrial fields of design
- How typography and imagery are used in visual communication design
- Apply design thinking skills when exploring ways in which images and type can be manipulated to communicate ideas and concepts in different ways in the communication design field
- Develop an understanding of the design process as a means of organising thinking about approaches to solving design problems and presenting ideas
- In response to a brief, engage in the stages of research, generation of ideas and development of concepts to create visual communications

**Areas of Study:**
- Technical drawing in context
- Type and imagery
- Applying the design process

**Learning Outcomes:**
On completion of this unit the student should be able to:
- Create presentation drawings that incorporate relevant technical drawing conventions and effectively communicate information and ideas for a selected design field
- Manipulate type and images to create visual communications suitable for print and screen-based presentations, taking into account copyright
- Engage in stages of the design process to create a visual communication appropriate to a given brief

**Assessment (Covers Units 1 & 2):**
Assessment tasks for VCD are selected from the following: folio of typography and image ideas and concepts created using manual and digital methods; folio of technical drawings created using manual and/or digital methods; written and/or oral descriptions and analysis of historical and contemporary design examples; folio demonstrating the design process created using manual and/or digital methods; folio of typography and image ideas; written report of a case study; final presentations of visual communications.
Unit 3: Design Thinking & Practice

Topics Studied:

- The process designers employ to structure their thinking and communicate ideas with clients, target audiences, other designers and specialists
- Through practical investigation and analysis of existing visual communications, students gain insight into how the selection of methods, media, materials and the application of design elements and design principles can create effective visual communications for specific audiences and purposes
- Investigate and experiment with the use of manual and digital methods, media and materials to make informed decisions when selecting suitable approaches for the development of design ideas and concepts
- Students use their research and analysis of visual communication designers to support the development of their own work
- Establish a brief and apply design thinking skills through the design process
- Identify and describe a client, two distinctly different needs of that client, and the purpose, target audience, context and constraints relevant to each need
- Design from a variety of historical and contemporary design fields is considered to provide directions, themes or starting points for investigation and inspiration for work
- Use observational and visualisation drawings to generate a wide range of design ideas and apply design thinking strategies to organise and evaluate ideas
- The brief and investigation work underpin the developmental and refinement work undertaken in Unit 4

Areas of Study:

- Analysis and practice in context
- Design industry practice
- Developing a brief and generating ideas

Learning Outcomes:

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

- Create visual communications for specific contexts, purposes and audiences that are informed by their analysis of existing visual communications
- Describe how visual communications are designed and produced in the design industry and explain factors that influence these practices
- Apply design thinking skills in preparing a brief, undertaking research and generating a range of ideas relevant to the brief
Unit 4: Design Development & Presentation

Topics Studied:

- Design concepts and two final presentations of visual communications to meet the requirements of the brief. This involves applying the design process twice to meet each of the stated needs.
- Having completed their brief and generated ideas in Unit 3, students continue the design process by developing and refining concepts for each need stated in the brief.
- Utilise a range of digital and manual two- and three-dimensional methods, media and materials.
- Investigate how the application of design elements and design principles creates different communication messages.
- Refine and present two visual communications within the parameters of the design brief.
- Reflect on the design process and the design decisions they took in the realisation of their ideas.
- Evaluate visual communications and devise a pitch to communicate design thinking and decision making to the client.

Areas of Study:

- Development of design concepts
- Final presentations
- Evaluation and explanation

Learning Outcomes:

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

- Develop distinctly different design concepts for each need, and select and refine for each need a concept that satisfies each of the requirements of the brief.
- Produce final visual communication presentations that satisfy the requirements of the brief.
- Devise a pitch to present and explain their visual communications to an audience and evaluate the visual communications against the brief.

Assessment:

Percentage contributions to the study score in Visual Communication Design are as follows:

- Unit 3 School-assessed Coursework = 20%
- Unit 4 School-assessed Coursework = 5%
- School-assessed Task = 40%
- End-of-year examination = 35%

Additional Information:

- Study in these areas will provide students with further insight to possible careers in fine art and design, and help to prepare a folio for entry into art and design based studies at TAFEs and Universities.
- There is a $120 materials levy per year of study. If students wish to purchase materials specific to their individual project some extra costs may be incurred.
The English Group

English/EAL
English Language
Literature
VCE Englishes

In VCE you have the choice of doing ANY of: English, Literature or English Language. Any one of these subjects will count as your ‘English’ to get your ATAR. Please note that students are only able to select EAL if their major language of instruction has not been English for more than seven years.

You can elect to do more than one English subject.

<table>
<thead>
<tr>
<th>Texts studied</th>
<th>English</th>
<th>Literature</th>
<th>English Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>A combination of film, novel, short story, play.</td>
<td>A combination of film, novel, short story, poetry, play.</td>
<td>No texts studied, however there is a lot of reading of newspaper articles, textbook chapters and excerpts from other texts that is compulsory</td>
<td></td>
</tr>
<tr>
<td>Textbook required</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Holiday homework</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>What the subject focuses on</td>
<td>How texts are constructed – both students’ own texts and literary and media texts; text study and responses, language analysis, persuasive, expository and imaginative writing, etc.</td>
<td>In-depth analysis of texts, personal and creative responses in written and oral form, developing interpretations of texts. Looking at structures of texts and how they inform the reader.</td>
<td>In-depth analysis of the English language – grammar, spelling, how words are formed, how we learn language, where English came from (history) and where it is going, globally.</td>
</tr>
<tr>
<td>Exams</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Essays</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oral presentations</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
English & English as an Additional Language (EAL)

Unit 1

Topics Studied:
- Read and respond to texts analytically and creatively
- Analyse arguments and the use of persuasive language in texts and create texts intended to position audiences
- Develop skills in creating written, spoken and multimodal texts

Areas of Study:
- Reading and creating texts
- Analysing and presenting argument

Learning 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

Unit 2

Topics Studied:
- Compare the presentation of ideas, issues and themes in texts
- Analyse arguments presented and the use of persuasive language in texts and create texts intended to position audiences
- Develop skills in creating written, spoken and multimodal texts

Areas of Study:
- Reading and comparing texts
- Analysing and presenting argument

Learning 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

Assessment (Covers Units 1 & 2):
Assessment tasks for English/EAL: are selected from the following: an analytical response to a set text; a creative response to a set text such as a monologue, script, short story, illustrated narrative, short film or graphic text; an analysis of the use of argument and persuasive language in text/s; a text intended to position an audience; a comparative analytical response to set texts; a persuasive text that presents an argument or viewpoint; an analysis of the use of argument and persuasive language in text/s.
Additional Information Regarding EAL:
Units 1 & 2 EAL will include a task designed to develop listening skills.

Unit 3

Topics Studied:
- Read and respond to texts analytically and creatively
- Analyse arguments and the use of persuasive language in texts

Areas of Study:
- Reading and creating texts
- Analysing argument
- EAL students only - Listening to texts

Learning 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
- EAL Students only - to comprehend a spoken text

Unit 4

Topics Studied:
- Compare the presentation of ideas, issues and themes in texts
- Create an oral presentation intended to position audiences about an issue currently debated in the media

Areas of Study:
- Reading and comparing texts
- Presenting argument

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

Assessment:
Percentage contributions to the study score in English/EAL are as follows:
- Unit 3 School-assessed Coursework = 25%
- Unit 4 School-assessed Coursework = 25%
- End-of-year Examination = 50%
English Language

Unit 1: Language & Communication

Topics Studied:

• Language is an essential aspect of human behaviour and the means by which individuals relate to the world, to each other and to the communities of which they are members

• The way language is organised so that its users have the means to make sense of their experiences and to interact with others

• The various functions of language and the nature of language as an elaborate system of signs

• The relationship between speech and writing as the dominant modes of language and the impact of situational and cultural contexts on language choices are also considered

• Children’s ability to acquire language and the stages of language acquisition across a range of subsystems

Areas of Study:

• The nature and functions of language

• Language acquisition

Learning Outcomes:

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

• Identify and describe primary aspects of the nature and functions of human language

• Describe what children learn when they acquire language and discuss a range of perspectives on how language is acquired

Unit 2: Language Change

Topics Studied:

• Languages are dynamic and language change is an inevitable and a continuous process

• Factors contributing to change over time in the English language and factors contributing to the spread of English

• Explore texts from the past and from the present, considering how all subsystems of the language system are affected – phonetics and phonology, morphology and lexicology, syntax, discourse and semantics

• Attitudes to language change vary considerably and these are also considered

• How English has been transformed over the centuries

• The various possibilities for the future of English

• The global spread of English has led to a diversification of the language and to English now being used by more people as an additional or a foreign language than as a first language

• Contact between English and other languages has led to the development of geographical and ethnic varieties, but has also hastened the decline of indigenous languages

• Consider the cultural repercussions of the spread of English
Areas of Study:
- English across time
- Engishes in contact

Learning Outcomes:
On completion of this unit the student should be able to:
- Describe language change as represented in a range of texts and analyse a range of attitudes to language change
- Describe and explain the effects of the global spread of English in terms of both conformity and diversity, through a range of spoken and written texts

Assessment (Covers Units 1 & 2):
Assessment tasks for English Language may be selected from the following: a folio of annotated texts; an essay; an investigative report; an analysis of spoken and/or written text; a case study; short-answer questions; an analysis of data.

Unit 3: Language Variation and Social Purpose

Topics Studied:
- English language in contemporary Australian social settings, along a continuum of informal and formal registers. They consider language as a means of social interaction, exploring how through written and spoken texts we communicate information, ideas, attitudes, prejudices and ideological stances
- The stylistic features of formal and informal language in both spoken and written modes: the grammatical and discourse structure of language; the choice and meanings of words within texts; how words are combined to convey a message; the purpose in conveying a message; and the particular context in which a message is conveyed
- Describe the interrelationship between words, sentences and text as a means of exploring how texts construct message and meaning
- How texts are influenced by the situational and cultural contexts in which they occur
- How function, field, mode, setting and the relationships between participants all contribute to a person’s language choices, as do the values, attitudes and beliefs held by participants and the wider community
- How speakers and writers select features from within particular stylistic variants, or registers, and this in turn establishes the degree of formality within a discourse
- How language can be indicative of relationships, power structures and purpose through the choice of a particular variety

Areas of Study:
- Informal language
- Formal language

Learning Outcomes:
On completion of this unit the student should be able to:
- Identify and analyse distinctive features of informal language in written and spoken texts
- Identify and analyse distinctive features of formal language in written and spoken texts
Unit 4: Language Variation and Identity

Topics Studied:

- The role of language in establishing and challenging different identities
- The many varieties of English used in contemporary Australian society, including national, regional, cultural and social variations
- Standard Australian English is the variety that is granted prestige in contemporary Australian society and it has a role in establishing national identity. However, non-Standard English varieties also play a role in constructing users' social and cultural identities
- Examine a range of texts to explore the ways different identities are constructed. These texts include extracts from novels, films or television programs, poetry, letters and emails, transcripts of spoken interaction, songs, advertisements, speeches and bureaucratic or official documents
- How our sense of identity evolves in response to situations and experiences and is influenced by how we see ourselves and how others see us
- Through our language we express ourselves as individuals and signal our membership of particular groups
- How language can distinguish between ‘us’ and ‘them’, creating solidarity and reinforcing social distance

Areas of Study:

- Language variation in Australian society
- Individual and group identities

Learning Outcomes:

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

- Investigate and analyse varieties of Australian English and attitudes towards them
- Analyse how people’s choice of language reflects and constructs their identities

Assessment:

Percentage Contributions to the study score in VCE English Language are as follows:

- Unit 3 school-assessed Coursework = 25%
- Unit 4 school-assessed Coursework = 25%
- End-of-year examination = 50%
Literature

Unit 1: Approaches to Literature

Topics Studied:

- The ways in which the interaction between text and reader creates meaning
- Students’ analyses of the features and conventions of texts help them develop increasingly discriminating responses to a range of literary forms and styles
- Respond critically, creatively and reflectively to the ideas and concerns of texts and gain insights into how texts function as representations of human experience
- Develop familiarity with key terms, concepts and practices that equip them for further studies in literature
- How the views and values that readers hold may influence the reading of a text

Areas of Study:

- Reading practices
- Ideas and concerns in texts

Learning 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

Unit 2: Context and connections

Topics Studied:

- The ways literary texts connect with each other and with the world
- The ways the student’s own culture and the cultures represented in texts can influence their interpretations and shape different meanings
- The relationships between authors, audiences and contexts. Ideas, language and structures of different texts from past and present eras and/or cultures are compared and contrasted
- The similarities and differences across texts and establish connections between them
- Engage in close reading of texts and create analytical responses that are evidence-based
- By experimenting with textual structures and language features, students understand how imaginative texts are informed by close analysis

Area of Study:

- The text, the reader and their contexts
- Exploring connections between texts
Learning 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

Assessment (Covers Units 1 & 2):
Assessment tasks for Literature are selected from the following: an essay (comparative, interpretive, analytical or discursive); a debate; journal entries; a close analysis of selected passages; an original piece of writing responding to a text(s) studied; an oral or a written review; a multimedia presentation; participation in an online discussion; performance and commentary.

Unit 3: Form and Transformation

Topics Studied:
- Consider how the form of a text affects meaning, and how writers construct their texts
- Ways writers adapt and transform texts and how meaning is affected as texts are adapted and transformed
- How the perspectives of those adapting texts may inform or influence the adaptations
- Students draw on their study of adaptations and transformations to develop creative responses to texts

Areas of Study:
- Adaptations and transformations
- Creative responses to texts

Learning 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

Unit 4: Interpreting Texts

Topics Studied:
- Develop critical and analytic responses to texts
- Consider the context of the student’s own responses to texts as well as the ideas explored in the texts, the style of the language and points of view
- Investigate literary criticism informing both the reading and writing of texts
- Develop an informed and sustained interpretation supported by close textual analysis

Areas of Study:
- Literary perspectives
- Close analysis
Learning Outcomes:
On completion of this unit students 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

Assessment:
Percentage contributions to the study score in Literature are as follows:

- Unit 3 School-assessed Coursework = 25%
- Unit 4 School-assessed Coursework = 25%
- End-of-year Examination = 50%
Health & Physical Education

Health & Human Development
Physical Education
Health & Human Development

Unit 1: The Health & Development of Australia’s Youth

Topics Studied:

- The concepts of health and individual human development
- The health and individual human development of Australia’s youth
- ‘Youth’ is defined as twelve to eighteen years of age
- Factors that influence health and individual human development of youth, including the importance of nutrition
- The health status of Australia’s youth is good and continues to improve as demonstrated by reductions in morbidity and mortality from communicable diseases, chronic diseases, suicide, motor vehicle accidents and other injuries
- However, Australia’s youth still experience a range of health issues that affect both their immediate and longer term health and individual human development.
- Issues that have an impact on the health and individual human development of Australia’s youth
- One health issue is examined in detail
- Personal, community and government strategies or programs that affect youth health and individual human development

Areas of Study:

- Understanding youth health and human development
- Youth issues

Learning 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
Unit 2: Individual Human Development & Health Issues

Topics Studied:

• This unit focuses on the health and individual human development for the lifespan stages of prenatal, childhood and adulthood
• Health and development during childhood has also been identified as having a significant impact on both health and development throughout the rest of the lifespan
• Determinants of health and development of Australia's children including social factors such as family and community
• The health and individual human development of adults can vary considerably and is influenced by a range of determinants, which include physical environment, biological, behavioural and social
• In this unit students identify issues that affect the health and individual human development of Australia’s mothers and babies, children and adults
• Health issues are investigated in detail, along with personal, community and government strategies and programs that affect the health and individual human development of mothers and babies, children and adults

Areas of Study:

• Prenatal health and individual development
• Child health and individual development
• Adult health and individual development

Learning 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

Assessment (Covers Units 1 & 2):

Assessment tasks for Health and Human Development are selected from the following: a case study analysis; a data analysis; a visual presentation, such as a concept/mind map, poster or presentation file; a multimedia presentation, using more than two data types (for example, text, still or moving images, sound or numeric) and involving some form of interaction such as hyperlinks; an oral presentation; a test; a written response, such as a research assignment or written report.
Unit 3: Australia’s Health

Topics Studied:

- The health status of Australians can be measured in many ways, such as consideration of burden of disease, health adjusted life expectancy, disability adjusted life years (DALYs), life expectancy, under-five mortality rate, mortality and morbidity rates, incidence and prevalence of disease
- Despite Australia’s good health status, there is still potential for improvements
- The National Health Priority Areas (NHPAs) initiative provides a national approach that aims to improve health status in the areas that contribute most of the burden of disease in Australia.
- Different levels of health are experienced by different groups, which can be attributed to the determinants of health, including the physical environment, biological, behavioural and social
- Both government and non-government organisations play an important role in the implementation of a range of initiatives designed to promote health in Australia

Areas of Study:

- Understanding Australia’s health
- Promoting health in Australia

Learning 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

Unit 4: Global Health & Human Development

Topics Studied:

- A global perspective on achieving sustainable improvements in health and human development
- Creating an environment in which people can develop to their full potential and lead productive, creative lives in accord with their needs and interests. Providing people with access to knowledge, health and a decent standard of living, and participating in the life of their community and decisions affecting their lives
- A significant focus of the United Nations (UN) Millennium Development Goals is reducing the inequalities that result in human poverty and lead to inequalities in health status and human development
- The World Health Organization (WHO) is the directing and coordinating authority for international health within the United Nations. Both the WHO and the UN have a range of strategies aimed at reducing global burdens of disease and promoting human development through the achievement of the Millennium Development Goals
• The Department of Foreign Affairs and Trade (DFAT) manages the Australian Government’s overseas aid program
• Non-government organisations also play a role in promoting sustainable human development

Areas of Study:
• Introducing global health and human development
• Promoting global health and human development

Learning 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 evaluate progress towards the United Nations’ Millennium Development Goals
• Describe and evaluate programs implemented by international and Australian government and non-government organisations, and analyse the interrelationships between health, human development and sustainability

Assessment:
Percentage contributions to the study score for Health and Human Development are as follows:
• Unit 3 School-assessed Coursework = 25%
• Unit 4 School-assessed Coursework = 25%
• End-of-year examination = 50%
Physical Education

Unit 1: The Human Body in Motion

Topics Studied:

- How the musculoskeletal and cardiorespiratory systems work together to produce movement
- Through practical activities students explore the relationships between the body systems and physical activity, sport and exercise, and how the systems adapt and adjust to the demands of the activity
- The role and function of the main structures in each system and how they respond to physical activity, sport and exercise
- How the capacity and functioning of each system acts as an enabler or barrier to movement and participation in physical activity
- Evaluate the social, cultural and environmental influences on movement
- The implications of the use of legal and illegal practices to improve the performance of the musculoskeletal and cardiorespiratory systems, evaluating perceived benefits and describing potential harms
- Recommend and implement strategies to minimise the risk of illness or injury to each system

Areas of Study:

- How does the musculoskeletal system work to produce movement?
- How does the cardiorespiratory system function at rest and during physical activity?

Learning Outcomes:

On completion of this unit students should be able to:

- Collect and analyse information from, and participate in, a variety of practical activities to explain how the musculoskeletal system functions and its limiting conditions, and evaluate the ethical and performance implications of the use of practices and substances that enhance human movement
- Collect and analyse information from, and participate in, a variety of practical activities to explain how the cardiovascular and respiratory systems function and the limiting conditions of each system, and discuss the ethical and performance implications of the use of practices and substances to enhance the performance of these two systems
Unit 2: Physical Activity, Sport and Society

Topics Studied:

- Understanding physical activity, sport and society from a participatory perspective
- Types of physical activity and the role participation in physical activity and sedentary behaviour plays in their own health and wellbeing as well as in other people's lives in different population groups
- Explore different types of physical activity promoted in the student's own and different population groups
- The level of physical activity required for health benefits
- How participation in physical activity varies across the lifespan
- A range of factors that influence and facilitate participation in regular physical activity
- Collect data to determine perceived enablers of and barriers to physical activity and the ways in which opportunities for participation in physical activity can be extended in various communities, social, cultural and environmental contexts
- Individual and population-based consequences of physical inactivity and sedentary behaviour
- Create and participate in an activity plan that meets the physical activity and sedentary behaviour guidelines relevant to the particular population group being studied
- Apply various methods to assess physical activity and sedentary behaviour levels at the individual and population level, and analyse the data in relation to physical activity and sedentary behaviour guidelines
- Study and apply the social-ecological model and/or the Youth Physical Activity Promotion Model to critique a range of individual and settings-based strategies that are effective in promoting participation in some form of regular physical activity

Areas of Study:

- What are the relationships between physical activity, sport, health and society?
- What are the contemporary issues associated with physical activity and sport?

Learning Outcomes:

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

- Collect and analyse data related to individual and population levels of participation in physical activity and sedentary behaviour to create, undertake and evaluate an activity plan that meets the physical activity and sedentary behaviour guidelines for an individual or a specific group
- Apply a social-ecological framework to research, analyse and evaluate a contemporary issue associated with participation in physical activity and/or sport in a local, national or global setting
Assessment (Covers Units 1 & 2):
A written report analysing participation in at least four physical activities that demonstrate how the musculoskeletal and cardiorespiratory systems work together to produce movement.
Additional activities may be chosen from: a practical laboratory report linking key knowledge and key skills to a practical activity or practical activities; a case study analysis; a data analysis; a critically reflective folio/diary of participation in practical activities; a visual presentation such as a graphic organiser, concept/mind map, annotated poster, presentation file; a multimedia presentation, including two or more data types (for example, text, still and moving images, sound) and involving some form of interaction or simulation; a physical simulation or model; an oral presentation such as podcast, debate; a written report or structured questions.

Unit 3: Physical Activity Participation & Physiological Performance

Topics Studied:
- Understanding physical activity and sedentary behaviour from a participatory and physiological perspective
- Various methods of assessing physical activity and sedentary levels, and analyse data in relation to adherence to the National Physical Activity Guidelines
- The social-ecological model is used to identify a range of Australian strategies that are effective in promoting participation in some form of regular activity
- The contribution of energy systems to performance in physical activity
- The characteristics of each system and the interplay of the systems during physical activity
- The multi-factorial causes of fatigue and consider different strategies used to delay and manage fatigue and to promote recovery

Areas of Study:
- Monitoring and promotion of physical activity
- Physiological responses to physical activity

Learning 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 the National Physical Activity 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
Unit 4: Enhancing Performance

Topics Studied:

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

Areas of Study:

- Planning, implementing and evaluating a training program.
- Performance enhancement and recovery practices.

Learning 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.

Assessment:

Percentage contributions to the study score in Physical Education are as follows:

- Unit 3 School-assessed Coursework = 25%
- Unit 4 School-assessed Coursework = 25%
- End-of-year examination = 50%
Humanities (Including Business)

Accounting
Australian & Global Politics
Business Management
Economics
History
Legal Studies
Philosophy
Accounting

Unit 1: Establishing & Operating a Service Business

Topics Studied:
- The establishment of a small business and the accounting and financial management of the business
- Gathering and recording financial data and the reporting and analysing of accounting information by internal and external users
- The cash basis of recording and reporting
- Using single entry recording of financial data and analysis of accounting information, students examine the role of accounting in the decision-making process for a sole proprietor of a service business

Areas of Study:
- Going into business
- Recording financial data and reporting accounting information

Learning Outcomes:
- 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

Unit 2: Accounting for a Trading Business

Topics Studied:
- Accounting for a sole proprietor of a single activity trading business
- Use of a single entry recording system for cash and credit transactions and the accrual method for determining profit
- The performance of the business is analysed using financial and non-financial information
- Strategies for improving the performance of a business
- Use of ICT in the accounting process through experience of a commercial accounting software package

Areas of Study:
- Recording financial data and reporting accounting information
- ICT in accounting
- Evaluation of business performance
Learning Outcomes:
On completion of this Unit students should be able to:

- Record financial data and report accounting information for a sole trader
- Use 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

Assessment (Covers Units 1 & 2)
Assessment tasks for Accounting will be selected from the following: exercise/s using a commercial accounting software package; a folio of exercises (manual and ICT-based); a test (manual and/or ICT-based); an assignment (manual and/or ICT-based); a case study (manual and/or ICT-based); a classroom presentation (oral or multimedia); a report (written, oral or multimedia).

Unit 3: Recording & Reporting for a Trading Business
Topics Studied:
- Financial accounting for a single activity trading business as operated by a sole trader
- The role of accounting as an information system
- The double entry system of recording financial data and preparing reports using the accrual basis of accounting.
- The perpetual method of stock recording with the First In, First Out (FIFO)

Areas of Study:
- Recording financial data
- Balance day adjustments and reporting and interpreting accounting information

Learning Outcomes:
On completion of this unit students 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

Unit 4: Control & Analysis of Business Performance
Topics Studied:
- This unit extends the recording and reporting processes studied in Unit 3 and the use of financial and non-financial information in assisting management in the decision-making process
- The double entry accounting system and the accrual method of reporting for a single activity trading business using the perpetual inventory recording system
- The role and importance of budgeting for the business
- Practical completion of budgets for cash, profit and financial position
- Interpret accounting information from accounting reports and graphical representations, and analyse the results to suggest strategies to the owner on how to improve the performance of the business
Areas of Study:
- Extension of recording and reporting
- Financial planning and decision making

Learning Outcomes:
On completion of this unit students 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

Assessment (Covers Units 3 & 4):
Percentage contributions to the study score in VCE Accounting are as follows:
- School-assessed Coursework for Unit 3 = 25%
- School-assessed Coursework for Unit 4 = 25%
- End-of-year examination = 50%
Australian & Global Politics

Unit 1: The National Citizen

Topics Studied:

• Politics as the exercise of power by individuals, groups and nation-states
• Key concepts related to power and influence, types of power, political ideology and values, political involvement and active citizenship
• The nature of and philosophical ideas behind democracy, as well as the operation and nature of contemporary Australian representative democracy
• The reasons why people seek political power, the characteristics of successful political activists and leaders, and the political ideas that motivate them
• The ways in which political power is exercised and how that power is challenged and resisted
• The role and influence of social and political movements as methods of organising political ideas and action
• The focus of this study is the twenty-first century and current events. However, historical events, examples and illustrations are studied as examples of the Australian political system

Areas of Study:

• Power, politics and democracy
• Exercising and challenging power

Learning Outcomes:

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

• Describe and analyse the nature and purpose of politics and power in a broad sense and in the context of contemporary Australian democracy
• Explain why people seek political power, and the major political ideologies that influence political involvement and political movements

Unit 2: The Global Citizen

Topics Studied:

• The contemporary international community
• Students examine their place within this community through considering the debate over the existence of the ‘global citizen’
• The ways the students’ lives have been affected by the increased interconnectedness – the global threads – of the world through the process of globalisation
• The notion of an international community, and its ability to manage areas of global cooperation and respond to issues of global conflict and instability
• This unit is concerned with contemporary issues and events
Areas of Study:
- Global threads
- Global cooperation and conflict

Learning Outcomes:
On completion of this unit the student should be able to:
- Identify the ways in which the lives of citizens in the twenty-first century are interconnected globally
- Describe and analyse the extent to which the international community is cohesive, and whether it can effectively manage cooperation, conflict and instability in relation to selected case studies

Assessment (Covers Units 1 & 2):
Assessment tasks for these units are selected from the following: an analysis of visual materials, for example cartoons, websites, posters, films, plays, artwork; an audiovisual presentation; an oral presentation; a written research report; a web-based presentation; a case study; a debate; an essay; a test; an interactive presentation; a campaign; role-plays.
Business Management

Unit 1: Planning a Business

Topics Studied:

- Businesses of all sizes are major contributors to the economic and social wellbeing of a nation. Therefore how businesses are formed and the fostering of conditions under which new business ideas can emerge are vital for a nation’s wellbeing.

- Taking a business idea and planning how to make it a reality are the cornerstones of economic and social development.

- Explore the factors affecting business ideas and the internal and external environments within which businesses operate, and the effect of these on planning a business.

Areas of Study:

- The business idea
- External environment
- Internal environment

Learning 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.

Unit 2: Establishing a Business

Topics Studied:

- The establishment phase of a business’s life.

- Establishing a business involves complying with legal requirements as well as making decisions about how best to establish a system of financial record keeping, staff the business and establish a customer base.

- The legal requirements that must be satisfied to establish a business.

- The essential features of effective marketing and the best way to meet the needs of the business in terms of staffing and financial record keeping.

- Various management practices including examining contemporary business case studies from the past four years.

Areas of Study:

- Legal requirements and financial considerations.
- Marketing a business.
- Staffing a business.
Learning 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

Assessment (Covers Units 1 & 2):
Suitable tasks for assessment may be selected from the following: a case study analysis; a business research report; development of a business plan and/or feasibility study; an interview and a report on contact with business; a school-based, short-term business activity; a business simulation exercise; an essay; a business survey and analysis; a media analysis.

Unit 3: Managing a Business

Topics Studied:

• The key processes and issues concerned with managing a business efficiently and effectively to achieve the business objectives
• Different types of businesses and their respective objectives
• Consider corporate culture, management styles, management skills and the relationship between each of these
• Investigate strategies to manage both staff and business operations to meet objectives
• The complexity and challenge of managing businesses is examined through the use of contemporary business case studies from the past four years including comparing theoretical perspectives with current practice

Areas of Study:

• Business foundations
• Managing employees
• Operations management

Learning 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
Unit 4: Transforming a Business

Topics Studied:

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

Areas of Study:

- Reviewing performance – the need for change
- Implementing change

Learning 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

Assessment:

Percentage contributions to the study score in Business Management are as follows:

- Unit 3 School-assessed Coursework = 25%
- Unit 4 School-assessed Coursework = 25%
- End-of-year examination = 50%
Economics

Unit 1: The Behaviour of Consumers and Businesses

Topics Studied:

- Economics is interested in the way humans behave and the decisions made to meet the needs and wants of society
- Students explore their role in the economy, how they interact with businesses and the way economic models and theories have been developed to explain the causes and effects of human action.
- Fundamental economic concepts
- Basic economic models where consumers and businesses engage in mutually beneficial transactions and investigate the motivations and consequences of both consumer and business behaviour
- How individuals might respond to incentives and how technology may have altered the way businesses and consumers interact
- Contemporary examples and case studies
- Examine a simple microeconomic model to explain changes in prices and quantities traded
- Close examination of one or more key markets to gain insight into the factors that may affect the way resources are allocated in an economy and how market power can affect efficiency and living standards

Areas of Study:

- Thinking like an economist
- Decision making in markets

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

- Describe the basic economic problem, discuss the role of consumers and businesses in the economy and analyse the factors that influence decision making
- Explain the role of relative prices and other non-price factors in the allocation of resources in a market-based economy

Unit 2: Contemporary Economic Issues

Topics Studied:

- The possible trade-off between the pursuit of growth in incomes and production and the goal of environmental sustainability and long-term economic prosperity
- The importance of economic growth in terms of raising living standards and how achievement of this goal might result in degradation of the environment and the loss of key resources
- Whether the goals of economic growth and environmental sustainability can be compatible and discuss the effect of different policies on the achievement of these important goals
• How the benefits of economic growth are shared in an economy and understand that efforts to increase economic efficiency might lead to a more inequitable distribution of income
• The role of government intervention in markets and whether achieving greater equality causes a decline in economic growth and average living standards
• Through analysis of specific policy measures, students analyse and question the nature of this key trade-off and evaluate whether there is a degree of compatibility between equity and efficiency
• The influence on the world's living standards of the decisions made and the actions taken in the global economy through the investigation of one or more contemporary global issues and the trade-offs involved
• Consider the perspectives of relevant stakeholders and evaluate the validity of individual and collective responses to global issues

Areas of Study:
• Economic growth, long-term economic prosperity and environmental sustainability
• Economic efficiency and equity
• Global economic issues

Learning Outcomes:
On completion of this unit the student should be able to:
• Explain the factors and policies that may influence economic growth and environmental sustainability, and analyse the potential trade-off
• Explain the factors and policies that may influence equity in the distribution of income and efficiency of resource allocation, and analyse the potential trade-off
• The factors that may influence a global economic issue/s and evaluate potential consequences associated with actions to address the issue/s

Assessment (Covers Units 1 & 2):
Suitable tasks for assessment may be selected from the following: an analysis of written, visual and statistical evidence; a folio of applied economic exercises; problem-solving tasks; a blog of media commentaries using print or electronic materials; a report of an investigation or an inquiry; case studies; a debate; media analyses; an essay/structured report; structured questions; a presentation (oral, multimedia, visual); a web page and economic simulation activities.

Unit 3: Australia’s Economic Prosperity
Topics Studied:
• The role of the market in allocating resources and examine the factors that are likely to affect the price and quantity traded for a range of goods and services
• The key measures of efficiency and how market systems can result in efficient outcomes
• Consider contemporary issues to explain the need for government intervention in markets and why markets might fail to maximise society’s living standards
• As part of a balanced examination, students also consider unintended consequences of government intervention in the market.
• An understanding of the macroeconomy
• The factors that influence the level of aggregate demand and aggregate supply in the economy and use models and theories to explain how changes in these variables might influence the achievement of the Australian Government’s domestic macroeconomic goals and affect living standards

• Australia’s economic prosperity depends, in part, on strong economic relationships with its major trading partners

• The importance of international economic relationships in terms of their influence on Australia’s living standards

• How international transactions are recorded, predict how economic events might affect the value of the exchange rate and evaluate the effect of trade liberalisation

**Areas of Study:**

- An introduction to microeconomics: the market system, resource allocation and government intervention
- Domestic macroeconomic goals
- Australia and the world economy

**Learning Outcomes:**

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

• Explain how markets operate to allocate resources, and discuss the effect of government intervention on market outcomes

• Analyse key contemporary factors that may have influenced the Australian Government’s domestic macroeconomic goals over the past two years and discuss how achievement of these goals may affect living standards

• Explain the factors that may influence Australia’s international transactions and evaluate how international transactions and trade liberalisation may influence the current account balance, the Australian Government’s domestic macroeconomic goals and living standards in Australia.

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**Unit 4: Managing the Economy**

**Topics Studied:**

• How the Australian Government can alter the composition and level of government outlays and receipts to directly and indirectly influence the level of aggregate demand and the achievement of domestic macroeconomic goals

• The role of aggregate demand policies in stabilising the business cycle to achieve the Australian Government’s domestic macroeconomic goals

• The role of the Reserve Bank of Australia (RBA) with a focus on its responsibility to alter the cost and availability of credit in the economy

• Each of the transmission mechanisms through which changes to interest rates can affect the level of aggregate demand in the economy and how these changes might affect the achievement of the Australian Government’s domestic macroeconomic goals

• The effects of the last two Australian Government budgets, and how particular initiatives have helped to stabilise the level of aggregate demand and influenced the achievement of domestic macroeconomic goals
• How the Australian Government utilises aggregate supply policies to manage the Australian economy. If the productive capacity of the economy is expanding, growth in aggregate demand can be met and economic growth can be maintained both now and into the future
• The role of both market-based and interventionist approaches to managing the supply side of the economy
• Evaluate these policy responses in terms of their effect on incentives and consider how they increase competition and efficiency in the economy
• The role of microeconomic reform in terms of its effect on economic prosperity and the achievement of the Australian Government’s domestic macroeconomic goals

Areas of Study:
• Aggregate demand policies and domestic economic stability
• Aggregate supply policies

Learning Outcomes:
On completion of this unit the student should be able to:
• Discuss the nature and operation of aggregate demand policies and analyse how the policies may influence the Australian Government’s domestic macroeconomic goals and living standards
• Discuss the nature and operation of aggregate supply policies and analyse how the policies may influence the Australian Government’s domestic macroeconomic goals and living standards

Assessment:
Percentage contributions to the study score in Economics are as follows:
• Unit 3 School-assessed Coursework = 25%
• Unit 4 School-assessed Coursework = 25%
• End-of-year examination = 50%
History

Unit 1: Twentieth Century . 1900–1945

Topics Studied:

• The nature of political, social and cultural change in the period between the world wars

• World War One is regarded by many as marking the beginning of twentieth century history since it represented such a complete departure from the past and heralded changes that were to have an impact for decades to come

• The post-war treaties ushered in a period where the world was, to a large degree, reshaped with new borders, movements, ideologies and power structures. These changes affected developments in Europe, the USA, Asia, Africa and the Middle East

• Economic instability caused by the Great Depression also contributed to the development of political movements

• Despite ideals about future peace, reflected in the establishment of the League of Nations, the world was again overtaken by war in 1939

• The period after World War One was characterised by significant social and cultural change in the contrasting decades of the 1920s and 1930s

• New fascist governments used the military, education and propaganda to impose controls on the way people lived, to exclude particular groups of people and to silence criticism

• In Germany, the persecution of the Jewish people became intensified

• In the USSR, millions of people were forced to work in state-owned factories and farms and had limited personal freedom

• Japan became increasingly militarised and anti-western

• In the USA, the consumerism and material progress of the 1920s was tempered by the Great Crash of 1929

• Writers, artists, musicians, choreographers and filmmakers reflected, promoted or resisted political, economic and social changes

Areas of Study:

• Ideology and conflict

• Social and cultural change

Learning Outcomes:

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

• Explain the consequences of the peace treaties which ended World War One, the impact of ideologies on nations and the events that led to World War Two

• Explain patterns of social life and cultural change in one or more contexts, and analyse the factors which influenced changes to social life and culture, in the inter-war years
Unit 2: Twentieth century history 1945 –2000

Topics Studied:

- The nature and impact of the Cold War and challenges and changes to existing political, economic and social arrangements in the second half of the twentieth century
- The establishment of the United Nations in 1945 was intended to take an internationalist approach to avoiding warfare, resolving political tensions and addressing threats to human life and safety
- The Universal Declaration of Human Rights adopted in 1948 was the first global expression of human rights
- Students evaluate historical interpretations about the causes and consequences of revolution and the effects of change instigated by the new order

Areas of Study:

- Causes of revolution
- Consequences of revolution

Learning 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

Assessment:

Assessment tasks for Twentieth Century History will be selected from the following: a historical inquiry; an analysis of primary sources; an analysis of historical interpretations; an essay.

Units 3 & 4: Revolutions

Topics Studied:

- Either the Russian Revolution or the French Revolution will be studied in Unit 3
- Either the Chinese Revolution or the Russian Revolution will be studied in Unit 4
- Revolutions mark deliberate attempts at new directions
- They share the common aim of breaking with the past by destroying the regimes and societies that engender them and embarking on a program of political and social transformation
- Revolutions have a profound impact on the country in which they occur, as well as important international repercussions
- Revolutions involve destruction and construction, dispossession and liberation, they polarise society and unleash civil war and counter-revolution
- Revolutionary governments often deploy armed force and institute policies of terror and repression
- The process of revolution concludes when a point of stability has been reached and a viable revolutionary settlement made
Areas of Study:
- Revolutionary ideas, leaders, movements and events
- Creating a new society

Learning Outcomes:
On completion of this unit the student should be able to:
- Evaluate the role of ideas, leaders, movements and events in the development of the revolution
- Analyse the challenges facing the emerging new order, and the way in which attempts were made to create a new society, and evaluate the nature of the society created by the revolution

Assessment:
Percentage contributions to the study score in History are as follows:
- Unit 3 school-assessed coursework = 25%
- Unit 4 school-assessed coursework = 25%
- End-of-year examination = 50%
Legal Studies

Unit 1: Criminal Law in Action

Topics Studied:
• The need for laws in society
• The key features of criminal law, how it is enforced and adjudicated and possible outcomes and impacts of crime
• Different types of crimes
• Rights and responsibilities under criminal law
• The role of parliament and subordinate authorities in law-making
• The impact of the Victorian Charter of Rights and Responsibilities on law enforcement and adjudication in Victoria

Areas of Study:
• Law in Society
• Criminal law
• The criminal courtroom

Learning Outcomes:
On completion of this unit the student should be able to:
• Explain the need for effective laws and describe the main sources and types of law in society
• Explain the key principles and types of criminal law, apply the key principles to relevant cases, and discuss the impact of criminal activity on the individual and society
• Describe the processes for the resolution of criminal cases, and discuss the capacity of these processes to achieve justice

Unit 2: Issues in Civil Law

Topics Studied:
• The importance of civil law in everyday life
• How to distinguish between civil and criminal law
• How a situation can result in both criminal and civil action
• The process of lawmaking by judges and courts through the operation of the doctrine of precedent and through statutory interpretation
• Torts and their related defences

Areas of Study:
• Civil law
• The civil law in action
• The law in focus
• A question of rights
Learning Outcomes:
On completion of this unit the student should be able to:

- Explain the principles of civil law, law-making by courts, and elements of torts, and apply these to relevant cases
- Explain and evaluate the processes for the resolution of civil disputes
- Explain one or more area/s of civil law, and discuss the legal system’s capacity to respond to issues and disputes related to the selected area/s of law
- Describe an Australian case illustrating rights issues, and discuss the impact of the case on the legal system and the rights of individuals

Assessment (Covers Units 1 & 2):
Assessment tasks for Legal Studies will be selected from the following: structured assignments, essays, mock courts or role-plays, folios and reports, case studies, tests and reports.

Unit 3: Law-making

Topics Studied:

- The institutions that determine our laws, and their law-making powers and processes
- The effectiveness of law-making bodies and the need for the law to keep up to date with changes in society
- The key features and operation of parliament, and influences on law-making, with a focus on the role of the individual
- The role played by the Commonwealth Constitution and a comparative analysis with another country
- The role played by the High Court of Australia in interpreting and enforcing the Constitution
- The nature and importance of courts as law-makers and an evaluation of their effectiveness as law-making bodies
- The relationships that exist between parliaments and courts

Areas of Study:

- Parliament and the citizen
- The Constitution and the protection of rights
- Role of the courts in law-making

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

- Explain the structure and role of parliament, including its processes and effectiveness as a law-making body, describe why legal change is needed, and the means by which such change can be influenced
- Explain the role of the Commonwealth Constitution in defining law-making powers within a federal structure, analyse the means by which law-making powers may change, and evaluate the effectiveness of the Commonwealth Constitution in protecting human rights
- Describe the role and operation of courts in law-making, evaluate their effectiveness as law-making bodies and discuss their relationship with parliament
Unit 4: Resolution & Justice

Topics Studied:

- Mechanisms by which legal disputes of both a criminal and a civil nature can be resolved in a fair and just manner
- Dispute resolution bodies such as courts and tribunals and processes that enable the resolution of legal disputes
- The institutions that adjudicate criminal cases and civil disputes
- Methods of dispute resolution that can be used as an alternative to civil litigation
- The processes and procedures followed in courtrooms, the adversary system of trial and the jury system, as well as pre-trial and post-trial procedures that operate in the Victorian legal system
- The elements of an effective legal system are used to consider the extent to which court processes and procedures contribute to the effective operation of the legal system
- Reforms or changes that could further improve the effective operation of the legal system

Areas of Study:

- Dispute resolution methods
- Court processes and procedures, and engaging in justice

Learning Outcomes:

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

- Describe and evaluate the effectiveness of institutions and methods for the determination of criminal cases and the resolution of civil disputes.
- Explain the processes and procedures for the resolution of criminal cases and civil disputes, and evaluate their operation and application, and evaluate the effectiveness of the legal system

Assessment:

Percentage contributions to the study score in VCE Legal Studies are as follows:

- Unit 3 School-assessed Coursework = 25%
- Unit 4 School-assessed Coursework = 25%
- End-of-year examination = 50%
Philosophy

Unit 1: Existence, Knowledge & Reasoning

Topics Studied:
- What is the nature of reality? How can we acquire certain knowledge?
- Fundamental philosophical questions are explored through active, guided investigation and critical discussion of two key areas of philosophy: epistemology and metaphysics
- Philosophical inquiry – ‘doing philosophy’ – and hence the study and practice of techniques of logic are central to this unit
- Learn to think philosophically, studying appropriate examples of philosophical viewpoints and arguments, both contemporary and historical
- Relevant debates in applied epistemology and metaphysics, and whether the philosophical bases of these debates continue to have relevance in contemporary society and our everyday lives

Areas of Study:
- Metaphysics
- Epistemology
- Introduction to logic and reasoning

Learning 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

Unit 2: Questions of Value

Topics Studied:
- What are the foundations of our judgments about value? What is the relationship between different types of value? How, if at all, can particular value judgments be defended or criticised?
- Explore these questions in relation to different categories of value judgment within the realms of morality, political and social philosophy and aesthetics
- Ways in which viewpoints and arguments in value theory can inform and be informed by contemporary debates

Areas of Study:
- Ethics and moral philosophy
- Further problems in value theory
- Techniques of reasoning
Learning 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

Assessment (Covers Units 1 & 2):
Assessment tasks for Philosophy are selected from the following: an essay; written analysis; short-answer responses; tests; written reflections; written exercises; presentations (oral, multimedia); dialogue (oral, written).

Unit 3: Minds, Bodies and Persons

Topics Studied:
- Basic questions regarding the mind and the self through two key questions: Are human beings more than their bodies? Is there a basis for the belief that an individual remains the same person over time? Critically compare the viewpoints and arguments put forward in set texts from the history of philosophy to their own views on these questions and to contemporary debates
- It is important for students to understand that arguments make a claim supported by reasons and reasoning, whereas a viewpoint makes a claim without necessarily supporting it with reasons or reasoning
- Philosophical debates encompass philosophical questions and associated viewpoints and arguments within other spheres of discourse such as religion, psychology, sociology and politics

Areas of Study:
- Minds and bodies
- Personal identity

Learning 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
Unit 4: The Good Life

Topics Studied:

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

Areas of Study:

- Conceptions of the good life
- Living the good life in the twenty-first century

Learning 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

Assessment:

Percentage contributions to the study score in VCE Philosophy are as follows:

- Unit 3 School-assessed Coursework = 25%
- Unit 4 School-assessed Coursework = 25%
- End-of-year examination = 50%
Computing
Computing Units 1 & 2
Informatics Units 3 & 4
Unit 1: Computing

Topics Studied:

- Data, information and networked digital systems can be used to meet a range of users’ current and future needs
- Collect primary data when investigating an issue, practice or event and create a digital solution that graphically presents the findings of the investigation
- Use the technical underpinnings of wireless and mobile networks, and security controls to protect stored and transmitted data, to design a network solution that meets an identified need or opportunity
- Predict the impact on users if the network solution were implemented
- Apply knowledge of information architecture and user interfaces, together with web authoring skills, when creating a website to present different viewpoints on a contemporary issue

Areas of Study:

- Data and graphic solutions
- Networks
- Collaboration and communication

Learning Outcomes:

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

- Acquire, secure and interpret data, and design and develop a graphic solution that communicates the findings of an investigation
- Design a network with wireless capability that meets an identified need or opportunity, explain its configuration and predict risks and benefits for intended users
- Design and develop a website collaboratively with others that presents an analysis of a contemporary issue and the team’s point of view on the issue

Unit 2: Computing

Topics Studied:

- Data and how the application of computational, design and systems thinking skills support the creation of solutions that automate the processing of data
- Develop computational thinking skills when using a programming or scripting language to create solutions
- The design and development stages of the problem-solving methodology
- Data and how a range of software tools can be used to extract data from large repositories and manipulate it to create visualisations that are clear, usable and attractive, and reduce the complexity of data
- Apply all stages of the problem-solving methodology to create a solution using database management software and explain the personal affected of students own interactions with a database system
Areas of Study:
- Programming
- Data analysis and visualisation
- Data management

Learning Outcomes:
On completion of this unit the student should be able to:
- Design working modules in response to solution requirements, and use a programming or scripting language to develop the modules
- Apply the problem-solving methodology and use appropriate software tools to extract relevant data and create a data visualisation that meets a specified user's needs
- Apply the problem-solving methodology to create a solution using database management software, and explain the personal benefits and risks of interacting with a database

Assessment (Covers Units 1 & 2):
Assessment tasks for Computing Units 1 & 2 are selected from the following: using digital systems and techniques, create a solution in response to a need or opportunity; visual presentations; oral presentations; written reports.

Unit 3: Informatics

Topics Studied:
- Data, information and information systems
- Data and how it is acquired, managed, manipulated and interpreted to meet a range of needs
- The way organisations acquire data using interactive online solutions, such as websites and applications (apps), and how users interact with these solutions when conducting online transactions
- How relational database management systems (RDBMS) store and manipulate data typically acquired this way
- Use software to create user flow diagrams that depict how users interact with online solutions, and acquire and apply knowledge and skills in the use of an RDBMS to create a solution
- The power and risks of using complex data as a basis for decision making
- Frame a hypothesis and then select, acquire and organise data from multiple data sets to confirm or refute this hypothesis
- This data is manipulated using tools such as spreadsheets or databases to help analyse and interpret it so that students can form a conclusion regarding their hypothesis

Areas of Study:
- Organisations and data management
- Data analytics: drawing conclusions
Learning Outcomes:
On completion of this unit the student should be able to:

- Design a solution, develop it using a relational database management system, and diagrammatically represent how users interact with an online solution when supplying data for a transaction
- Use a range of appropriate techniques and processes to acquire, prepare, manipulate and interpret complex data to confirm or refute a hypothesis, and formulate a project plan to manage progress

Unit 4: Informatics

Topics Studied:
- Strategies and techniques for manipulating, managing and securing data and information to meet a range of needs
- In Area of Study 1 students draw on the analysis and conclusion of their hypothesis determined in Unit 3, Outcome 2, and then design, develop and evaluate a multimodal, online solution that effectively communicates the conclusion and findings
- Students use their project plan to monitor their progress and assess the effectiveness of their plan and adjustments in managing the project.
- How different organisations manage the storage and disposal of data and information to minimise threats to the integrity and security of data and information and to optimise the handling of information

Areas of Study:
- Data analytics: presenting the findings
- Information management

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

- Design, develop and evaluate a multimodal online solution that confirms or refutes a hypothesis, and assess the effectiveness of the project plan in managing progress
- Compare and contrast the effectiveness of information management strategies used by two organisations to manage the storage and disposal of data and information, and recommend improvements to their current practices

Assessment:
Percentage contributions to the study score in Informatics are as follows:

- Unit 3 School-assessed Coursework = 10%
- Unit 4 School-assessed Coursework = 10%
- School-assessed Task (the student’s level of achievement in Outcome 2 in Unit 3 and Outcome 1 in Unit 4 will be assessed through a school-assessed task) = 30%
- End-of-year examination = 50%
Mathematics

Possible mathematics pathways at VCE

Year 10
- Mathematical Methods Units 1 & 2
- Foundation Mathematics Units 1 & 2
- Year 10 Mathematics

Year 11
- Mathematical Methods Units 1 & 2
- Specialist Mathematics Units 1 & 2
- Further Mathematics Units 1 & 2
- General Mathematics Units 1 & 2
- Foundation Mathematics Units 1 & 2

Year 12
- Mathematical Methods Units 3 & 4
- Specialist Mathematics Units 3 & 4
- Mathematical Methods Units 3 & 4
- Further Mathematics Units 3 & 4
- Further Mathematics Units 3 & 4

NOTE:
- Progression along a pathway is dependent upon demonstration of a thorough understanding of the previous course.
- Mathematical Methods 3 & 4 is required to study Specialist Mathematics Units 3 & 4.
- To undertake Units 1 & 2 Mathematical Methods it is strongly recommended that students have achieved a 70% average in Year 10 Mathematics.
VCE Mathematics Choices

Mathematics is not compulsory in VCE but you must be aware that many tertiary courses have some form of mathematics as a prerequisite study.

Students undertaking Mathematical Methods Units 1 & 2 in Year 10 (High Flyers - Accelerated Classes)

If recommended by your mathematics teacher you may proceed into Mathematical Methods Units 3 & 4 next year. You may also choose Specialist Mathematics Units 1 & 2.

Mathematics Calculator

The use of calculators is integral to the study of all VCE Mathematics units. The Victorian Curriculum and Assessment Authority, when setting the Unit 3 & 4 exams, assumes that all students have a CAS calculator. It is essential for all VCE Mathematics students to purchase a CAS calculator.

The school has a preferred calculator (Casio Classpad FX-CP400 Colour Graphing Calculator) which will be available through the College via stationery orders.

VCAA regulations specify that CAS calculators may only be used in Maths exams.

Mathematics

- Foundation Mathematics Units 1 & 2 does not lead to any Unit 3 & 4 studies. It is also suitable for students who wish to develop skills in using Mathematics in real-world contexts. However this study does not serve as a pre-requisite for those University courses which require Units 1 & 2 Mathematics

- General Mathematics Units 1 & 2 prepares students to go on to Further Mathematics Units 3 & 4. It is also suitable for students who want to complete Units 1 & 2 Mathematics but do not intend to continue with maths at Units 3 & 4 level

- Mathematical Methods Units 1 & 2 prepares students to go on to Mathematical Methods Units 3 & 4

- Specialist Mathematics Units 1 & 2 prepares students for Units 3 & 4 of Specialist Mathematics. Students undertaking Specialist Mathematics Units 1 & 2 must also be studying Mathematical Methods 1 & 2 or, with teacher recommendation, may be completing Mathematical Methods Units 3 & 4
Foundation Mathematics

Units 1 & 2

Topics Studied:
- Math Skills
- A Musical Production
- The House and Land Package
- Travelling
- Car Safety
- Sport
- Water Wise
- Finance
- The use of a range of technologies (primarily use of the CAS calculator) is incorporated throughout each unit as applicable

Areas of Study:
- Space, Shape and Design
- Patterns and Number
- Data
- Measurement

Learning Outcomes:
On completion of this unit the student should be able to:
- Use and apply a range of mathematical concepts, skills and procedures from selected areas of study to solve problems based on a range of everyday and real-life contexts
- Apply mathematical procedures to solve practical problems in both familiar and new contexts, and communicate their results
- Select and use technology to solve problems in practical contexts

Assessment (Covers Units 1 & 2):
Assessment tasks for General Mathematics Units 1 & 2 are selected from the following: assignments; tests; modelling tasks; problem-solving tasks; mathematical investigations.

Additional Information:
Please note that Foundation Mathematics Units 1 & 2 does not lead to any Unit 3 & 4 Mathematics studies. It is further important to note that Foundation Mathematics is not an applicable mathematics for those University or Tafe courses which require a study in Unit 1 & 2 Mathematics.
**General Mathematics**

**Topics Studied:**
- Computation and Practical Arithmetic
- Investigating and Comparing Data Distributions for one variable
- Linear Relations and Equations
- Number Patterns and Recursion, including arithmetic and geometric sequences
- Financial Arithmetic
- Matrix arithmetic and the applications of matrices
- Investigating Relationships between two numerical variables using tools such as scatterplots and regression lines
- Linear Graphs, including modelling of specific scenarios
- Graphs and Networks
- In undertaking these units, students are expected to be able to apply techniques, routines and processes with and without the use of technology to a variety of contexts
- The use of a range of technologies (primarily use of the CAS calculator) is incorporated throughout each unit as applicable

**Areas of Study:**
- Algebra and structure
- Arithmetic and number
- Discrete mathematics
- Geometry, measurement and trigonometry
- Graphs of linear and non-linear relations
- Statistics

**Learning 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

**Assessment (Covers Units 1 & 2):**
Assessment tasks for General Mathematics Units 1 & 2 are selected from the following: assignments; tests; modelling tasks; problem-solving tasks; mathematical investigations; examinations.

**Additional Information:**
Please note that General Mathematics Units 1 & 2 is a minimum requirement for all Teaching/Education degrees and for many (but not all) Nursing degrees. It can also be helpful for entry into a number of trades and TAFE courses.
Further Mathematics

Units 3 & 4

Topics Studied:

- Further Mathematics consists of two areas of study, a compulsory Core area of study to be completed in Unit 3 and an Applications area of study to be completed in Unit 4
- The Core Area of Study comprises:
  - Data Analysis. This includes investigating data distributions, associations between two variables, modelling of statistical displays using linear functions and modelling time series
  - Recursion and Financial Modelling. This includes Depreciation of assets, determining and utilising Compound interest investments and loans, Reducing balance loans and Annuities and perpetuities
- The Applications Area of Study comprises two modules to be completed in their entirety, from a selection of four possible modules. At Wellington Secondary College the modules taught are:
  - Matrices. This includes Matrix arithmetic and their application and transition matrices
  - Networks and Decision Mathematics. This involved the study of graphs and networks including: exploring and travelling problems; trees and minimum connector problems; flow problems; shortest path problems; critical path analysis
- There is assumed knowledge from General Mathematics Units 1 & 2
- Students are expected to be able to apply techniques, routines and processes to a variety of contexts
- The use of a range of technologies (primarily use of the CAS calculator) is incorporated throughout each unit as applicable

Areas of Study:

- Data analysis
- Recursion and financial modelling
- Two modules from the following four modules will be selected by the teacher for Area of Study Two: Matrices; Networks and Decision Mathematics; Geometry and Measurement; Graphs and Relations

Learning Outcomes:

On completion of these units the student should be able to:

- Define and explain key concepts and apply related mathematical techniques and models in routine contexts
- Select and apply the mathematical concepts, models and techniques 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
Assessment:
Percentage contributions to the study score in Further Mathematics are as follows:

- Unit 3 School-assessed Coursework = 20%
- Unit 4 School-assessed Coursework = 14%
- End-of-year examination 1 = 33%
- End-of-year examination 2 = 33%

Additional Information:
Please note that Further Mathematics Units 3 & 4 is often a prerequisite for entry into Business and I.T. degrees and is required for some Commerce degrees and some Health Science courses (e.g. Podiatry, Occupational Therapy, etc.)
Mathematical Methods

Units 1 & 2

Topics Studied:

- Linear equations, coordinate geometry and linear relations
- Quadratic functions, including solving quadratic functions and sketching quadratics over a given domain
- Function notation and the definition of domain and range
- Algebra, sketching and transformations of various graphs including polynomials, the truncus, circles, the square root function and exponential and logarithmic functions
- Probability of simple events, counting methods as related to probability and discrete probability distributions
- Circular Functions, including the introduction of the radian measure of angles and graphs of the sine and cosine functions
- Exploring rates of change, calculus skills and applications relating to both differentiation and antidifferentiation
- These units are designed as preparation for Mathematical Methods Units 3 & 4 and contain assumed knowledge and skills for these units
- Students are expected to be able to apply techniques, routines and processes involving with and without the use of technology
- The use of a range of technologies (primarily use of the CAS calculator) is incorporated throughout each unit as applicable

Areas of Study:

- Functions and graphs
- Algebra
- Calculus
- Probability and statistics

Learning 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

Assessment:

Assessment tasks for Mathematical Methods are selected from the following: assignments; tests; modelling tasks; problem-solving
Mathematical Methods

Units 3 & 4

Topics Studied:

- Extends the introductory study of simple elementary functions of a single real variable, to include combinations of these functions, algebra, calculus, probability and statistics, and their applications in a variety of practical and theoretical contexts
- Assumed knowledge and skills for Mathematical Methods Units 3 & 4 are contained in Mathematical Methods Units 1 & 2
- For Unit 3 a selection of content would typically include:
  - Function Notation, types of functions and relations, inverse functions and sums, products and quotients of functions
  - The investigation of functions such as linear functions, polynomials and transcendental functions (circular, logarithmic and exponential functions). This includes sketching graphs, the algebra of functions and analysing key features
- For Unit 4, this selection would typically include:
  - Differentiation with and without the use of technology and applications of differentiation, including the relationship to key features of various graphical functions
  - Antidifferentiation with and without technology and applications of integration including areas under and between curves
  - The analysis of various probability distributions including discrete random variables, the binomial distribution, continuous random variables and the normal distribution
  - Sampling and estimation as applied to various populations
- Students are expected to be able to apply techniques, routines and processes with and without the use of technology
- The use of a range of technologies (primarily use of the CAS calculator) is incorporated throughout each unit as applicable

Areas of Study:

- Functions and graphs
- Calculus
- Algebra
- Probability and statistics
Learning Outcomes:
On completion of these units 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

Assessment:
Percentage contributions to the study score in Mathematical Methods are as follows:

- Unit 3 School-assessed Coursework = 17%
- Unit 4 School-assessed Coursework = 17%
- Units 3 and 4 examination 1 = 22%
- Units 3 and 4 examination 2 = 44%

Additional Information:
- Mathematical Methods Units 3 & 4 is a prerequisite for Commerce at Monash University and the University of Melbourne, for all Engineering degrees, for some Science degrees, for Computer Science and for most Biomedicine degree
Specialist Mathematics

Units 1 & 2

Topics Studied:
- Advanced algebraic techniques
- Real and Complex Number Systems
- Geometry in the plane, geometric proofs and circle geometry
- Advanced Trigonometry, trigonometric ratios and applications and Circular Functions
- Sequences and Series
- Graphing techniques as related to ellipses, hyperbolae and tangent functions
- Vectors
- Kinematics to describe the movement of a particle in a straight line
- Statics of a particle involving forces
- Specialist Mathematics Units 1 & 2 provide a course of study for students who wish to undertake an in-depth study of mathematics, with an emphasis on concepts, skills and processes related to mathematical structure, modelling, problem solving and reasoning
- This study has a focus on interest in the discipline of mathematics in its own right
- Students are expected to be able to apply techniques, routines and processes with and without the use of technology
- The use of a range of technologies (primarily use of the CAS calculator) is incorporated throughout each unit as applicable

Areas of Study:
- Algebra and structure
- Arithmetic and number
- Discrete mathematics
- Geometry, measurement and trigonometry
- Graphs of linear and non-linear relations
- Statistics

Learning Outcomes:
On completion of these units the student should be able to:
- Define and explain key concepts in relation to the topics from the selected areas of study and apply a range of related mathematical routines and procedures
- Apply mathematical processes in non-routine contexts, and analyse and discuss these applications of mathematics in at least three areas of study
- Use technology to produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches in at least three areas of study

Assessment:
Assessment tasks for Specialist Mathematics Units 1 & 2 are selected from the following: assignments; tests; modelling tasks; problem-solving tasks; mathematical investigations; examinations.
Specialist Mathematics

Units 3 & 4

Topics Studied:

- The study of functions including inverse circular functions, reciprocal functions, rational functions, the absolute value function, graphical representation of these functions, and the analysis of key features of their graphs
- Algebra of complex numbers
- Differential and Integral Calculus
- Differential equations
- Kinematics - rectilinear motion
- Vectors and Vector Calculus
- Introduction to Newtonian Mechanics
- Linear Combinations of random variables, sample means and confidence intervals.
- Specialist Mathematics Units 3 & 4 assumes familiarity with the key knowledge and skills from Mathematical Methods Units 1 & 2, the key knowledge and skills from Specialist Mathematics Units 1 & 2 topics  and concurrent or previous study of Mathematical Methods Units 3 & 4
- Students are expected to be able to apply techniques, routines and processes with and without the use of technology
- The use of a range of technologies (primarily use of the CAS calculator) is incorporated throughout each unit as applicable

Areas of Study:

- Functions and graphs
- Algebra
- Calculus
- Vectors
- Mechanics
- Probability and statistics

Learning Outcomes:

On the completion of these units 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, with an emphasis on general cases, in non-routine contexts, 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
Assessment:
Percentage contributions to the study score in Specialist Mathematics are as follows:

- Unit 3 School-assessed Coursework = 17%
- Unit 4 School-assessed Coursework = 17%
- Units 3 & 4 examination 1 = 22%
- Units 3 & 4 examination 2 = 44%

Additional Information:
Specialist Mathematics Units 3 & 4 is useful for students intending to study Engineering, Actuarial Studies and Physics at university. However, most universities specify Mathematical Methods OR Specialist Mathematics.
Science

Biology
Chemistry
Physics
Psychology
Biology

Unit 1: How do Living Things Stay Alive?

Topics Studied:

• The challenges to an organism in sustaining life
• The cell as the structural and functional unit of life, from the single celled to the multicellular organism, and the requirements for sustaining cellular processes in terms of inputs and outputs
• Types of adaptations that enhance the organism’s survival in a particular environment and the role homeostatic mechanisms play in maintaining the internal environment
• How a diverse group of organisms form a living interconnected community that is adapted to, and utilises, the abiotic resources of its habitat
• The role of a keystone species in maintaining the structure of an ecosystem
• How the planet’s biodiversity is classified and the factors that affect the growth of a population
• A practical investigation related to the survival of an organism or species

Areas of Study:

• How do organisms function?
• How do living systems sustain life?

Learning 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
Unit 2: How is Continuity of Life Maintained?

Topics Studied:
- Cell reproduction and the transmission of biological information from generation to generation
- Cells are derived from pre-existing cells through the cell cycle
- The process of DNA replication and cell division in both prokaryotic and eukaryotic organisms
- The mechanisms of asexual and sexual reproductive strategies, and the advantages and disadvantages of these two types of reproduction
- The role of stem cells in the differentiation, growth, repair and replacement of cells in humans, and their potential use in medical therapies
- Chromosome theory and terminology from classical genetics is used to explain the inheritance of characteristics, analyse patterns of inheritance, interpret pedigree charts and predict outcomes of genetic crosses
- The relationship between genes, the environment and the regulation of genes in giving rise to phenotypes
- The role of genetic knowledge in decision making about the inheritance of autosomal dominant, autosomal recessive and sex-linked genetic conditions
- The uses of genetic screening and its social and ethical issues

Areas of Study:
- How does reproduction maintain the continuity of life?
- How is inheritance explained?
- Investigation of an issue

Learning 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

Assessment (Covers Units 1 & 2):
Assessment tasks for Biology are selected from the following: a report of a fieldwork activity; annotations of a practical work folio of activities or investigations; a bioinformatics exercise; media response; data analysis; problem solving involving biological concepts, skills and/or issues; a reflective learning journal/blog related to selected activities or in response to an issue; a test comprising multiple choice and/or short answer and/or extended response; a report of an investigation. Practical work is a central component of learning and assessment.
Unit 3: How do Cells Maintain Life?

**Topics Studied:**

- The cell is a dynamic system of interacting molecules that define life
- Understanding of the workings of the cell by looking at both the capabilities and the limitations of living organisms whether animal, plant, fungus or microorganism
- Cytology, genetics and biochemistry in cell biology
- The workings of the cell from several perspectives
- The importance of the insolubility of the plasma membrane in water and its differential permeability to specific solutes in defining the cell, its internal spaces and the control of the movement of molecules and ions in and out of such spaces
- Base pairing specificity, the binding of enzymes and substrates, the response of receptors to signalling molecules and reactions between antigens and antibodies which highlight the importance of molecular interactions based on the complementary nature of specific molecules.
- The synthesis, structure and function of nucleic acids and proteins as key molecules in cellular processes
- The chemistry of cells: the nature of biochemical pathways, their components and energy transformations
- Cells communicate with each other using a variety of signalling molecules. Students consider the types of signals, the transduction of information within the cell and cellular responses
- The human immune system and the interactions between its components to provide immunity to a specific antigen

**Areas of Study:**

- How do cellular processes work?
- How do cells communicate?

**Learning 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
Unit 4: How Does Life Change and Respond to Challenges Over Time?

Topics Studied:

- The continual change and challenges to which life on Earth has been subjected
- The relatedness between species and the impact of various change events on a population's gene pool
- The accumulation of changes over time is considered as a mechanism for biological evolution by natural selection that leads to the rise of new species
- Change in life forms using evidence from palaeontology, biogeography, developmental biology and structural morphology
- Technological developments in the fields of comparative genomics, molecular homology and bioinformatics which have resulted in evidence of change
- The structural and cognitive trends in the human fossil record and the interrelationships between human biological and cultural evolution
- The biological consequences, and social and ethical implications, of manipulating the DNA molecule and applying biotechnologies

Areas of Study:

- How are species related?
- How do humans impact on biological processes?
- Practical investigation

Learning 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

Assessment:

Percentage contributions to the study score in Biology are as follows:

- Unit 3 School-assessed Coursework = 16%
- Unit 4 School-assessed Coursework = 24%
- End-of-year examination = 60%
Chemistry

Unit 1: How can the Diversity of Materials Be Explained?

Topics Studied:

- The chemical properties of a range of materials from metals and salts to polymers and nanomaterials
- The relationships between properties, structure and bonding forces within and between particles that vary in size from the visible, through nanoparticles, to molecules and atoms
- The modification of metals, assess the factors that affect the formation of ionic crystals and investigate a range of non-metallic substances from molecules to polymers and giant lattices and relate their structures to specific applications
- Quantitative concepts in chemistry including the mole concept
- The relative masses of elements and the composition of substances
- Use of chemistry terminology including symbols, formulas, chemical nomenclature and equations to represent and explain observations and data from experiments, and to discuss chemical phenomena
- A research investigation is undertaken in Area of Study 3

Areas of Study:

- How can knowledge of elements explain the properties of matter?
- How can the versatility of non-metals be explained?
- Research investigation

Learning 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
Unit 2: What Makes Water Such a Unique Chemical?

Topics Studied:

- The physical and chemical properties of water, the reactions that occur in water and various methods of water analysis
- The polar nature of a water molecule and the intermolecular forces between water molecules
- The relationship between these bonding forces and the physical and chemical properties of water
- Solubility, concentration, pH and reactions in water including precipitation, acid-base and redox
- Stoichiometry and analytical techniques and instrumental procedures, and apply these to determine concentrations of different species in water samples, including chemical contaminants
- Use chemistry terminology including symbols, units, formulas and equations to represent and explain observations and data from experiments, and to discuss chemical phenomena
- The solvent properties of water and selected issues associated with substances dissolved in water
- A practical investigation into an aspect of water quality is undertaken in Area of Study 3

Areas of Study:

- How do substances interact with water?
- How are substances in water measured and analysed?
- Practical investigation

Learning 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

Assessment (Covers Units 1 & 2):

Assessment tasks for Chemistry are selected from the following: annotations of a practical work folio of activities or investigations; a report of a practical activity or investigation; a modelling activity; media response; problem solving involving chemical concepts, skills and/or issues; a reflective learning journal/blog related to selected activities or in response to an issue; data analysis; a test comprising multiple choice and/or short answer and/or extended response; a report of a student-designed quantitative laboratory investigation using an appropriate format, for example digital presentation, oral communication, scientific poster or written report. Practical work is a central component of learning and assessment.
Unit 3: How Can Chemical Processes Be Designed to Optimise Efficiency?

**Topics Studied:**

- The global demand for energy and materials is increasing with world population growth
- Explore energy options and the chemical production of materials with reference to efficiencies, renewability and the minimisation of their impact on the environment
- Compare and evaluate different chemical energy resources, including fossil fuels, biofuels, galvanic cells and fuel cells
- Investigate the combustion of fuels, including the energy transformations involved, the use of stoichiometry to calculate the amounts of reactants and products involved in the reactions, and calculations of the amounts of energy released and their representations
- The purpose, design and operating principles of galvanic cells, fuel cells and electrolytic cells
- Use the electrochemical series to predict and write half and overall redox equations, and apply Faraday’s laws to calculate quantities in electrolytic reactions
- Analyse manufacturing processes with reference to factors that influence their reaction rates and extent
- Investigate and apply the equilibrium law and Le Chatelier’s principle to different reaction systems, including to predict and explain the conditions that will improve the efficiency and percentage yield of chemical processes
- Use the language and conventions of chemistry including symbols, units, chemical formulas and equations to represent and explain observations and data collected from experiments, and to discuss chemical phenomena

**Areas of Study:**

- What are the options for energy production?
- How can the yield of a chemical product be optimised?

**Learning 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
Unit 4: How are Organic Compounds Categorised, Analysed and Used?

Topics Studied:

• The carbon atom has unique characteristics that explain the diversity and number of organic compounds that not only constitute living tissues but are also found in the fuels, foods, medicines and many of the materials we use in everyday life

• Investigate the structural features, bonding, typical reactions and uses of the major families of organic compounds including those found in food

• The ways in which organic structures are represented and named

• Process data from instrumental analyses of organic compounds to confirm or deduce organic structures, and perform volumetric analyses to determine the concentrations of organic chemicals in mixtures

• The nature of the reactions involved to predict the products of reaction pathways and to design pathways to produce particular compounds from given starting materials

• Investigate key food molecules through an exploration of their chemical structures, the hydrolytic reactions in which they are broken down and the condensation reactions in which they are rebuilt to form new molecules

• The role of enzymes and coenzymes in facilitating chemical reactions is explored

• Use calorimetry as an investigative tool to determine the energy released in the combustion of foods

Areas of Study:

• How can the diversity of carbon compounds be explained and categorised?

• What is the chemistry of food?

• Practical investigation

Learning 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

Assessment:

• Unit 3 School-assessed Coursework = 16%

• Unit 4 School-assessed Coursework = 24%

• End-of-year examination = 60%
Physics

Unit 1: What Ideas Explain the Physical World?

Topics Studied:

• How physics explains phenomena, at various scales, which are not always visible to the unaided human eye
• Some of the fundamental ideas and models used by physicists in an attempt to understand and explain the world
• Thermal concepts are examined by investigating heat, probe common analogies used to explain electricity and consider the origins and formation of matter
• Use thermodynamic principles to explain phenomena related to changes in thermal energy
• Apply thermal laws when investigating energy transfers within and between systems, and assess the impact of human use of energy on the environment
• The motion of electrons and explain how it can be manipulated and utilised
• Current scientifically accepted theories that explain how matter and energy have changed since the origins of the Universe

Areas of Study:

• How can thermal effects be explained?
• How do electric circuits work?
• What is matter and how is it formed?

Learning 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
• Investigate and 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
Unit 2: What do Experiments Reveal about the Physical World?

Topics Studied:
- The power of experiments in developing models and theories
- Investigate a variety of phenomena by making observations and generating questions, which in turn lead to experiments
- Observations of physics phenomena and the ways in which phenomena that may not be directly observable can be explored through indirect observations
- The ways in which forces are involved both in moving objects and in keeping objects stationary
- The class will study one of twelve options related to astrobiology, astrophysics, bioelectricity, biomechanics, electronics, flight, medical physics, nuclear energy, nuclear physics, optics, sound and sports science

Areas of Study:
- How can motion be described and explained?
- Options - Twelve options are available for selection in Area of Study 2 and the class teacher will indicate the option to be studied
- 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

Learning Outcomes:
On completion of this unit the student should be able to:
- Investigate, analyse and mathematically model the motion of particles and bodies
- The learning outcome in relation to Area of Study 2 is dependent upon the Option chosen for study
- 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

Assessment (Covers Unit 1 & 2):
Assessment tasks for Physics are selected from the following: an annotated folio of practical activities; data analysis; design, building, testing and evaluation of a device; an explanation of the operation of a device; a proposed solution to a scientific or technological problem; a report of a selected physics phenomenon; a modelling activity; a media response; a summary report of selected practical investigations; a reflective learning journal/blog related to selected activities or in response to an issue; a test comprising multiple choice and/or short answer and/or extended response; a report of a practical investigation (student-designed or adapted) using an appropriate format, for example a scientific poster, practical report, oral communication or digital presentation. Practical work is a central component of learning and assessment.
Unit 3: How do Fields Explain Motion and Electricity?

Topics Studied:
- The importance of energy in explaining and describing the physical world
- Production of electricity and its delivery to homes
- The field model as a construct that has enabled an understanding of why objects move when they are not apparently in contact with other objects. Applications of concepts related to fields include the transmission of electricity over large distances and the design and operation of particle accelerators
- The interactions, effects and applications of gravitational, electric and magnetic fields
- Use Newton’s laws to investigate motion in one and two dimensions, and Einstein’s theories to explain the motion of very fast objects
- How developing technologies can challenge existing explanations of the physical world, requiring a review of conceptual models and theories
- Design and undertake investigations involving at least two continuous independent variables

Areas of Study:
- How do things move without contact?
- How are fields used to move electrical energy?
- How fast can things go?

Learning 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

Unit 4: How can Two Contradictory Models Explain both Light and Matter?

Topics Studied:
- A complex interplay exists between theory and experiment in generating models to explain natural phenomena including light
- Wave theory has classically been used to explain phenomena related to light; however, continued exploration of light and matter has revealed the particle-like properties of light
- On very small scales, light and matter – which initially seem to be quite different – have been observed as having similar properties
- The use of wave and particle theories to model the properties of light and matter
- How the concept of the wave is used to explain the nature of light and explore its limitations in describing light behaviour
- Further investigate light by using a particle model to explain its behaviour
- A wave model is also used to explain the behaviour of matter which enables students to consider the relationship between light and matter
- Think beyond the concepts experienced in everyday life to study the physical world from a new perspective
- Design and undertake investigations involving at least two continuous independent variables
Areas of Study:
- How can waves explain the behaviour of light?
- How are light and matter similar?
- Practical investigation

Learning 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

Assessment:
Percentage contributions to the study score in Physics are as follows:
- Unit 3 School-assessed Coursework = 21%
- Unit 4 School-assessed coursework = 19%
- End-of-year examination = 60%
Psychology

Unit 1: How are Behaviour and Mental Processes Shaped?

Topics Studied:

- Human development involves changes in thoughts, feelings and behaviours
- The structure and functioning of the human brain and the role it plays in the overall functioning of the human nervous system
- Brain plasticity and the influence that brain damage may have on a person’s psychological functioning
- The complex nature of psychological development, including situations where psychological development may not occur as expected
- The contribution that classical and contemporary studies have made to an understanding of the human brain and its functions and to the development of different psychological models and theories used to predict and explain the development of thoughts, feelings and behaviours

Areas of Study:

- How does the brain function?
- What influences psychological development?

Learning 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
Unit 2: How do External Factors Influence Behaviour and Mental Processes?

Topics Studied:
- A person’s thoughts, feelings and behaviours are influenced by a variety of biological, psychological and social factors
- Perception of stimuli enables a person to interact with the world around them and how perception of stimuli can be distorted
- The role social cognition plays in a person’s attitudes, perception of themselves and relationships with others
- Factors and contexts that can influence the behaviour of an individual and groups
- The contribution that classical and contemporary research has made to the understanding of human perception and why individuals and groups behave in specific ways

Areas of Study:
- What influences a person’s perception of the world?
- How are people influenced to behave in particular ways?
- Student-directed research investigation

Learning 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
- 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

Assessment (Covers Units 1 & 2):
Assessment tasks for Psychology are selected from the following: a report of a practical activity involving the collection of primary data; a research investigation involving the collection of secondary data; a brain structure modelling activity; a logbook of practical activities; analysis of data/results including generalisations/conclusions; media analysis/response; problem solving involving psychological concepts, skills and/or issues; a test comprising multiple choice and/or short answer and/or extended response; a reflective learning journal/blog related to selected activities or in response to an issue; a report of an investigation into brain function and/or development that can be presented in various formats, for example digital presentation, oral presentation, or written report.
Unit 3: How does Experience affect Behaviour and Mental Processes?

Topics Studied:

- The nervous system influences behaviour and the way people experience the world
- Macro-level and micro-level functioning of the nervous system: how the human nervous system enables a person to interact with the world around them
- How stress may affect a person's psychological functioning and consider the causes and management of stress
- How mechanisms of memory and learning lead to the acquisition of knowledge, the development of new capacities and changed behaviours
- The limitations and fallibility of memory and how memory can be improved
- The contribution that classical and contemporary research has made to the understanding of the structure and function of the nervous system, and to the understanding of biological, psychological and social factors that influence learning and memory

Areas of Study:

- How does the nervous system enable psychological functioning?
- How do people learn and remember?

Learning 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

Unit 4: How is Wellbeing Developed and Maintained?

Topics Studied:

- Consciousness and mental health are two of many psychological constructs that can be explored by studying the relationship between the mind, brain and behaviour
- Examine the nature of consciousness and how changes in levels of consciousness can affect mental processes and behaviour
- The role of sleep and the impact that sleep disturbances may have on a person's functioning
- Explore the concept of a mental health continuum and apply a biopsychosocial approach, as a scientific model, to analyse mental health and disorder
- Use specific phobia to illustrate how the development and management of a mental disorder can be considered as an interaction between biological, psychological and social factors
- The contribution that classical and contemporary research has made to the understanding of consciousness, including sleep, and the development of an individual's mental functioning and wellbeing
Areas of Study:
- How do levels of consciousness affect mental processes and behaviour?
- What influences mental wellbeing?
- Practical investigation

Learning 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

Assessment:
- Unit 3 School-assessed Coursework = 16%
- Unit 4 School-assessed Coursework = 24%
- End-of-year examination = 60%
Technology

Food Studies
Product Design
& Technology
Systems Engineering
Food Studies

Unit 1: Food origins

Topics Studied:

- Food from historical and cultural perspectives
- The origins and roles of food through time and across the world
- How humanity has historically sourced its food, from hunter-gatherer to rural-based agriculture, to today’s urban living and global trade in food
- The origins and significance of food through inquiry into particular food-producing regions of the world
- Australian indigenous food prior to European settlement and how food patterns have changed since, particularly through the influence of food production, processing and manufacturing industries and immigration
- Cuisines that are part of Australia’s culinary identity today and reflect on the concept of an Australian cuisine
- The influence of technology and globalisation on food patterns

Areas of Study:

- Food around the world
- Food in Australia

Learning 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

Unit 2: Food Makers

Topics Studied:

- Food systems in contemporary Australia
- Commercial food production industries
- Food production in small-scale domestic settings, as both a comparison and complement to commercial production
- The significance of food industries to the Australian economy and investigate the capacity of industry to provide safe, high-quality food that meets the needs of consumers
- Produce foods and consider a range of evaluation measures to compare the student’s foods to commercial products
- The effective provision and preparation of food in the home, and the benefits and challenges of developing and using practical food skills in daily life
- In demonstrating their practical skills, students design new food products and adapt recipes to suit particular needs and circumstances
- Students consider the possible extension of their role as small-scale food producers by exploring potential entrepreneurial opportunities
Areas of Study:
- Food industries
- Food in the home

Learning 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

Assessment (Covers Units 1 & 2):
Assessment for Food Studies includes a range of practical activities; students design and develop a practical food solution in response to an opportunity or a need. Additional activities may include a short written report, media analysis, research inquiry, historical timeline, comparative food-testing analysis or product evaluation, an oral presentation, a practical demonstration or a video or podcast.

Unit 3: Food in Daily Life

Topics Studied:
- The many roles and everyday influences of food
- The science of food: our physical need for it and how it nourishes and sometimes harms our bodies
- The physiology of eating and appreciating food, and the microbiology of digestion
- The functional properties of food and the changes that occur during food preparation and cooking
- The scientific rationale behind the Australian Dietary Guidelines and the Australian Guide to Healthy Eating (see www.eatforhealth.gov.au)
- Diverse nutrient requirements
- Food choice: how communities, families and individuals change their eating patterns over time and how our food values and behaviours develop within social environments
- The role of food in shaping and expressing identity and connectedness and the ways in which food information can be filtered and manipulated
- Behavioural principles that assist in the establishment of lifelong, healthy dietary patterns
- The practical component of this unit enables students to understand food science terminology and to apply specific techniques to the production of everyday food that facilitates the establishment of nutritious and sustainable meal patterns

Areas of Study:
- The science of food
- Food choice, health and wellbeing
Learning 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

Unit 4: Food Issues, Challenges and Futures

Topics Studied:

- Examine debates about global and Australian food systems
- Issues about the environment, ecology, ethics, farming practices, the development and application of technologies, and the challenges of food security, food safety, food wastage, and the use and management of water and land
- Individual responses to food information and misinformation and the development of food knowledge, skills and habits to empower consumers to make discerning food choices
- How to assess information and draw evidence-based conclusions and apply this methodology to navigate contemporary food fads, trends and diets
- Practise and improve food selection skills by interpreting food labels and analysing the marketing terms used on food packaging
- The practical component of this unit provides students with opportunities to apply their responses to environmental and ethical food issues, and to extend their food production repertoire reflecting the Australian Dietary Guidelines and the Australian Guide to Healthy Eating

Areas of Study:

- Environment and ethics
- Navigating food information

Learning 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

Assessment:
Percentage contributions to the study score for Food Studies are as follows:

- Unit 3 School-assessed Coursework = 30%
- Unit 4 School-assessed Coursework = 30%
- End-of-year examination = 40%
Product Design & Technology

Unit 1: Product Re-design & Sustainability

Topics Studied:

- The analysis, modification and improvement of a product design with consideration of the materials used and issues of sustainability
- Knowledge of material use and suitability for particular products
- The use of materials from a sustainable viewpoint
- Sustainable practices claimed to be used by designers are examined
- The Product design process and Product design factors
- Intellectual property (IP), its implications related to product design and the importance of acknowledging the IP rights of the original designer
- Produce a re-designed product safely using tools, equipment, machines and materials, compare it with the original design and evaluate it against the needs and requirements outlined in the design brief
- A prototype made of less expensive materials can be presented
- A prototype is expected to be of full scale and considered to be the final design of a product before production of multiples

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

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

- Re-design a product using suitable materials with the intention of improving aspects of the product's aesthetics, functionality or quality, including consideration of sustainability
- Use and evaluate materials, tools, equipment and processes to make a re-designed product or prototype, and compare the finished product or prototype with the original design
Unit 2: Collaborative Design

Topics Studied:

- Work in teams to design and develop an item in a product range or contribute to the design, planning and production of a group product
- Factors including: human needs and wants; function, purpose and context for product design; aesthetics; materials and sustainability; and the impact of these factors on a design solution
- The use of ICT to facilitate teams that work collaboratively but are spread across the globe
- Gain inspiration from an historical and/or a cultural design movement or style and its defining factors such as ideological or technological change, philosophy or aesthetics
- Work both individually and as a member of a small design team to address a problem, need or opportunity and consider the associated human-centred design factors
- Design a product within a range, based on a theme, or a component of a group product
- Research and refer to a chosen style or movement

Areas of Study:

- Designing within a team
- Producing and evaluating a collaboratively designed product

Learning Outcomes:

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

- Design and plan a product, a product range or a group product with component parts in response to a design brief based on a common theme, both individually and within a team
- Justify, manage and use appropriate production processes to safely make a product and evaluate, individually and as a member of a team, the processes and materials used, and the suitability of a product or components of a group product against the design brief

Assessment (Covers Units 1 & 2):

Assessment tasks for this study are selected from the following: a design folio that contains a design brief, evaluation criteria, research, visualisations and design options, working drawings, production plan, and evaluation report; a prototype or product and records of production and modifications; a multimedia presentation supported by speaker’s notes; a short written report that includes materials testing or trialling activities; industry visits; technical reports; a case study analysis; an oral report supported by notes and/or visual materials.
Unit 3: Applying the Product Design Process

**Topics Studied:**

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

- This unit examines different design settings (including industrial settings) and takes students through the Product design process as they design for others

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

- How a design brief is structured, how it addresses particular Product design factors and how evaluation criteria are developed from the constraints and considerations in the brief

- An understanding of techniques in using the design brief as a springboard to direct research and design activities

- How a range of factors, including new and emerging technologies, and international and Australian standards, influence the design and development of products within industrial manufacturing settings

- Consider issues associated with obsolescence and sustainability models

- The application of the Product design process for a product design for a client and/or an end-user, including writing the student’s own design brief which will be completed and evaluated in Unit 4

**Areas of Study:**

- The designer, client and/or end-user in product development

- Product development in industry

- Designing for others

**Learning Outcomes:**

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

- Explain the roles of the designer, client and/ or end-user/s, the Product design process and its initial stages, including investigating and defining a design problem, and explain how the design process leads to product design development

- Explain and analyse influences on the design, development and manufacture of products within industrial settings

- Present a folio that documents the Product design process used while working as a designer to meet the needs of a client and/or an end-user, and commence production of the designed product
Unit 4: Product Development & Evaluation

Topics Studied:

- Learn that evaluations are made at various points of product design, development and production
- Judge the suitability and viability of design ideas and options, referring to the design brief and evaluation criteria in collaboration with a client and/or an end-user
- Comparisons between similar products help to judge the success of a product in relation to a range of Product design factors
- The environmental, economic and social impact of products throughout their life
- Use comparative analysis and evaluation methods to make judgments about commercial product design and development
- Develop and safely manufacture the product designed in Unit 3
- Using materials, tools, equipment and machines, and record and monitor the production processes and modifications to the production plan and product
- Evaluate the effectiveness and efficiency of techniques used and the quality of the product with reference to evaluation criteria and client and/or end-user feedback
- Make judgments about possible improvements
- Produce an informative presentation to highlight the product’s features to the client and/or an end-user and explain its care requirements

Areas of Study:

- Product analysis and comparison
- Product manufacture
- Product evaluation

Learning Outcomes:

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

- Compare, analyse and evaluate similar commercial products, taking into account a range of factors and using appropriate techniques
- Safely apply a range of production skills and processes to make the product designed in Unit 3, and manage time and resources effectively and efficiently
- Evaluate the outcomes of the design, planning and production activities, explain the product’s design features to the client and/or an end-user and outline its care requirements

Assessment:

Percentage contributions to the study score in VCE Product Design and Technology are as follows:

- Unit 3 School-assessed Coursework = 12%
- Unit 4 School-assessed Coursework = 8%
- School-assessed Task = 50%
- End-of-year examination = 30%

Additional Information:

The production component in each of these units will require the student to purchase materials. There will be a materials levy of:

- Units 1 & 2 = $50
- Units 3 & 4 = $50

However, this cost may increase depending upon the product the student elects to build and the materials used in construction.
Systems Engineering

Unit 1: Introduction to Mechanical Systems

Topics Studied:
- Engineering fundamentals as the basis of understanding underlying principles and the building blocks that operate in simple to more complex mechanical devices
- While this unit contains the fundamental physics and theoretical understanding of mechanical systems and how they work, the main focus is on the construction of a system
- The construction process draws heavily upon design and innovation
- Students apply their knowledge to design, construct, test and evaluate operational systems
- The focus of the system should be mechanical; however, it may include some electronic components
- The constructed operational systems demonstrate selected theoretical principles studied in this unit
- All systems require some form of energy to function
- Research, explore and quantify how systems use or convert the energy supplied to them

The Systems Engineering Process
- The fundamental mechanical engineering principles, including recognition of mechanical subsystems and devices, their motions, the elementary applied physics, and the related mathematical calculations that can be applied to define and explain the physical characteristics of these systems

Areas of Study:
- Fundamentals of mechanical system design
- Producing and evaluating mechanical systems

Learning Outcomes:
On completion of this unit the student should be able to:
- Describe and use basic engineering concepts, principles and components, and using selected relevant aspects of the Systems Engineering Process, design and plan a mechanical or an electro-mechanical system
- Make, test and evaluate a mechanical or an electro-mechanical system using selected relevant aspects of the Systems Engineering Process
Unit 2: Introduction to Electrotechnology Systems

Topics Studied:
- Fundamental electrotechnology engineering principles
- Through the application of their knowledge and the Systems Engineering Process, students produce operational systems that may also include mechanical components
- Conduct research and produce technical reports
- While this unit contains fundamental physics and theoretical understanding of electrotechnology systems and how they work, student focus remains on the construction of electrotechnology systems
- The construction process draws heavily upon design and innovation
- Electrotechnology is experiencing rapid developments and changes through technological innovation
- The contemporary design and manufacture of electronic equipment involves increased levels of automation and inbuilt control through the inclusion of microcontrollers. In this unit students explore some of these new and emerging technologies
- Fundamental electrotechnology principles including applied electrical theory, representation of electronic components and devices, elementary applied physics in electrical circuits, and mathematical calculations that can be applied to define and explain electrical characteristics of circuits
- The unit offers opportunities for students to apply their knowledge in the design, construction, testing and evaluation of an operational system. The system should be predominately electrotech based, but would generally have electro-mechanical components within the system
- The constructed system should provide a tangible demonstration of some of the theoretical principles studied in this unit

Areas of Study:
- Fundamentals of electrotechnology system design
- Producing and evaluating electrotechnology systems

Learning Outcomes:
On completion of this unit the student should be able to:
- Investigate, represent, describe and use basic electrotechnology and basic control engineering concepts, principles and components, and using selected relevant aspects of the Systems Engineering Process, design and plan an electrotechnology system
- Make, test and evaluate an electrotechnology system, using selected relevant aspects of the Systems Engineering Process

Assessment (Covers Units 1 & 2):
Documentation of the Systems Engineering Process using one or more of: multimedia presentation, folio, brochure, poster, report; production work; practical demonstrations; test; oral presentation.
Vocational Education & Training (VET)

VET programs are designed to help students make the transition to further education or training, work, or a blend of both training and work. Students considering a VET program are welcome to talk to Ms Huffer.

The Benefits of Studying a VET Program

- A VET program is compulsory for all VCAL students, under the Industry Specific strand
- For all students, both VCAL and VCE, a VET program offers the following benefits:
- Increases the options available for students to participate in vocational education and training during their secondary schooling
- Provides students with the option of undertaking a broad range of studies to meet their individual needs
- Increases employability and work readiness

VCE/VCAL VET Studies

VCE/VCAL VET programs provide the opportunity to undertake entry level TAFE training within the VCE or VCAL. On successful completion, students will have obtained their VCE and a Vocational Education and Training certificate, which will allow them to either move on to further education and training or to seek employment, including part time or casual employment whilst continuing with other studies. These programs broaden post-school options with workplace and training experience, which enhance student readiness for further training and employment.

Recognition for VET Programs within the VCE

VCE VET programs are fully recognised within the Unit 1-4 structure of the VCE and may therefore contribute towards satisfactory completion of VCE. VCE VET units have equal status with other VCE studies. Some VCE VET units are scored and can be included in the student’s primary four subjects in their ATAR calculation. Non-scored units at Units 3 and 4 are calculated as 10% of the average scaled score of the primary four VCE studies so long as the student undertakes 4 other VCE subjects – otherwise a study score cannot be obtained.

VET Program Delivery

VET programs are delivered by TAFE Institutes and through local schools organised via a VET Network. This means that students will be required to travel to and from the VET provider. Most programs are offered on a Wednesday; some run for the entire day, with others requiring the student to attend on a Wednesday afternoon. This does mean that VCE students would miss some classes at school to undertake a VET program.

There may be some additional costs for materials, equipment or uniform. This can range from nearly $500 in the case of Beauty Therapy, to less than $100. However, the school pays the tuition fees still outstanding after the government subsidy.
VET Programs Available to VCAL & VCE Students

Students interested in undertaking a VET program are advised to see Ms Huffer in the Careers Office. The list below gives some indication of programs available. However, the list is not exhaustive.

- Automotive (Mechanical OR Paint and Panel)
- Beauty Therapy
- Building and Construction
- Business
- Children’s Services
- Community Services
- Computer Assembly and Repair
- Digital Media and Technology
- Electrotechnology – Electrical Career Start
- Engineering
- Event Management
- Games Development
- Hairdressing
- Health
- Hospitality
- I.T.
- Music
- Plumbing
- Retail Make-Up
- Sport and Recreation
- Visual Arts
The Victorian Certificate of Applied Learning – VCAL

What is VCAL?

VCAL is a state-accredited certificate which sits alongside the VCE and is available to students enrolled in Year 11 or Year 12. It is based on the following principles of applied learning and is, therefore, an appropriate alternative for those students who succeed with a more ‘hands on’ approach to learning:

- Start where the learners are at
- Negotiate the curriculum
- Share knowledge
- Connect with communities and real life experiences
- Build resilience, confidence and self-worth
- Integrate learning
- Assess appropriately

Assessment in VCAL

Students are not required to do exams or tests, but there are a whole lot of others ways of showing that they have demonstrated the Learning Outcomes to the required standard. These are called evidence.

All evidence should be retained by the student for assessment purposes.

Some different kinds of evidence for VCAL units are:

- A journal which records thinking and decisions
- Photos
- A video
- Documents used e.g. letters to employers, surveys
- Teacher observation
- Participation in discussions and debates
- Role plays
- Checklists
- Logbook
- Self-assessment rubrics
- Oral presentations
- Group presentation
- PowerPoint presentations
- Certificates and awards
Certificate Structure

The VCAL is a one-year certificate designed to give students with practical abilities an incentive to stay at school while gaining valuable work experience.

There are three award levels for VCAL:

- Foundation
- Intermediate
- Senior

Upon successful completion of the program, the student will receive a VCAL Certificate for that award level. A student who completes a Foundation or Intermediate VCAL Certificate may decide to return to the College the following year to attempt VCAL at the next award level.

The level at which a student is enrolled will be determined after consultation with the Director of Student Pathways and the VCAL Coordinator, giving consideration to prior learning and performance.

A VCAL program requires a student to complete a minimum of 10 units, each delivered over 100 nominal hours. These units may comprise of school-based VCAL units, VCE/VET units, modules from accredited VET courses at TAFE or VCE units available at the College.

The combination of units in a VCAL program will vary for each student but MUST include:

- At least one Literacy unit, at the award level
- At least one Personal Development unit, at the award level
- At least one Numeracy unit
- At least one unit from the Industry Specific Strand
- At least one unit from the Work Related Skills Strand
- At least SIX units at the award level

Students gain credits for completed units and are assessed as ‘satisfactory’ according to specific learning outcomes – they do not receive graded assessment.

Meeting the Work Related Skills Requirements

The satisfactory completion of the Work Related Skills Units at any level relies heavily on the student completing sufficient hours (240) in the workplace developing employability skills. Consequently, students who decide to enrol in a VCAL program should organise work placement and complete a Structured Workplace Learning Form before the commencement of the school year or seek part-time employment. A student’s VCAL program is organised on an individual basis, according to their interests and possible career path.

Meeting the Industry Specific Skills Requirements

For the Industry Specific Strand, students choose a VET course available at TAFE or local secondary colleges or enrol in an Australian School Based Apprenticeship.

Popular VET/TAFE courses include:

1. Automotive
2. Carpentry, Building and Construction
3. Electrical
4. Hairdressing
5. Children’s Services
6. Hospitality
7. Business Administration

Australian School Based Apprenticeships are available in most of these areas, as well as Retail Operations and Children’s Services.
Attendance Requirements
The College’s VCAL Program will require students to attend College on MONDAY, TUESDAY and THURSDAY to complete the Learning Outcomes for Literacy, Numeracy, Personal Development Skills and Work Related Skills. This will allow students to attend TAFE or VET courses on either Wednesday or Friday ONLY to address the Industry Specific Strand of their program and complete the required hours of Structured Workplace Learning or part time employment on the alternative day.

If a VCAL student has a part-time job, work hours outside normal school times contribute to the required 240 hours. As with all senior students at the College, VCAL students must meet the 90% attendance requirement to successfully achieve their VCAL.

Transferring from VCE to VCAL
On some occasions, students who initially enrol in a VCE course apply to transfer to a VCAL program at midyear. Due to the compulsory nature of the VET component to satisfy the Industry Specific Strand, if a suitable VET course cannot be found for midyear commencement, the student will be strongly discouraged from transferring. Consequently, all students should use the Course Counselling process to make considered decisions about their Senior School pathway.

Further Details Regarding VCAL
Further information about VCAL, including translation into other languages, can be found on the VCAA website through the following link: http://www.vCAA.vic.edu.au/pages/lote/lotecontentindex.aspx

Program Outlines
The following sample programs provide some options for students who enrol in a VCAL program: These samples show the MINIMUM enrolment units.
### Sample Intermediate Level VCAL Program

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<th>Numeracy Strand</th>
<th>Industry Specific Skills Strand</th>
<th>Work Related Skills Strand</th>
<th>Personal Development Skills Strand</th>
<th>Delivery by</th>
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## Sample Senior Level VCAL Program

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Careers Information

Senior School Pathways & Programs

Students are encouraged to check that their Senior School program fulfils the entrance requirements for any tertiary course that they are contemplating. More information on these requirements, including prerequisites is available from:

- The Tertiary Entry Newspaper lift-out (supplied free to all students in Year 10 in July/August)
- VICTER (Victorian Tertiary Entrance Requirements), which lists all tertiary entry requirements for students in Years 10-12. VICTER can be accessed on the VTAC website under the ‘Publications’ section
- The Careers Office (located in the Wellbeing Centre)

Students are advised that tertiary entrance requirements can differ from year to year. Looking on university websites or at the current VTAC Guide can be misleading. Students are strongly advised to use the VICTER information (either online or in the newspaper lift-out), which publishes the entrance requirements two years ahead.

The Importance of Prerequisites

If a student does not complete the prerequisites required for entry into a course it does not matter how high his/her ATAR is, it will not be possible to get into the course. The course counselling process in Year 10 is vital in identifying prerequisite subjects.

Some students may not have a clear idea of what they wish to study after school. In this situation it is best that they choose subjects that most interest them and that they believe that are best at. The greatest restriction to entry to university courses is because of results in Unit 3 & 4 in the student’s English subject, or because a student has not met the Mathematics prerequisite. If possible, students should attempt a Maths subject, at least in Year 11.

However, students must choose carefully; attempting a Maths which is too difficult can actually further limit choices. Year 10 students are advised to listen to the advice of their current Mathematics teacher in selecting a Maths which best suits them. Also, keep in mind that there are a number of courses which do not require Maths. If a course does and the student is not academically strong in Maths, it may be that this course is not a good choice for him/her.

University & TAFE Institute Entrance Requirements

There is no one set of entrance requirements that covers all tertiary institutions. Not only are there differences between the universities there are also differences among individual universities. For example Accounting at Monash Clayton requires completion of Units 3 & 4 Mathematical Methods with a study score of 25 while Accounting at Monash Caulfield requires Units 3 & 4 Further Mathematics with a 25.

Entry requirements for courses are very competitive. The basic entry requirement is the satisfactory completion of VCE or, in some cases, VCAL. However, some courses have extra requirements which must be met for a student to be considered for selection, in addition to the prerequisite subjects. This may include folio presentations, interviews, pre-selection kits or tests. For VCE students an ATAR is also used to determine selection.
VCAL & Tertiary Courses

VCAL students will generally be eligible to apply for TAFE Certificates up to Certificate Level IV. Once they have successfully completed a Certificate IV students may apply for Diplomas or Advanced Diplomas.

Assistance in Choosing Your Career

Your best contact for careers information is the Careers staff at school. Assistance can also be found through other staff, parents/guardians and advisors at TAFE institutes or universities.

Managed Individual Pathways (MIPS)

In addition to the Director of Student Pathways, the College has a full-time counsellor to assist students with careers and pathways decisions. The MIPs Coordinator, Anita Saxton, is available to talk to if students are not sure if they want to complete their senior studies or to give advice regarding options for further study and training. Students should see Mrs Saxton as soon as they begin to question their motivation to complete their VCE or VCAL. Come to the Careers Office to see her.

Staff to Consult:

- Ms Lavin       Head of Senior School
- Ms Huffer      Director of Student Pathways
- Ms Mann        VCAL Coordinator
- Mrs Saxton     MIPS Coordinator
- Years 10,11 & 12 Year Level Coordinators
- Domain Leaders for information on individual subjects

Useful Resources

University Websites

www.acu.edu.au
www.deakin.edu.au
www.federation.edu.au
www.latrobe.edu.au
www.monash.edu.au
www.rmit.edu.au
www.swin.edu.au
www.unimelb.edu.au
www.vu.edu.au
VTAC Guide
This guide lists most courses and their pre-requisites/requirements in Victoria.
www.vtac.edu.au

VICTER Guide
Available in the Tertiary Planner newspaper supplement or on the VTAC website under ‘Publications’. This publication lists the pre-requisites that have been set for university courses for the year that you will enter tertiary education.

VCAA Study Designs
This website includes detailed study designs.
Program Outlines

These program outlines are provided to assist you with planning a VCE program and are suggested as a basic core of units directed towards a variety of common career pathways.

They are by no means prescriptive and many adjustments are possible, but they are designed to meet most tertiary prerequisites in the particular area.

You are encouraged to investigate a wide range of possible University and TAFE options and look closely at course prerequisites and recommended subjects from the appropriate VICTER document before finalising your choice of units.

Remember, Universities generally determine their own prerequisite requirements; these can differ from one University to the next and even from campus to campus within the same University.

A reminder: The ‘English Group’ is made up of:

- English/EAL
- English Language
- Literature

Art/Graphics/Performing Arts

This program outline has been provided as a basis for career pathways in Fine Arts, Visual Communication, Art & Design, Graphic Art, Film, Photography, Art Teaching, Interior Design, Industrial Design, Music, Drama, Furniture Design, etc.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>A unit from the English Group 1</th>
<th>Visual Communication &amp; Design (VCD) 1</th>
<th>Studio Arts or Product Design &amp; Technology 1</th>
<th>Drama or Music Performance or Media 1</th>
<th>Any other VCE unit</th>
<th>Any other VCE unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1</td>
<td>Visual Comm. Design or Product Design SA or PDT</td>
<td>Drama or Music Performance or Media</td>
<td>VCE Unit</td>
<td>VCE unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>A unit from the English Group 2</td>
<td>VCD 2</td>
<td>SA or PDT 2</td>
<td>Drama or Music Performance or Media 2</td>
<td>VCE Unit</td>
<td>VCE unit</td>
</tr>
<tr>
<td>Semester 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>A unit from the English Group 3</td>
<td>VCD 3</td>
<td>SA or PDT 3</td>
<td>Drama or Music Performance or Media 3</td>
<td>VCE unit</td>
<td></td>
</tr>
<tr>
<td>Semester 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>A unit from the English Group 4</td>
<td>VCD 4</td>
<td>SA or PDT 4</td>
<td>Drama or Music Performance or Media 4</td>
<td>VCE unit</td>
<td></td>
</tr>
</tbody>
</table>
Business/Commerce/Accounting

This program outline provides the basis for career pathways in Business, Accounting, Commerce, Marketing, Information Technology, Computing, Business Information Systems, Banking, Finance, International Trade, Office Administration, Tourism, Education etc. Students could elect to take more than one Mathematics subject each year.

Please note that some Commerce degrees (e.g. at Monash University and the University of Melbourne) require completion of Mathematical Methods, while other Business degrees (e.g. at Monash Caulfield Campus) require Further Mathematics. There are some Business and Commerce degrees that do not require completion of Units 3 & 4 Mathematics.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>A unit from the English Group 1</th>
<th>Accounting 1</th>
<th>Computing or Legal Studies 1</th>
<th>General Maths and Specialist Maths</th>
<th>Economics 1 or BM 1</th>
<th>Any other VCE unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1</td>
<td>A unit from the English Group 2</td>
<td>Accounting 2</td>
<td>Computing or Legal Studies 2</td>
<td>GM or SM or MM 2</td>
<td>Eco or BM 2</td>
<td>VCE unit</td>
</tr>
<tr>
<td>Year 2</td>
<td>A unit from the English Group 3</td>
<td>Accounting 3</td>
<td>Informatics or LS 3</td>
<td>Further Maths or MM or Specialist Maths 3</td>
<td>Eco 3 or BM 3</td>
<td></td>
</tr>
<tr>
<td>Semester 1</td>
<td>A unit from the English Group 4</td>
<td>Accounting 4</td>
<td>Informatics or LS 4</td>
<td>FM or MM or SM 4</td>
<td>Eco 4 or BM 4</td>
<td></td>
</tr>
<tr>
<td>Semester 2</td>
<td>A unit from the English Group 5</td>
<td>An additional English 5</td>
<td>Psychology 1</td>
<td>Australian &amp; Global Politics or History 1</td>
<td>Philosophy 1</td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>A unit from the English Group 2</td>
<td>An additional English 2</td>
<td>Psychology 2</td>
<td>Australian &amp; Global Politics or History 2</td>
<td>Philosophy 2</td>
<td>VCE unit</td>
</tr>
<tr>
<td>Semester 1</td>
<td>A unit from the English Group 3</td>
<td>An additional English 3</td>
<td>Psychology 3</td>
<td>History: Revolutions 3</td>
<td>Philosophy 3</td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>A unit from the English Group 4</td>
<td>An additional English 4</td>
<td>Psychology 4</td>
<td>History: Revolutions 4</td>
<td>Philosophy 4</td>
<td></td>
</tr>
<tr>
<td>Semester 2</td>
<td>A unit from the English Group 5</td>
<td>An additional English 5</td>
<td>Psychology 1</td>
<td>Australian &amp; Global Politics or History 1</td>
<td>Philosophy 1</td>
<td></td>
</tr>
</tbody>
</table>

Humanities

This program outline has much flexibility in the subjects that could be included with only some of the combinations shown – other possibilities include Media, LOTE, Music Performance, Economics, etc. It would provide a basis for career pathways in Arts, Law, Education, Social Science, Journalism, Public Relations, Media, Social Work, Welfare Studies, Psychology, etc.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>A unit from the English Group 1</th>
<th>An additional English 1</th>
<th>Psychology or Maths 1</th>
<th>Australian &amp; Global Politics or History 1</th>
<th>Philosophy 1</th>
<th>Any other VCE unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1</td>
<td>A unit from the English Group 2</td>
<td>An additional English 2</td>
<td>Psychology 2</td>
<td>Australian &amp; Global Politics or History 2</td>
<td>Philosophy 2</td>
<td>VCE unit</td>
</tr>
<tr>
<td>Year 2</td>
<td>A unit from the English Group 3</td>
<td>An additional English 3</td>
<td>Psychology 3</td>
<td>History: Revolutions 3</td>
<td>Philosophy 3</td>
<td></td>
</tr>
<tr>
<td>Semester 1</td>
<td>A unit from the English Group 4</td>
<td>An additional English 4</td>
<td>Psychology 4</td>
<td>History: Revolutions 4</td>
<td>Philosophy 4</td>
<td></td>
</tr>
</tbody>
</table>
**Health Sciences**

This program outline provides the basis for career pathways in Health Care, Occupational Therapy, Social Work, Physiotherapy, Paramedicine, Nursing, Speech Pathology, Podiatry, Child Care, Psychology, Education, etc.

<table>
<thead>
<tr>
<th>Year 1 Semester 1</th>
<th>A unit from the English Group 1</th>
<th>Health &amp; Human Development (HHD) or PE 1</th>
<th>Biology or Psychology 1</th>
<th>Chemistry 1</th>
<th>General Maths or Maths Methods 1</th>
<th>Any other VCE unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1 Semester 2</td>
<td>A unit from the English Group 2</td>
<td>HHD or PE 2</td>
<td>Biology or Psychology 2</td>
<td>Chemistry 2</td>
<td>GM or MM 2</td>
<td>VCE unit</td>
</tr>
<tr>
<td>Year 2 Semester 1</td>
<td>A unit from the English Group 3</td>
<td>HHD or PE 3</td>
<td>Biology or Psychology 3</td>
<td>Chemistry 3</td>
<td>FM or MM 3</td>
<td></td>
</tr>
<tr>
<td>Year 2 Semester 2</td>
<td>A unit from the English Group 4</td>
<td>HHD or PE 4</td>
<td>Biology or Psychology 4</td>
<td>Chemistry 4</td>
<td>FM or MM 4</td>
<td></td>
</tr>
</tbody>
</table>

**Science/Engineering**

This program outline provides the basis for career pathways in the Sciences, Engineering, Medicine, etc. There is not a great deal of flexibility in this area because of the limitations caused by the prerequisites in many tertiary courses in this field. For these courses Specialist Mathematics is not a prerequisite, although subject bonuses might be available. In all cases course prerequisites must be looked at closely.

Please note that in this field of study, after the English and Mathematics requirements, Chemistry is the most common prerequisite. However, students are encouraged to look at a wide variety of universities, as prerequisites can differ.

<table>
<thead>
<tr>
<th>Year 1 Semester 1</th>
<th>A unit from the English Group 1</th>
<th>Maths Methods 1</th>
<th>Specialist Maths 1</th>
<th>Chemistry 1</th>
<th>Physics or Biology 1 OR Systems Engineering 2</th>
<th>Any other VCE unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1 Semester 2</td>
<td>A unit from the English Group 2</td>
<td>Maths Methods 2</td>
<td>SM 2</td>
<td>Chemistry 2</td>
<td>Physics or Biology 2 OR Systems Engineering 2</td>
<td>VCE unit</td>
</tr>
<tr>
<td>Year 2 Semester 1</td>
<td>A unit from the English Group 3</td>
<td>MM 3</td>
<td>Specialist Maths 3</td>
<td>Chemistry 3</td>
<td>Physics or Biology 3</td>
<td></td>
</tr>
<tr>
<td>Year 2 Semester 2</td>
<td>A unit from the English Group 4</td>
<td>MM 4</td>
<td>Specialist Maths 4</td>
<td>Chemistry 4</td>
<td>Physics or Biology 4</td>
<td></td>
</tr>
</tbody>
</table>
### Technology

This program outline provides the basis for career pathways in Building, Cabinet Making, Drafting, Surveying, Industrial Design, Planning etc. Other VCE units which could be included in the program are Studio Arts, Information Technology or Media.

<table>
<thead>
<tr>
<th>Year 1 Semester 1</th>
<th>A unit from the English Group 1</th>
<th>Product Design &amp; Technology 1</th>
<th>Visual Communication &amp; Design 1</th>
<th>General Maths or Maths Methods 1</th>
<th>Any other VCE unit</th>
<th>Any other VCE unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1 Semester 2</td>
<td>A unit from the English Group 2</td>
<td>PDT 2</td>
<td>VCD 2</td>
<td>GM or MM 2</td>
<td>VCE unit</td>
<td>VCE unit</td>
</tr>
<tr>
<td>Year 2 Semester 1</td>
<td>A unit from the English Group 3</td>
<td>PDT 3</td>
<td>VCD 3</td>
<td>Further Maths or MM 3</td>
<td>VCE unit</td>
<td></td>
</tr>
<tr>
<td>Year 2 Semester 2</td>
<td>A unit from the English Group 4</td>
<td>PDT 4</td>
<td>VCD 4</td>
<td>FM or MM 4</td>
<td>VCE unit</td>
<td></td>
</tr>
</tbody>
</table>

### Environmental Sciences

This program outline provides the basis for career pathways in Environmental Management, Horticulture, Agriculture, Forestry, Education etc. Other VCE units which could be included in such a program are Chemistry, Legal Studies or Physical Education.

<table>
<thead>
<tr>
<th>Year 1 Semester 1</th>
<th>A unit from the English Group 1</th>
<th>General Maths or Maths Methods 1</th>
<th>Biology 1</th>
<th>Chemistry 1</th>
<th>Any other VCE unit</th>
<th>Any other VCE unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1 Semester 2</td>
<td>A unit from the English Group 2</td>
<td>GM or MM 2</td>
<td>Biology 2</td>
<td>Chemistry 2</td>
<td>VCE unit</td>
<td>VCE unit</td>
</tr>
<tr>
<td>Year 2 Semester 1</td>
<td>A unit from the English Group 3</td>
<td>Further Maths or MM 3</td>
<td>Biology 3</td>
<td>Chemistry 3</td>
<td>VCE unit</td>
<td></td>
</tr>
<tr>
<td>Year 2 Semester 2</td>
<td>A unit from the English Group 4</td>
<td>FM or MM 4</td>
<td>Biology 4</td>
<td>Chemistry 4</td>
<td>VCE unit</td>
<td></td>
</tr>
</tbody>
</table>
Glossary of Terms

**Australian Tertiary Admission Rank (ATAR)**
The overall percentile ranking on a scale of zero to 99.95 that a student receives, based on his/her study scores. The ATAR is calculated by VTAC and used by universities and TAFE institutes to select students for courses.

**Authentication**
The process of ensuring that the work submitted by students for assessment is their own.

**Examinations**
External assessments set and marked by the VCAA. All VCE Units 3 and 4 studies have at least one examination. Most written examinations are held in October and November, with a small number in June. Performance examinations and oral components of LOTE examinations are held in October.

**General Achievement Test (GAT)**
A test of knowledge and skills in writing, mathematics, science and technology, humanities and social sciences and the arts. All students enrolled in VCE Unit 3 and 4 sequence must sit the GAT. It is used by the VCAA to check that schools are marking School-assessed Tasks to the same standard, as part of the statistical moderation of School-assessed Coursework and as a quality assurance check on the VCAA's marking of examinations and School-assessed Tasks.

**Outcomes**
An Outcome is the knowledge and skills by which the student demonstrates his/her understanding as prescribed in the Study Design for a particular Area of Study.

**Prerequisite**
A specific VCE study that must be successfully undertaken for selection into a tertiary course.

**School-assessed Coursework (SACs)**
SACs assess the level of a student’s performance in meeting outcomes. The total result for all SACs in a study will be statistically moderated by the VCAA against external examination results.

**School-assessed Tasks (SATs)**
SATs are set out by the VCAA to assess specific sets of practical skills and knowledge. Teachers assess the student's level of achievement on the basis of a rating against criteria specified by the VCAA.

**Studies**
The subjects available in the VCE.

**Study design (VCE)**
A study design for each VCE study is published by the VCAA. It specifies the content for the study and how students’ work is to be assessed. Schools and other VCE providers must adhere to the requirements in the study designs.

**Study score**
A score from zero to 50 which shows how a student performed in a VCE study, relative to all other Victorian students enrolled in that same study in a result year. It is based on the student’s results in school assessments and examinations.

**Units (VCE)**
The components of a VCE study that are a semester in duration. There are usually four units in a VCE study, numbered 1, 2, 3 and 4.

**Units (VCAL)**
VCAL units contain accredited learning outcomes that enable content to be developed and/or planned at the local level.

**Victorian Certificate of Applied Learning (VCAL)**
An accredited senior secondary school qualification undertaken by students in Years 11 and 12.

**Victorian Certificate of Education (VCE)**
An accredited senior secondary school qualification.

**Vocational Education and Training (VET)**
Nationally recognised vocational certificates. These certificates may be integrated within a VCE or VCAL program.

**Victorian Tertiary Admissions Centre (VTAC)**
VTAC acts on behalf of universities, TAFEs and other providers facilitating and coordinating the joint selection system. VTAC calculates and distributes the Australian Tertiary Admission Rank (ATAR).
VCE Career and Course Planning Sheet: Year 11

This sheet has been provided to assist you and your counsellor in planning your VCE course. It will also provide you with a record of the course that you have selected.

Section A - Career Pathways
List three possible career pathways you might follow after leaving school (e.g. plumber, IT specialist, teacher, interior designer).

1. ______________________________________________________________
2. ______________________________________________________________
3. ______________________________________________________________

Section B - Tertiary Course Research
In this section you are asked to list any courses you may study upon leaving school, noting the prerequisites for entry into the course. Please refer to the sources of information outlined in Section C of the Selection Sheet.

<table>
<thead>
<tr>
<th>Course</th>
<th>Institution</th>
<th>Prerequisites</th>
</tr>
</thead>
</table>

Section C - Copy of VCE Program Planning Chart

<table>
<thead>
<tr>
<th>Year 11 Semester 1</th>
<th>English 1</th>
<th>Eng.Lang1</th>
<th>EAL 1</th>
<th>LIT 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 11 Semester 2</td>
<td>EN 2</td>
<td>EL 2</td>
<td>EAL 2</td>
<td>LIT 2</td>
</tr>
<tr>
<td>Year 12 Semester 1</td>
<td>EN 3</td>
<td>EL 3</td>
<td>EAL 3</td>
<td>LIT 3</td>
</tr>
<tr>
<td>Year 12 Semester 2</td>
<td>EN 4</td>
<td>EL 4</td>
<td>EAL 4</td>
<td>LIT 4</td>
</tr>
</tbody>
</table>
VCAL Career and Course Planning Sheet: Year 11

Name ____________________________________________________

This sheet has been provided to assist you and your counsellor in planning your course of study for next year. It will also provide you with a record of the course that you have selected.

Section A: Career Pathways
List two possible career pathways you might follow after leaving school (e.g. plumber, IT specialist, interior designer).

________________________________________________________________________

________________________________________________________________________

Section B: Further Education and Training Research
In this section you are asked to list any TAFE courses or apprenticeships you may study upon leaving school, noting the prerequisites (if any) for entry into the course.

<table>
<thead>
<tr>
<th>Course</th>
<th>Institution</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section C - Copy of Intermediate VCAL Program Planning Chart

<table>
<thead>
<tr>
<th>VCAL Literacy</th>
<th>VCAL Numeracy</th>
<th>Industry Specific Skills</th>
<th>Work Related Skills</th>
<th>Personal Development Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reading and Writing</td>
<td>(one unit taught over the year)</td>
<td>TAFE or VET</td>
<td>Foundation Units 1 &amp; 2 Intermediate Unit 1 (includes major component of work placement)</td>
<td>Intermediate Units 1 &amp; 2 taught over the year</td>
</tr>
<tr>
<td>2. Oral Communication</td>
<td>(two units taught concurrently over the year)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*You need only select units in the unshaded blocks of this chart*