VCE Course Selection Handbook

2015

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**Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ATAR</td>
<td>Australian Tertiary Admissions Rank</td>
</tr>
<tr>
<td>EAL</td>
<td>English as an Additional Language</td>
</tr>
<tr>
<td>GAT</td>
<td>General Achievement Test</td>
</tr>
<tr>
<td>KLA</td>
<td>Key Learning Area. The eight subject areas: English, Mathematics, Science, Arts, Technology, Languages Other Than English, Humanities, Physical Education and Health</td>
</tr>
<tr>
<td>SAC</td>
<td>School-assessed Coursework</td>
</tr>
<tr>
<td>SAT</td>
<td>School-assessed Task</td>
</tr>
<tr>
<td>TAFE</td>
<td>Technical and Further Education</td>
</tr>
<tr>
<td>VCE</td>
<td>Victorian Certificate of Education</td>
</tr>
<tr>
<td>VCAA</td>
<td>Victorian Curriculum and Assessment Authority (Website: <a href="http://www.vcaa.vic.edu.au">www.vcaa.vic.edu.au</a>)</td>
</tr>
</tbody>
</table>

**Glossary**

**Assessment Task**
A task set by the teacher to assess students’ achievements of unit outcomes.

**Outcomes**
What a student is expected to know and be able to do (the key knowledge and skills) in order to satisfactorily complete a unit as specified in the VCE study design.

**GAT**
The GAT is a test of general knowledge and skills in written communication, mathematics, science and technology, humanities, the arts and social sciences. Students enrolled in Units 3 and 4 must sit the GAT. The GAT plays an important role in checking that the school assessments and examinations have been accurately assessed. It does not count towards VCE results or the ATAR (formerly ENTER) except when a student relies on a derived score and special consideration has been granted by the VCAA.

**SAC**
A school-based assessment that is reported as a grade for Units 3 and 4. School-assessed Coursework consists of a set of assessment tasks that assess students’ achievements of Units 3 and 4 outcomes.

**SAT**
A school-based assessment for a Unit 3 and 4 sequence and reported as a grade. A school-assessed Task is set by VCAA and assessed by teachers in accordance with published criteria. Tasks are subject to review by a panel appointed by the VCAA.
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School Programs - VCE (Victorian Certificate of Education)

(a) The Victorian Certificate of Education

The Victorian Certificate of Education (VCE) is a two-year certificate based around the successful completion of senior secondary school. The VCE provides pathways to further study at university, TAFE and to the world of work.

The VCE comprises over 90 studies. Extensive research was carried out by Blackburn High School to determine which of the available studies the school could adequately resource to provide a comprehensive senior curriculum. Studies from all of the eight Learning Areas developed by the Victorian Curriculum and Assessment Authority (VCAA) are included and cater for the choices and requirements of this school community. The studies offered at Blackburn High School are listed in the table on page 6 of this Course Selection Handbook.

At Blackburn High School students will usually study 22 or 24 units. A unit represents about 100 hours of work and lasts for half a year (a semester). Units 1 and 2 are normally attempted in Year 11 and are generally undertaken as a sequence. Units 3 and 4 are normally attempted in Year 12 and must be undertaken as a sequence. Satisfactory completion of VCE involves the study of a minimum of 16 units that must satisfy the specified formal requirements.

In choosing their VCE studies, students should ensure that their study programs satisfy the requirements needed for entry to the tertiary education programs or occupations that students intend to pursue when they leave school. Students should also consider their strengths and weaknesses in the subjects that they studied in Years 7 - 10. They should discuss their intended or chosen program with their parents and their teachers, especially those with special knowledge of VCE courses, such as the Director of Pathways or Assistant Principal, Senior School. In addition, students are strongly recommended to seek help from a professional careers adviser. Members of staff are very happy to offer general suggestions, but they are no substitute in what has become a specialised field.

Apart from the information in this Course Selection Handbook, students should also consult the following:

(i) Where to Now? Guide to the VCE, VCAL and Apprenticeships and Traineeships
(ii) Tertiary Entrance Requirements (published in ‘The Age’ and ‘The Herald-Sun’)
(iii) Choice! A Guide to VCE studies and the ATAR, VTAC
(iv) The list of resources contained at the end of this booklet.

In selecting a two year course, those students wishing to undertake study at a university or TAFE institution need to consult the relevant Tertiary Entrance Requirements (Newspaper lift out or the “VICTER 2014” booklet) to ensure that their chosen courses will allow access to a range of tertiary courses. Access to a university or TAFE institution for VCE students is usually by the calculation of an Australian Tertiary Admissions Rank (ATAR), after successful completion of the VCE.

Students enrolled in the Victorian Certificate of Education course will be required to accept more responsibility for their learning than when studying in Years 7-10 and to be actively engaged in the collection and analysis of material that is relevant to a particular study. “Out of class” requirements make it essential for students at the VCE level to become independent learners.
Satisfactory Completion of Units

Each VCE unit includes a set of outcomes. These outcomes must be achieved for satisfactory completion of the unit. Achievement of the outcomes is based on the school’s assessment of the student’s performance in accordance with the Victorian Curriculum and Assessment Authority requirements. At the end of each year, the VCAA will issue a Statement of Results to all students enrolled in VCE units.

Assessment

Units 1 and 2

The VCAA will issue a Statement of Results which will show “S” or “N” for each unit. An “S” indicates that the learning outcomes for the unit have been satisfactorily completed.

The school report will also record the level of achievement in completing assessment tasks associated with each of the outcomes. These assessment tasks will be graded from A+ to E or UG (ungraded). Examinations will form part of the school-based assessment in Units 1 and 2.

Units 3 and 4

All Units 3 and 4 studies will have both school-based assessment and external examinations. The three assessments will be reported as grades (A+ to E or UG) by VCAA. School reports will show only satisfactory completion of outcomes, as grades for SACs and SATs are subject to moderation by VCAA. VCAA will conduct examinations that contribute to the study score in Units 3 and 4.
(b) Building a Program

The studies offered at the VCE level at Blackburn High School are as follows:

<table>
<thead>
<tr>
<th>LEARNING AREAS</th>
<th>STUDIES</th>
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<tbody>
<tr>
<td>English</td>
<td>English</td>
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<td></td>
<td>Literature</td>
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<td></td>
<td>English as a Second Language (ESL)</td>
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<tr>
<td>Arts</td>
<td>Art</td>
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<td></td>
<td>Visual Communication</td>
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<td></td>
<td>Music: Style and Composition (Units 1-4)</td>
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<td>Music Performance: (Units 1-4)</td>
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<td></td>
<td>Music Investigation (Units 3 &amp; 4)</td>
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<tr>
<td></td>
<td>Studio Art</td>
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<tr>
<td>Humanities</td>
<td>Accounting</td>
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<td></td>
<td>Business Management</td>
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<td></td>
<td>Geography</td>
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<td></td>
<td>Legal Studies</td>
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<td></td>
<td>History: Twentieth Century (Units 1 and 2)</td>
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<td></td>
<td>History: Revolutions (Units 3 and 4)</td>
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<td></td>
<td>Philosophy</td>
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<td>Language other than</td>
<td>French</td>
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<tr>
<td>English (LOTE)</td>
<td>German</td>
</tr>
<tr>
<td>Mathematics</td>
<td>General Mathematics (Units 1 and 2)</td>
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<td></td>
<td>Further Mathematics (Units 3 and 4)</td>
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<tr>
<td></td>
<td>Mathematical Methods (CAS)</td>
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<tr>
<td></td>
<td>Specialist Mathematics (Units 3 and 4)</td>
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<tr>
<td>Physical Education and</td>
<td>Physical Education</td>
</tr>
<tr>
<td>Health</td>
<td>Health and Human Development</td>
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<tr>
<td>Science</td>
<td>Biology</td>
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<td></td>
<td>Chemistry</td>
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<td></td>
<td>Physics</td>
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<td>Psychology</td>
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<tr>
<td>Technology</td>
<td>Product Design and Technology: (Wood)</td>
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<td></td>
<td>Food and Technology</td>
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<td></td>
<td>Information Technology (Units 1-4)</td>
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<tr>
<td></td>
<td>IT Applications (Units 3 and 4)</td>
</tr>
</tbody>
</table>

Note: All courses are offered from Units 1-4 unless otherwise specified.

Students should note that:

(i) Each unit runs for one semester (half year);
(ii) This school offers each student a maximum of six units in each semester, i.e. 12 units per year;
(iii) Subject to approval, some Units 3 and 4 may be taken in Year 11 and some Units 1 and 2 in Year 12; Changes in unit selection are possible but restricted according to:
1. VCAA final dates for enrolment or withdrawal;
2. size of classes;
(iv) A unit may be repeated but credit gained only once towards the VCE;
(v) If a student gains N for Unit 3 and S for Unit 4 in one year, Unit 3 may be repeated the following year to gain a satisfactory Unit 3/4 sequence. However, students need
to check tertiary requirements regarding completion of a Unit 3/4 sequence over two years;

(vi) Special provisions apply for students returning to study or transferring from interstate or overseas;

(vii) While 16 units is a minimum, it is expected that most students will satisfactorily complete more than this minimum number. Most students at Blackburn High complete 12 units in Year 11 and 10 units in Year 12.

A VCE program is chosen from the complete list of VCE units studied over two or more years. When building a program, a student must select 4 units of an English subject. Students then select the other units that best fulfil requirements to make a total of 22 units. Counselling sessions are completed during Mentor groups to help to identify student interest areas and likely career pathways. Students may also seek advice from Terry McGann, Director of Pathways, at the school. It is unwise to choose too narrow a program that could limit flexibility and the ability to pursue alternative pathways should circumstances and interests change.

In building a program by selecting the units from those studies offered at Blackburn High School (listed in the table on page 5 of this Course Selection Handbook), students need to satisfy the VCAA requirements for “Satisfactory Completion” of the VCE - namely, students must:

(i) satisfactorily complete 3 units of an English, of which two are Units 3 and 4
(ii) satisfactorily complete a minimum of 16 units
(iii) satisfactorily complete three sequences of Units 3 and 4 in addition to English 3 and 4.

(c) Unit Selection at Blackburn High School

Most students will follow a chronological pattern of units from Units 1 to 4, generally taking Units 1 and 2 in Year 11 and Units 3 and 4 in Year 12. This is the recommended procedure and the VCE program is arranged on this understanding. Some students, for a variety of reasons, may complete one Unit 3 and 4 study in Year 11. This is permissible with the following provisions:

(i) That there is clearly demonstrated evidence of academic success as well as a work ethic during Year 10.
(ii) That the units fit into the student’s timetable.
(iii) That there will be no perceived disadvantage to teachers or other students in the class by the decision. (In the event of oversized classes, priority will be given to students in Year 12).
(iv) That the student does not select any subject required as a prerequisite for a tertiary course being considered.

(d) Course Selection Process

This booklet will help students and their parents make appropriate and informed choices about unit and program selection. Parents and students requiring additional information should contact the relevant Key Learning Area Coordinator. Whilst the VCE program initially selected maps out a course of study for a period of two years, there is provision for students to change direction or focus during that time. It is vital, however, that all students undertake a meaningful course of study that will provide pathways into further study or employment.

The course selection process is started quite early in order to allow sufficient time:

(i) For students to consider the implications of their choices.
(ii) To facilitate the extensive counselling that will be necessary to ensure that all students have in fact followed the guidelines and selected appropriate units that form a coherent course of study.
(iii) To allow the school administration time to investigate the possibility of resourcing and timetabling student requirements.

This initial selection is an important step in the process and considerable thought should be given to the selection of units. In building a VCE program by the selection of units, students are supported by:

(i) Counselling sessions during Mentor group in Year 10;
(ii) Student self-investigation of skills, interests and abilities during Humanities classes;
(iii) Individual counselling by staff members, where appropriate to ensure that students have selected within VCAA guidelines;
(iv) A VCE Information Night to inform parents and students of curriculum and administrative arrangements to be put in place;
(v) Individual checking of submitted VCE subject preferences;
(vi) Final subject confirmation and information session.

In regard to course adjustment, students and parents need to recognise that units will only be conducted if there is sufficient demand from the students. The feasibility of a class being conducted is dependent on many variables and constraints. The timetable, minimum class size, and physical and human resources available to the school are all factors that need to be taken into account. The school’s highest priority is to satisfy the choices and requirements of as many students as possible.

All course selection will be finalised in December and students will receive a copy of their approved program.

VCE and the ATAR

The ATAR is based upon VCE results for Units 3 and 4. All of the results do not have to be from one year. A maximum of six studies can contribute to the ATAR.

The ATAR is calculated using:

- the student’s best scaled score in English, English (ESL), Literature or English Language PLUS
- the scaled scores of a student’s next best three studies (makes up the primary four) PLUS
- 10% of the scaled score from a student’s 5th study PLUS
- 10% of the score from a student’s 6th study (if six VCE subjects completed)

The student is then ranked in order of these aggregates — the highest rank being 99.95 and then decreasing in steps of 0.05. The group of students with the highest aggregates will be assigned the highest rank of 99.95. The lowest automatically reported ATAR is 30.00, with ATARs below 30.00 being reported as ‘less than 30’.

Restrictions on study use in the ATAR calculation

In order to get an ATAR students must have a primary four studies. Studies with similar emphasis or content may not be used in combination for the calculation of the ATAR. Only two studies in each of the following areas may be used as part of the primary or best four scores:

<table>
<thead>
<tr>
<th>Mathematics studies</th>
<th>English studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Further Mathematics</td>
<td>• English</td>
</tr>
<tr>
<td>• Mathematical Methods</td>
<td>• English (EAL)</td>
</tr>
<tr>
<td>• Mathematical Methods (CAS)</td>
<td>• Literature</td>
</tr>
<tr>
<td>• Specialist Mathematics</td>
<td>• English Language</td>
</tr>
<tr>
<td>• Change and Approximation</td>
<td>• any English Higher Education study.</td>
</tr>
<tr>
<td>• Extensions–Change and Approximation</td>
<td></td>
</tr>
<tr>
<td>• Reasoning and Data</td>
<td></td>
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</tbody>
</table>
• Extensions–Reasoning and Data  
• Space and Number  
• Extensions–Space and Number  
• any Mathematics Higher Education study.

<table>
<thead>
<tr>
<th>Music studies</th>
<th>History studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music—History and Styles</td>
<td>Asian History</td>
</tr>
<tr>
<td>Music Styles</td>
<td>Australian History</td>
</tr>
<tr>
<td>Music Performance—Group</td>
<td>The City in History</td>
</tr>
<tr>
<td>Music Performance—Solo</td>
<td>Koori History</td>
</tr>
<tr>
<td>VCE VET Music Industry—Music</td>
<td>Revolutions</td>
</tr>
<tr>
<td>Performance</td>
<td>History of Western Ideas</td>
</tr>
<tr>
<td>VCE VET Music Industry—Technical Production</td>
<td>Renaissance Italy</td>
</tr>
<tr>
<td>any Music Higher Education study.</td>
<td>Nationalism and Modern State</td>
</tr>
<tr>
<td>Please note: There are a number of non-scored VET sequences available in this study area.</td>
<td>any History Higher Education study.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contemporary Australian studies</th>
<th>IT studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contemporary Society</td>
<td>VCE Information Technology</td>
</tr>
<tr>
<td>Australian Studies</td>
<td>VCE Software Development</td>
</tr>
<tr>
<td>Contemporary Australian Society</td>
<td>VCE IT Applications</td>
</tr>
<tr>
<td>Sociology</td>
<td>any IT higher education study.</td>
</tr>
<tr>
<td>any Contemporary Higher Education study.</td>
<td>Please note: There are a number of non-scored VET sequences available in this study area, including from the CISCO Networking Program.</td>
</tr>
</tbody>
</table>

Students are strongly advised to refer to the VTAC publications and website to seek further information on restrictions and other relevant information necessary for understanding how the ATAR Score is calculated.
Brief Outlines of Each Study

Learning Area – ENGLISH/EAL

The English Faculty is responsible for the delivery of English/EAL, Literature and the English Enrichment Program at VCE level.

English

Units 1 and 2
The central focus of Unit 1 is on the reading of a range of texts, particularly narrative and persuasive texts, with comprehension, analysis, enjoyment and discrimination. In addition, students will be given the opportunity to develop competence and confidence in creating written, oral and multimodal texts. To satisfactorily complete this unit, all aspects of the three set outcomes must be achieved, which are derived from the three areas of study: (1) reading and responding, (2) creating and presenting and (3) using language to persuade.

Unit 2 further deepens and develops the three central areas of study established in Unit 1. It presumes that the set Unit 1 outcomes have been met, since they are further developed and extended. The specific focus of this unit, however, is on reading and responding to an expanded range of text types and genres in order to analyse ways in which they are constructed and interpreted, and on the development of confidence and competence in creating written, oral or multimodal texts.

Texts used in Year 11 English are: Macbeth, The Kite Runner, The Secret River and Paradise Road.

Units 3 and 4
It is important to realise that the skills and knowledge which arise from areas of study in English Units 1 and 2 are presumed to have been established when students move on to English Units 3 and 4. Both Units 3 and 4 of English must be satisfactorily completed as a sequence for a student to potentially attain the VCE, as determined by meeting the specified two outcomes in each unit, and their related assessment tasks.

Unit 3 focuses on three areas of study: 1) reading and responding, 2) creating and presenting and 3) using language to persuade. The literary texts are drawn from the official annual VCAA list and the selected context at BHS for 2012 is “Whose Reality” where “Spies” and “Death of a Salesman” will be studied. The single text options are “No Sugar” and “Brooklyn”. The student’s level of achievement in Unit 3 will be determined by school assessed coursework and an end of year examination. School assessed coursework for Unit 3 will contribute 25% to the study score.

Unit 4 English continues and builds on two areas of study from Unit 3: 1) reading and responding and 2) creating and presenting. Students create written or multimodal texts suggested by their reading within the chosen Context and explain creative choices they have made as authors in relation to form, purpose, language, audience and context. School assessed coursework for Unit 4 will contribute 25% to the study score.

The level of achievement for Units 3 and 4 is also assessed by an end of year examination which will contribute 50% to the study score. In order to prepare students at BHS for this important exam, there will be timed tasks and practice exams during the year.

English – English as an Additional Language (EAL)
VCE
This subject runs at the senior level according to demand. A student from a non-English-speaking background may choose to undertake English/EAL at VCE if:
- The student has been a resident of Australia for not more than seven years
- English has been the student’s major language of instruction for a total period of not more than seven years.
- If the student has learnt EAL in their country of birth.

At Units 1 and 2, the tasks are tailored to meet the needs of EAL students and the subject is taught by an ESL-qualified teacher in class sizes that are recommended by the Department of Education. At Units 3 and 4, the tasks are developed to cater for the needs of EAL students. BHS prepares students for the final external exam which has been developed with the ESL student in mind.

For some courses at some Universities the minimum requirement is 30 for those students who undertake EAL. Please check the EAL minimum requirement with Universities: this is essential information.

Literature

The new VCE Literature courses are informed by the current VCAA Study Design. There are no prerequisites for entry to Units 1 and 2 and all students are encouraged to study Literature. Both Units 3 and 4 must be studied as a sequence in order to meet VCAA requirements. Analysis of data at BHS shows that our high achieving English students are also our high achieving Literature students.

Units 1 and 2
Literature Unit 1 enables students to develop effective reading strategies to examine the ways texts represent human experience. Students respond to a range of texts personally, creatively and critically. In 2009 The Great Gatsby and WWI poetry and a contemporary film will be studied with emphasis on close engagement with language. To satisfactorily complete the unit, all aspects of three set outcomes must be met; these outcomes are derived from the three areas of study: readers and their responses, ideas and concerns in texts, interpreting non-print texts.

The focus of Literature Unit 2 is on students’ critical and creative responses to texts. Through the study of All Quiet on the Western Front, Hedda Gabler and poetry, students are led to understand aspects of texts such as narrative style, characterization, the language and structure of the text. Students are also encouraged to understand the way their own culture and the cultures represented in the text can influence their interpretations and shape different meanings. To satisfactorily complete the unit, all aspects of the two set outcomes must be met; these outcomes are derived from the two areas of study: the text, the reader and their contexts and comparing texts.

For both Units 1 and 2, the texts studied will include at least one prose text, four poems, one play for stage or screen and one additional text which may be selected by the student.

Students write their own poetry and perform sections of a play as a part of the learning process.
**Literature: Units 3 and 4**

Literature Unit 3 focuses on the way writers construct their work and how meaning is created for and by the reader. Students learn about the characteristics of the different forms (poetry, drama, prose, non-print) and how these forms impact on the reader. Students also study the way texts represent views and values and examine the social, historical and cultural contexts of the text. There are three areas of study: adaptations and transformations, views, values and contexts and alternative viewpoints. Students must demonstrate satisfactory completion of the three specified outcomes for this unit.

Unit 4 focuses on students’ creative and critical responses to texts. Students respond imaginatively to a text and critically analyse the features of a text in order the complete the outcomes for this unit. In Unit 4 there are two areas of study: creative responses to texts and close analysis of texts.

In 2015, the texts are “Jane Eyre, “Pygmalion” and George Orwell’s “Down and Out in Paris and London” as well as a range of poems and short stories AND two other texts to be selected. A series of revision lectures are a part of the preparation for the Literature exam.

The examination is important and contributes 50 percent to the final study score. The exam is the critical moderator and students must prepare thoroughly for this exam. The school assessed coursework for Unit 3 will contribute 25 percent to the study score and the remaining 25 percent will be taken from the school assessed coursework tasks completed in Unit 4.
Learning Area - ARTS

MUSIC

All students taking elective music classes in any of Years 9-12 are expected to be a member of an ensemble since this may constitute part of their course assessment.

Music Performance - Units 1 & 2

Students may undertake this subject on any instrument or voice style offered by the school. Other instruments offered by VCAA are permissible provided an external teacher has been approved by the school. There is no minimum performance standard required for Units 1 and 2 as long as the student can fulfil the performance requirements of the course.

Music Performance Units 1 & 2 Prerequisites

- An ability to read music and possess basic theory/general knowledge skills
- Fluency of English language in both written and spoken form.
- Regular weekly lessons are a requirement of the course. It is advised to enrol for individual lessons when taking VCE music performance subjects.
- Participation in either Concert Choir or Chamber Choir is highly recommended for the development of aural skills. Entry to Chamber Choir is by audition in November of the previous year.

Unit 1 focuses on developing skills in practical music. The course includes performance in solo and group contexts, the study of performance techniques, the development of skills in aural comprehension and music theory and the organisation of sound (composition, arrangement and improvisation). Students will present solo and group performances, demonstrate prepared technical work and perform previously unseen music (sight-reading).

Unit 2 is a further extension of all the areas covered in Unit 1. In addition, selected works are analysed to enhance an awareness of the factors that need to be considered when interpreting works from these styles. This unit also focuses on music theory, composition and/or improvisation.

Music Performance – Units 3 & 4

Students may undertake this subject on any instrument or voice style offered by the school. Other instruments offered by VCAA are permissible provided an external teacher has been approved by the school. For Units 3 and 4 students should be able to achieve high standards in solo and group performance. Students should only consider Units 3 and 4 if they are capable of achieving a high level of performance of works from the VCAA Prescribed List of Works.

Music Performance Units 3 & 4 Prerequisites

- Regular weekly lessons are a requirement of the course. It is a course requirement to enrol for individual lessons when taking VCE music performance subjects.
- Fluency of English language in both written and spoken form.
- Ability to read music fluently
- A minimum of AMEB Grade 3 Theory
- Participation in either Concert Choir or Chamber Choir is highly recommended for the development of aural skills. Entry to Chamber Choir is by audition in November of previous year.

Unit 3 focuses on the preparation and presentation of solo or group musical works. Students use performance techniques to develop an understanding of the interpretation of a range of styles. Music
performance skills are broadened by ensemble performance, solo technical work and unprepared performance. Knowledge of music language, aural comprehension skills and understanding of the structure and characteristics of an ensemble work are also developed.

**Unit 4** focuses on the preparation and presentation of a solo or group program of works, demonstrating through performance, an understanding of interpretation. Music performance skills are extended by development of technical work in ensemble performance and unprepared performance skills and studies in aural comprehension. Understanding and recognition of musical characteristics of an ensemble work are further developed.

**Music Investigation – Units 3 & 4**

**Unit 3:** In this unit, students select a work from a prescribed list as the basis for an investigation of a Focus Area. They explore the Focus Area through three complementary areas of study as follows:

**Areas of Study**
1. **Investigation** – research the background contextual issues relevant to performance practice, critical listening to recordings of performances and examination of texts including musical scores.
2. **Composition/Arrangement/Improvisation** – involves applying these research findings to create a folio of exercises, sketches or recorded improvisations that demonstrate understanding of the characteristics of the Focus Area.
3. **Performance** – students plan, rehearse and perform a program of works that are representative of the Focus Area.

**Unit 4:** In this unit, students continue the exploration within the Focus Area they began in Unit 3. In Unit 4 the Investigation involves the preparation of program notes to accompany their end-of-year performance program. The Composition/Improvisation/Arrangement involves creating and performing a composition, improvisation or arrangement that draws on musical characteristics of the Focus Area. This Composition/Improvisation/Arrangement builds on and extends exercises completed in Unit 3. Students rehearse and perform works for inclusion in a performance program of works that relates to the Focus Area.

*In both units, students choose to study their instrument as a solo instrument OR within an ensemble.*

**Music Investigation Units 3 & 4 Prerequisites**

- Students must have studied (or be studying) Music Performance Units 1 & 2 to be eligible for the course.
- Fluency of English language in both written and spoken form.
- Students will need to demonstrate the ability to work independently.
- Regular weekly lessons are a requirement of the course. Students must undertake individual lessons for any VCE music performance subject.
- Participation in either Concert Choir or Chamber Choir is highly recommended for the development of aural skills. Entry to Chamber Choir is by audition in November of previous year.

**Music Style & Composition – Units 1 & 2**

**Unit 1:** This unit involves an exploration of a wide range of music styles. Students listen to music excerpts from different styles, traditions, times and places. They analyse specific works from three distinct music styles including music from a non-western style or tradition. They become familiar with the elements of music and consider the various ways composers/music creators treat these elements and use compositional devices to create music works. Students compose and/or arrange brief creative exercises in response to the practices of other composers/creators.
Unit 2: This unit explores how composers and/or creators use music to create effects and elicit responses in multi-disciplinary forms.

Students listen to music excerpts from diverse styles and respond to the ways elements of music and compositional devices are used to create specific effects. Students study multi-disciplinary works that combine music and non-musical elements, and investigate how music is used in combination with these other elements. Students also consider the role and function of music in the complete work, for example ways in it advances a narrative, provides commentary on a narrative or communicates a mood or feeling. Students create music for a multi-disciplinary work in a form of their choice.

Music Style & Composition Units 1 & 2 Prerequisites
The following guidelines are strongly advised…
- An ability to read music. (General competence in treble and bass clef)
- Fluency of English language in both written and spoken form.
- An ability to articulate ideas verbally - vocabulary and terms are developed in Unit 1.
- A basic understanding of theory and harmony. Recommended AMEB Grade 3 Theory to assist in the analysis / composition requirements
- Experience with music software, esp. Sibelius
- An interest in musical diversity (western and non-western music)

Music Style & Composition – Units 3 and 4
Unit 3: In this unit students develop an understanding of the diverse practice of music creators working in different times, place and stylistic traditions.

Students develop skills in making critical responses to music excerpts. They analyse ways the compositional devices of contrast, repetition and variation are used in the excerpts.

Students develop knowledge about the music characteristics and style of two selected works or collections of minor works, one of which must be by an Australian composer/creator. They develop an understanding of way contextual issues can influence works. Contextual issues may include cultural influences, social issues, practical issues, musical influences, commercial considerations and issues relating to the performer/s of the work.

Students create music in response to the music characteristics and creative approaches evident in the music studied.

Unit 4: In this unit students create an original music work inspired by the study of music from different styles and traditions. They document their creative process/es from initial intention. Students develop skills in forming and presenting critical responses to music excerpts. They also analyse use of the compositional devices of contrast, repetition and variation.

Students investigate the music characteristics and style of two selected works or collections of minor works, one of which was created after 1910. They develop an understanding of the process/es used to create the works and how contextual issues may have influenced the creative process.

Music Style & Composition Units 3/4 Prerequisites
The following guidelines are strongly advised…
- Satisfactory completion of Units 1 & 2
- Fluency of English language in both written and spoken form and an ability to clearly articulate ideas in written form.
• Recommended AMEB Grade 4 Theory
• Experience with music software, esp. Sibelius
Learning Area - ARTS

Art

Unit 1
This unit focuses on artworks as objects and examines how formal qualities such as art elements, materials and techniques communicate meaning. In their practical work, they explore the characteristics and qualities of materials and areas of personal interest to generate their own artworks.

Areas of Study
- Art and meaning
- Artmaking and personal meaning

Unit 2
In this unit students become aware that artworks can be created as forms of cultural expression for specific contexts. In their practical work, students continue to explore techniques and develop personal and creative responses in their artmaking.

Areas of Study
1. Art and culture
2. Artmaking and cultural expression

Unit 3
In this unit, students explore ways in which ideas and issues can influence the making and interpretation of art. Students apply imagination and creativity to develop their ideas through a visual language. Their artmaking is supported through investigation, exploration and application of a variety of materials and techniques.

Areas of Study
1. Interpreting art
2. Investigation and interpretation through artmaking

Unit 4
In this unit, students continue to develop personal points of view and informed opinions about art ideas or issues and support them with evidence. At the end of this unit, students present a body of work and at least one finished artwork accompanied by documentation of thinking and working practices.

Areas of Study
1. Discussing and debating art
2. Realisation and resolution
Studio Arts

Unit 1 – Artistic Inspiration and Techniques
This unit focuses on using sources of inspiration and ideas as the basis for artworks and exploring a wide range of materials and techniques. Artists from different times and locations are also examined.

Areas of Study
• Developing art ideas
• Materials and techniques
• Interpretation of art ideas and use of materials and techniques

Unit 2 – Design Exploration and Concepts
The focus of this unit is to establish an effective design methodology for the production of design explorations and artworks. Students also analyse artworks to understand how aesthetic qualities are created, ideas communicated and identifiable styles developed.

Areas of Study
• Design exploration
• Ideas and styles in artworks

Unit 3 – Studio production and professional art practices
This unit focuses on the implementation of an individual design process leading to the production of a range of potential directions and solutions. Students investigate the ways in which artists have interpreted subject matter, influences, cultural contexts, and communicated ideas and meaning in making artworks. Students develop an understanding of photography in more than one historical and/or cultural context/s.

Areas of Study
• Exploration proposal
• Design process
• Professional art practices and styles

Unit 4 – Studio production and art industry contexts
This unit focuses on the production of a cohesive folio of finished artworks generated from the selected potential directions in Unit 3. This unit also investigates aspects of artists’ involvement in the art industry, focusing on a variety of exhibition spaces and the methods and considerations involved in the preparation, presentation and conservation of artworks.

Areas of Study
• Folio of artworks
• Focus, reflection and evaluation
• Art industry contexts
Visual Communication and Design

Unit 1 – Introduction to visual communication design
This unit focuses on using visual language to communicate messages, ideas and concepts. Students practise their ability to draw what they observe and they use visualisation drawing methods to explore their own ideas and concepts. Students develop an understanding of the importance of presentation drawings to clearly communicate their final visual communications.

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

Unit 2 – Applications of visual communication design
This unit focuses on the application of visual communication design knowledge, design thinking skills and drawing methods to create visual communications to meet specific purposes in designated design fields.

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

Unit 3 – Design thinking and practice
In this unit students gain an understanding of the process designers employ to structure their thinking and communicate ideas with clients, target audiences, other designers and specialists.

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

Unit 4 – Design development and presentation
The focus of this unit is the development of design concepts and two final presentations of visual communications to meet the requirements of the brief. This involves applying the design process twice to meet each of the stated needs.

Areas of Study
- Development of design concepts
- Final presentations
- Evaluation and explanation
Learning Area – HUMANITIES

Accounting
Unit 1
Establishing and operating a service business
This unit focuses on the establishment of a small business and the accounting and financial management of the business. Students are introduced to the processes of gathering, recording, reporting and analysing financial data and information used by internal and external users. Recording and reporting is the cash basis only. Students examine the role of accounting in the decision making process using single entry recording of financial data and information for the owner of a service business. The accounting procedures developed should include the application of accounting principles and the qualitative characteristics of accounting information.

Unit 2
Accounting for a trading business
This unit covers accounting for a single activity sole trader. Using the accrual approach, students use a single entry recording system for the recording and reporting of cash and credit transactions of stock. They use financial and non-financial information to evaluate the performance of a business and suggest strategies to the owner on how to improve the performance. The accounting procedures developed should include the application of accounting principles and the qualitative characteristics of accounting information.

Units 3 and 4
Unit 3 Recording and reporting for a trading business
This unit concentrates on financial accounting for a single activity trading business as operated by a sole trader and emphasises the role of accounting as an information system. Students are introduced to the double entry system of recording using the accrual basis of accounting. The perpetual method of stock recording with the First In, First Out (FIFO) method is used. The accounting procedures developed should include the application of accounting principles and the qualitative characteristics of accounting information.

Unit 4 Control and analysis of business performance
This unit provides an extension of the recording and reporting processes from Unit 3 and the use of financial and non-financial information in assisting management in the decision-making process. The unit covers the accrual recording and reporting system for a single activity trading business using the perpetual inventory recording system. Students learn about the role and importance of budgeting for the business and undertake practical completion of budgets for cash, financial performance and financial position. In this unit students evaluate the information prepared, analyse the results and suggest strategies to the owner. The accounting procedures developed should include the application of accounting principles and qualitative characteristics of accounting information.

Business Management
Unit 1 - Small Business Management
Small rather than large businesses make up the vast majority of all businesses in the Australian economy. It is the small business sector that provides a wide variety of goods and services for both consumers and industries, such as manufacturing, construction and retail. This, combined with the employment opportunities, makes the small business sector a vital component in the success, growth and stability of Australia. Small businesses are tangible to students as they are visible and often utilised in daily life. This unit provides an opportunity for students to explore the operations of a small business and its likelihood of success.

Unit 2 – Communication and Management
This unit focuses on the importance of effective communication in achieving business objectives. It includes communication both internally and externally to business with special attention to the functions of marketing and public relations. Students develop knowledge of fundamental aspects of business communication and are introduced to skills related to its effective use in different contexts.

**Unit 3 - Corporate Management**
In this unit students investigate how large-scale organisations operate. Students examine the context in which they conduct their business, focus on aspects of their internal environment and then look at the operations management function. Students develop an understanding of the complexity and challenge of managing large organisations and have the opportunity to compare theoretical perspectives with practical applications.

**Unit 4 – Managing People and Change**
This unit continues the examination of corporate management. It commences with a focus on the human resource management function. Students learn about the key aspects of this function and strategies used to most effectively manage human resources. The unit concludes with analysis of the management of change. Students learn about key change management processes and strategies and are provided with the opportunity to apply these to a contemporary issue of significance.

**Geography**
**Unit 1 – Natural Environments**
This unit investigates the geographic characteristics of natural environments, landforms and the natural processes that shape and change the earth’s surface. It investigates how the interactions between natural processes and human activities can also change natural environments. Topics can include Antarctica, polar regions, coastlines, earthquakes, volcanoes, deserts and mountains.

**Unit 2 – Human Environments**
This unit investigates the characteristics of rural and urban environments which are developed by human activities and their interactions with natural environments. Rural and urban environments vary significantly from place to place and across a variety of scales. Areas of study can include a metropolis, large cities, rural regions, towns and alternative villages.
History

Studying history, students learn about their past, their shared universal values, traditions and people, ideas, events that have created present societies and cultures. Doing so, students can extend their cultural, economic, social, and political understanding and can develop a better understanding of the issues of their own time and place. Students will study about people lives, feelings, reactions to each other and the events that happened around them; they can see how our world has changed in the past centuries. During their historical studies they can compare different types of societies, different lifestyles, and different cultures, drawing meaningful and relevant conclusions to their present, and for their future.

Unit 1 - 20th Century (1900-45)
This unit explores some of the momentous events and new ideas that occurred in the first half of the twentieth century. It investigates from the European, and in particular the German perspective, the challenges to the ‘old world’, changes in the economic, social and political organisation as well as the new cultural expression that emerged during this period. Topics include the reasons for World War I, the Weimar Republic’s experimentation with democracy, the rise of fascism and Nazi Germany, and defining culture in Germany at this time through Modernist Art.

Unit 2 - 20th Century (1945-2000)
This unit examines some of the main events, competing ideologies and social movements since 1945 from the perspective of the United States of America. It explores the increasing interplay between domestic events and international developments that has been a feature of this period. Topics include superpower conflicts of the Cold War, the Civil Rights Movement of America and the Issue of the Millennium – Terrorism – which will be explored within the context of the Middle East.

Units 3 and 4: The French and Russian Revolutions
The causes and consequences of revolutions have been considered and debated by historians throughout history. The focus of these Units is on the causes and consequences of the revolutions: the structural changes, political divisions, the failure of rising expectations, the loss of authority and the erosion of public confidence and order. Each Unit focuses on different revolutions and their specific ideologies and circumstances.

Students will evaluate the roles of ideas, leaders, movements and events, and analyse the challenges facing the emerging new order and the way people attempt to create a new society. They will develop knowledge about key events and factors that contributed to the revolutions, examine different ideologies and synthesise evidence to develop a coherent argument about the role of revolutionary ideas, leaders, movements in bringing about change as well as the barriers the people faced in creating a new society.
Philosophy

Unit 1: Existence, knowledge and reasoning

What is the nature of reality? How can we achieve certain knowledge? These are some of the questions which have challenged humans for millennia and underpin ongoing endeavours in areas as diverse as science, justice and the arts.

This unit engages students with central philosophical problems through active investigation, and critical discussion of two key areas of philosophy: epistemology (the study of knowledge) and metaphysics (the study of the fundamental nature of the universe). The emphasis will be on philosophical thinking, including techniques of logic. As students learn to think philosophically, appropriate examples of philosophical viewpoints and arguments, both current and historical, will be used to support and enhance students’ thinking about central concepts and problems. We will investigate relevant debates in epistemology and metaphysics, and consider whether the philosophical bases of these debates continue to have relevance in contemporary society and our everyday lives.

Unit 2: Ethics and philosophical investigation

This unit engages students in philosophical investigation and critical discussion of two key areas of philosophy, developing their abilities to analyse the reasoning of others and to formulate logical responses to philosophical questions.

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

The second area of study focuses on the Philosophy of Religion. We will explore questions such as: What does the word ‘God’ mean? Can religious belief be supported by rational argument? How successful are philosophical ‘proofs’ for the existence of God (e.g. cosmological argument, teleological argument, ontological argument, argument from religious experience)? Should we value the ‘leap in the dark’ commitment of faith, as opposed to reason? How are God’s essential qualities to be reconciled with the problem of suffering?

Unit 3: The Good Life

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

Unit 4: Mind, Science and Knowledge
This unit explores two areas of contemporary philosophical debate and their historical development. It involves the study and evaluation of viewpoints and arguments in these debates that occur in the set texts, and the relationship between the contemporary and historical arguments. The first area of study looks at a topic from metaphysics: What is the mind? The second considers a topic from epistemology: Does science provide us with knowledge?

Legal Studies

Unit 1 – Criminal Law in Action

This unit explores the need for laws in society, the distinction between legal and non-legal rules, the Victorian court hierarchy, and the process of making laws through Parliament. There is also an exploration of the role of subordinate authorities in law-making, as well as the impact of the Victorian Charter of Rights and Responsibilities on law enforcement and adjudication in Victoria. Through a consideration of contemporary cases and issues, students learn about different types of crimes and explore rights and responsibilities under criminal law. This unit also focuses on the role of the police, their powers of investigation, the procedures of a criminal trial and an examination of possible sanctions that are available to the criminal courts. In addition, students explore the concepts of fairness and justice within the criminal justice system.

Unit 2 – Issues in Civil Law

This unit focuses on the effective resolution of civil disputes. It looks at the processes and procedures involved in civil litigation and the possible defences to civil claims within our legal system available to enforce the civil rights of our citizens. As well as the judicial procedure to resolve civil disputes, the unit also investigates the alternative avenues of dispute resolution and their effectiveness. This unit provides students with the opportunity to explore a specific area of law and to analyse contemporary legal issues.

Unit 3 – Law Making

The purpose of this unit is to enable students to develop an understanding of the institutions that determine our laws (Parliament and the Courts) and their law making powers and processes. Central to the investigation of law-making is the role played by the Commonwealth Constitution. Students develop an understanding of the importance of the Constitution in their lives and on society as a whole, and undertake a comparative analysis with another country. They learn of the importance of the role played by the High Court of Australia in interpreting and enforcing the Constitution, and ensuring that parliaments do not act outside their areas of power nor infringe protected rights. Students undertake an evaluation of the strengths and weaknesses of the law-making bodies and the processes used to influence change and reform.

Unit 4 – Resolution and Justice

This unit explores the function of the courts (Magistrates’, County and Supreme), tribunals (Victorian Civil and Administrative Tribunal) and alternative avenues of dispute resolution (mediation, conciliation, arbitration and judicial determination) with a view to comparing and evaluating the operation of the various dispute resolution methods. Students develop an understanding of criminal and civil pre-trial and post-trial processes and procedures which operate within the Victorian legal system. The current operation of the jury system in criminal and civil trials will be examined and students will also review the operation of the adversary system, giving consideration to its strengths and weaknesses. Students will compare
features of the adversary and inquisitorial system of dispute resolution. In this unit students evaluate the effective operation of the Victorian legal system and make recommendations for possible improvement and reform.
Learning Area - LANGUAGES (other than English)

French
The areas of study for French comprise themes and topics, grammar, text types, vocabulary and kinds of writing. They are common to all four VCE units of the study, and they are designed to be drawn upon in an integrated way. There are three prescribed themes:
- The individual;
- The French-speaking communities;
- The changing world.

French - Units 1 and 2
For Unit 1, students are required to demonstrate achievement of three outcomes. The student should be able to establish and maintain a spoken or written exchange related to personal areas of experience; the student should be able to listen to, read and obtain information from written and spoken texts; the student should be able to produce a personal response to a text focusing on real or imaginary experience.

For Unit 2, students are required to demonstrate achievement of three outcomes. The student should be able to participate in a spoken or written exchange related to making arrangements and completing transactions; the student should be able to listen to, read, and extract and use information and ideas from spoken and written texts; the student should be able to give expression to real or imaginary experience in written or spoken form.

French - Units 3 and 4
For Unit 3, students are required to demonstrate achievement of three outcomes.
1. The student should be able to express ideas through the production of original texts.
2. The student should be able to analyse and use information from spoken texts.
3. The student should be able to exchange information, opinions and experiences.

For Unit 4, students are required to demonstrate achievement of two outcomes.
1. The student should be able to analyse and use information from written texts.
2. The student should be able to respond critically to spoken and written cultural texts.

German
The areas of study for German comprise themes and topics, grammar, text types, vocabulary and kinds of writing. They are common to all four units of the study, and they are designed to be drawn upon in an integrated way. There are three prescribed themes:
- The individual;
- The German-speaking communities;
- The changing world.

German - Units 1 and 2
For Unit 1, students are required to demonstrate achievement of three outcomes. The student should be able to establish and maintain a spoken or written exchange related to personal areas of experience; the student should be able to listen to, read and obtain information from written and spoken texts; the student should be able to produce a personal response to a text focusing on real or imaginary experience.
For **Unit 2**, students are required to demonstrate achievement of three outcomes. The student should be able to participate in a spoken or written exchange related to making arrangements and completing transactions; the student should be able to listen to, read, and extract and use information and ideas from spoken and written texts; the student should be able to give expression to real or imaginary experience in written or spoken form.

**German - Units 3 and 4**

For **Unit 3**, students are required to demonstrate achievement of three outcomes.
1. Express ideas through the production of original texts.
2. Analyse and use information from spoken texts.
3. Exchange information, opinions and experiences.

For **Unit 4**, students are required to demonstrate achievement of two outcomes.
1. Analyse and use information from written texts.
2. Respond critically to spoken and written texts, which reflect aspects of the language and culture of the German speaking communities.
Learning Area – MATHEMATICS

Mathematics

Selecting a course
All VCE Mathematics subjects consist of a sequence of two units. Each unit is a semester in length. It is vital that course selection for Unit 1 and 2 is considered carefully and realistically since this decision determines the choice of Mathematics in Units 3 and 4 and hence the available career paths.

The following subjects are offered in Mathematics at the VCE level:

(a) Units 1 and 2
   (i) General Mathematics (GM)
       If taken alone, General Mathematics allows students to continue to Unit 3 and 4 Further Mathematics. If taken in conjunction with Mathematical Methods CAS Units 1 and 2, General Mathematics gives a solid base for Mathematical Methods CAS and Specialist Mathematics Units 3 and 4.
   
       (ii) Mathematical Methods CAS (MM)
           Students who choose this subject are required to have a solid understanding of Year 10 Mathematics. It is possible for this subject to be taken in conjunction with General Mathematics Units 1 and 2. Completion of Mathematical Methods CAS Units 1 and 2 and General Mathematics Units 1 and 2 allows students to select any Unit 3 and 4 Mathematics CAS.

(b) Units 3 and 4
   (i) Further Mathematics (FM)
       It is advisable that students have completed a minimum of General Mathematics as this course contains the background knowledge required in Further Mathematics. Students in year 11 that do Units 3 and 4 Further Mathematics must have a solid understanding of Year 10 Mathematics.

       (ii) Mathematical Methods CAS (MM)
           Students must have completed Mathematical Methods CAS Units 1 and 2. They may have also completed General Mathematics.

       (iii) Specialist Mathematics (SM)
Specialist Mathematics must be studied in conjunction with Mathematical Methods CAS Units 3 and 4. Students must have completed Mathematical Methods CAS Units 1 and 2. They may also have completed General Mathematics Units 1 and 2.

(c) **Mathematics Pathways at VCE**

<table>
<thead>
<tr>
<th>Total No. of Units</th>
<th>Units 1 and 2</th>
<th>Units 3 and 4</th>
<th>Possible career path</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>MM (and GM)</td>
<td>MM and SM</td>
<td>Highest Level Engineering, Physics</td>
</tr>
<tr>
<td>6</td>
<td>MM (and GM)</td>
<td>MM</td>
<td>Most Engineering, Science, Economics, Medicine</td>
</tr>
<tr>
<td>4</td>
<td>GM</td>
<td>FM</td>
<td>Courses requiring ANY Unit 3 and 4 Maths</td>
</tr>
<tr>
<td>2</td>
<td>GM</td>
<td></td>
<td>Teaching &amp; Courses requiring no Unit 3 and 4 Maths</td>
</tr>
</tbody>
</table>

**Outcomes**

To satisfactorily complete each unit students are required to achieve these outcomes:

- **Outcome 1**: Define and explain key concepts specified in the context from each area of study. Be able to apply a range of related mathematical routines and procedures.
- **Outcome 2**: Apply mathematical processes to non-routine contexts and analyse and discuss these applications of mathematics.
- **Outcome 3**: Select and appropriately use technology to develop mathematical ideas, produce results and carry out an analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.

**Content**

**Units 1 and 2**

**General Mathematics**

This subject involves the study of: statistics; arithmetic; functions and graphs; algebra; trigonometry; geometry and probability. Students are required to apply mathematical knowledge and skills creatively to solve problems in unfamiliar situations, including real-life situations; learn and practise mathematical algorithms, routines and techniques, and use them to find solutions to standard problems; and undertake extended application and analysis tasks involving the use of mathematics. Students are required to demonstrate competent use of calculators, CAS calculators and computers with relevant computer software.

**Mathematical Methods (CAS)**

This unit involves the study of: probability; functions and graphs; calculus; and algebra. Students are required to apply mathematical knowledge and skills to creatively solve problems in unfamiliar situations, including real-life situations; learn and practise mathematical algorithms, routines and techniques, and use them to find solutions to standard problems; and undertake extended application and analysis tasks involving the use of mathematics. Students are required to demonstrate competent use of calculators, CAS calculators, and computers with relevant computer software.

**Units 3 and 4**
Mathematical Methods (CAS)
Mathematical Methods Units 3 and 4 consists of the following areas of study: Functions and Graphs, Calculus, Algebra, and Probability. Each area of study is covered in a progression from Unit 3 to Unit 4. There is a development in the complexity and sophistication of problem types and mathematical processes used in applications from these areas of study.

Appropriate use of technology to support and develop the teaching and learning of mathematics will be incorporated into the course. In particular, students are encouraged to use CAS calculators, spreadsheets and other relevant computer software.

Specialist Mathematics
Specialist Mathematics consists of the following areas of study: Coordinate Geometry, Circular (trigonometric) functions, Algebra, Calculus, and Vectors in two and three dimensions and Mechanics.

Each area of study is covered in a progression from Unit 3 to Unit 4. There is a development of skills and knowledge with connections among the areas of study from Units 3 and 4.

Appropriate use of technology, to support and develop the teaching and learning of mathematics, will be incorporated throughout the course. In particular, students are encouraged to use CAS calculators and other technologies both in the learning of new material and the application of this material in a variety of different contexts.

Further Mathematics
Further Mathematics consists of a compulsory unit of study, Data Analysis and a selection of three from six modules in the Applications Area of Study. The modules chosen for the optional section are likely to be: Number Patterns, Geometry and Trigonometry and Business-related mathematics.

Appropriate use of technology to support and develop the teaching and learning of mathematics will be incorporated into the course. In particular, students are encouraged to use CAS calculators, spreadsheets and other relevant computer software.

Note: CAS Calculators
All VCE Mathematics students are expected to own an approved CAS calculator. Competent use of CAS calculators is assumed in Year 12 Mathematics examinations. The required calculator at Blackburn High School is the Casio ClassPad.
Learning Area – PHYSICAL EDUCATION and HEALTH

Physical Education
Units 1 and 2

Unit 1- Bodies in Motion
Areas of Study- Body Systems and human movement, biomechanical movement principles and the final area of study is to be selected from technological advancements from a biomechanical perspective or injury prevention and rehabilitation

Students will collect and analyse information and participate in a variety of practical activities to explain how the musculoskeletal, cardiovascular and respiratory systems function, and how the aerobic and anaerobic pathways interact with the systems to enable human movement function.

Students will participate in a variety of practical activities to explain how to develop and refine movement in a variety of sporting actions through the application of biomechanical principles.

Unit 2- Sports Coaching and Physically active lifestyles
Areas of Study- Effective coaching practices, Physically Active Lifestyles and the final area of study is to be selected from: decision making in sport or promoting active living.

On completion of this unit the student should be able to demonstrate their knowledge of and evaluate the skills and behaviours of an exemplary coach, and explain the application of a range of skill learning principles used by a coach.

Students will collect and analyse data related to individual and population levels of participation in physical activity, and sedentary behaviour, and create and implement strategies that promote adherence to the National Physical Activity Guidelines.

Units 3 and 4

Unit 3- Physical activity participation and physiological performance.
Areas of study- Monitoring and promotion of physical activity and physiological and participatory perspectives on physical activity.

This unit introduces students to the physiological requirements of physical activity including energy systems, delivery of oxygen to muscles and fatigue principles. Students will also examine how to monitor and promote physical activity in relation to adherence to the National Physical Activity Guidelines. Through practical activities students explore the relationship between the energy systems during physical activity.

Unit 4- Enhancing performance.
Area of study- Planning, implementing and evaluating a training program and performance enhancement and recovery practices.
This unit examines the fitness components and how to assess fitness from a physiological perspective as well as strategies used to enhance performance including sports injury risk management, nutrition for improving performance and ergogenic aids. Students plan, participate and evaluate in a six week training program.

Health and Human Development
Units 1 and 2
UNIT 1 The health and development of Australia’s youth
Areas of Study- Understanding youth health and human development & Youth issues
Students are introduced to the concepts of health and individual human development with a focus on Australia’s youth. The health status of Australia’s youth is good and continues to improve as demonstrated by reductions in morbidity and mortality from communicable diseases, chronic diseases, suicide, motor vehicle accidents and other injuries. However, Australia’s youth still experience a range of health issues that affect both their immediate and longer term health and individual human development. Students identify issues that have an impact on the health and individual human development of Australia’s youth. Students investigate one health issue in detail.

UNIT 2 Individual human development and health issues
Areas of Study- Prenatal health and individual development & child health and individual development
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. There are many determinants of health and development of Australia’s children; however, social factors such as family and community are crucial, as children develop through their relationships with others. The lifespan stage of adulthood represents a period of great diversity. The health and individual human development of this group can vary considerably and is influenced by a range of determinants, which include physical environment, biological, behavioural and social.

UNIT 3 Australia’s health
Areas of Study- Understanding Australia’s health and promoting health in Australia.

Students will 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. The role of nutrition will be explored in addressing the following conditions recognised in the NHPAs: cardiovascular disease, diabetes mellitus, colorectal cancer, obesity and osteoporosis. Students investigate the roles and responsibilities of governments in addressing health needs and promoting health for and will develop their understanding of Medicare and Private Health insurance.

UNIT 4. Global health and human development
Areas of Study- Introducing global health and human development & promoting global health and human development
This unit takes a global perspective on achieving sustainable improvements in health and human development. Work done by the UN and the development and implementation of the Millennium Development Goals are a focus. AusAid’s projects and the work of many of the non-government organisations are looked at with regards to reducing poverty, improving illiteracy rates and reducing the inequalities in health and human development.

Learning Area – SCIENCE
Biology

Unit 1: Unity and Diversity

Areas of Study
- Cells in action
- Functioning organisms

Cells in action explores the activities and processes that maintain life at the cellular level. Functioning organisms looks at the systems in a range of organisms that are required for life, including the digestive system, respiratory, excretory and reproductive systems, focusing especially on the human body.

Unit 2: Organisms and their Environment

Areas of Study
- Adaptations of organisms
- Dynamic ecosystems

Adaptations of organisms explores how structural, physiological and behavioural characteristics provide organisms with survival mechanisms and advantages. Dynamic ecosystems focuses on the complex and finely balanced relationships that exist between living things and the resources that exist in their particular habitats. Students consider the issues and implications associated with human activities that affect the sustainability of ecosystems. This area of study also involves some field work to measure environmental factors.

Unit 3: Signatures of Life

Areas of Study
- Molecules of life
- Detecting and Responding

Molecules of life focuses on the activities of cells at the molecular level, the synthesis of biomolecules that form cells and the role of enzymes in biochemical processes. Detecting and responding to change focuses on the maintenance of a constant internal environment, cellular signalling, disease causing organisms and the body’s response to disease.

Unit 4: Continuity and Change

Areas of Study
- Heredity
- Change over time

Heredity explores the mechanisms of inheritance, genes, DNA, mitosis and meiosis, and the genomes of individuals and species. Change over time focuses on change to genetic material and the processes involved in evolution. The unit also investigates natural selection and the origins and diversity of life. Recent advances in technology, including biotechnology, are also considered.

Chemistry

Unit 1: The Big Ideas of Chemistry

Area of Study 1 – The Periodic Table
• Historical development
• Trends and patterns in the Periodic Table
• Relationship between Periodic Table and atomic theory
• The Mole concept and Stoichiometry

**Area of Study 2 – Materials**
• Bonding models – metallic, ionic & covalent (molecular & network)
• Organic chemistry and polymers
• Surface chemistry & nanotechnology

**Unit 2: Environmental Chemistry**
**Area of Study 1 – Water**
• The role of water in maintaining life in the environment
• Acids & bases
• Calculations used in stoichiometry, volumes & pH
• Redox reactions and equations
• Green chemistry: principles and applications

**Area of Study 2 – The Atmosphere**
• The biosphere
• The Greenhouse Effect and associated protocols
• Gas laws and calculations

**Unit 3: Chemical Pathways**
**Area of Study 1 – Chemical Analysis**
• Quantitative Analysis – volumetric analysis, gravimetric analysis and other relevant calculations
• Qualitative Analysis – principles of analytical science and spectroscopy

**Area of Study 2 – Organic Chemical Pathways**
• Structure and nomenclature of organic compounds
• Reactions, pathways and synthesis
• DNA and forensic analysis
• Role of organic compounds in medicine

**Unit 4: Chemistry at Work**
**Area of Study 1 – Industrial Chemistry**
• Reaction rates and chemical equilibrium
• pH calculations including Ka and Kb
• Waste management
• Industrial production of chemicals

**Area of Study 2 – Supplying and Using Energy**
• Comparison of energy sources
• Calorimetry
• Cells and Batteries
• Electrochemistry
Physics

Units 1-4

Physics is a theoretical and empirical science, which contributes to our understanding of the physical universe from the minute building blocks of matter to the unimaginably broad expanses of the Universe. This understanding has significance for the way we understand our place in the Universe. The knowledge gained through the study of Physics will enhance students’ ability to be innovative and contribute to the intelligent and careful use of resources. This knowledge can be used, for example, in industrial, medical, engineering and technical applications.

Unit 1: This unit consists of two prescribed areas of study: electricity; nuclear physics and radioactivity; and a third area of study chosen from one of six detailed studies:

- Astronomy;
- Medical physics;
- Energy from the nucleus;
- Astrophysics;
- Investigations: Flight;
- Investigations: Sustainable energy sources.

Unit 2: This unit consists of two prescribed areas of study: motion; wave-like properties of light; and a third area of study chosen from one of six detailed studies:

- Astronomy;
- Medical physics;
- Energy from the nucleus;
- Astrophysics;
- Investigations: Flight;
- Investigations: Sustainable energy sources.

Unit 3: Unit 3 consists of two prescribed areas of study: motion in one and two dimensions; Electronics and photonics:

Unit 4: This unit consists of two prescribed areas of study: interactions of light and matter; electric power; and a third area of study to be chosen from one of six detailed studies. This detailed study may be done in either semester 1 or 2 but will be counted as Unit 4 assessment:

- Sound;
- Photonics;
- Synchrotron and its applications.
- Materials and their use in structures;
- Einstein’s special relativity;
- Further electronics.

The development of practical skills in investigating physical phenomena is an essential part of all units.
Psychology

Units 1-4
Psychology is the systematic study of thoughts, feelings and behaviour. As a science, psychology aims to describe, explain and predict behaviour; in doing so it relies on empirical procedures rather than intuition. The application and integration of research methods including ethical considerations throughout the units allows students to develop useful skills in analytical and critical thinking and in making inferences. VCE Psychology is not intended as a prerequisite for tertiary studies in psychology. Rather, it provides a challenging yet accessible introduction to the science of psychology, allowing students to increase their knowledge of human behaviour.

Unit 1 – Introduction to psychology
Students are introduced to the development of psychology from its philosophical beginnings to a scientific study of the human mind and behaviour. Specialist disciplines such neuropsychology, cognitive and socio-cultural perspectives are considered through the topic of visual perception. Students will also examine classic and contemporary studies used to form theories to predict and explain the human mind, and behaviours associated with particular stages of development over a lifespan.

Unit 2 – Self and others
Students study the way their attitudes and behaviour affect their view of themselves and how they relate to others. How attitudes are formed and behaviours of groups can help us explain individual aggression or altruism, positive and negative power of group pressure and responses to group behaviour. Differences between individuals in intelligence and personality can also affect individual and group behaviour yet, conceptions and assessment of intelligence and personality differ. Various classic and contemporary theories have been proposed to explain these differences and will be examined.

Unit 3 – The unconscious self
Advances in brain research methods have opened up new ways to understand the relationship between mind, brain and behaviour. Students study the structure and functioning of the human brain and nervous system, and explore the nature of consciousness and altered states of consciousness including sleep. Students will also consider the nervous system in memory and investigate the ways in which information is processed, stored and utilised. They will apply different theories of memory and forgetting to their everyday learning experiences.

Unit 4 – Brain, behaviour and experience
How the brain is ‘wired’ depends much on our learning experiences which in turn, affects the quality of brain function. Students investigate learning as a mental process that leads to the acquisition of knowledge, development of new capacities and changed behaviours. Our understanding of learning is one important facet involved in a biopsychosocial approach to the analysis of mental health and illness. Students will consider different concepts of normality, and learn to differentiate between normal responses such as stress to external stimuli, and mental disorders.
Learning Area - TECHNOLOGY

Please note that there is a compulsory charge for materials associated with all Technology subjects. Students are advised to check precise costs BEFORE enrolling.

Product Design and Technology (Wood)

Unit 1 – Product re-design and sustainability
This unit focuses on the analysis, modification and improvement of a product design with consideration of the materials used and issues of sustainability.

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

Unit 2 – Collaborative Design
In this unit students work in teams to design and develop an item in a product range or contribute to the design, planning and production of a group product. They focus on factors including: human needs and wants; function, purpose and context for product design; aesthetics; materials and sustainability; and the impact of these factors on a design solution.

Areas of Study
- Designing within a team
- Producing and evaluating a collaboratively designed product

Unit 3 – Applying the product design process
In this unit students are engaged in the design and development of a product that meets the needs and expectations of a client and/or an end-user, developed through a design process and influenced by a range of complex factors.

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

Unit 4 - Product development and evaluation
In this unit students learn that evaluations are made at various points of product design, development and production. In the role of designer, students judge the suitability and viability of design ideas and options referring to the design brief and evaluation criteria in collaboration with a client and/or an end-user.

Areas of Study
- Product analysis and comparison
- Product manufacture
- Product evaluation
Food and Technology

Unit 1 – Food safety and properties of food
In this unit students are introduced to the diverse nature of food, how to prepare it and how to store it for the best quality. They will study safe and hygienic food handling practices and apply these practices in food preparation. Food storage practices that maximise quality of raw and cooked food are also investigated. Also the links between classification of foods and their properties and how the enjoyment of food is associated with different cooking methods and properties of foods.

Areas of Study
• Keeping food safe.
• Food properties and preparation.

Unit 2 - Planning and Preparation of Food
In this unit students will investigate the best methods, tools and equipment to use for optimum results and what they prepare for a range of situations. Students research, analyse and apply the most suitable food preparation and cooking methods to optimise the sensory, physical and chemical properties of foods. Students will work both independently and as a team member to research and implement solutions to a design brief and respond by preparing food for a range of contexts which include nutritional consideration, cultural beliefs and resource access and availability.

Areas of study
• Food preparation processes.
• Planning in food preparation.

Unit 3 – Food Preparation, Processing and Food Controls
This unit requires students to analyse the functions of the natural components of key foods and apply this information in the preparation of foods. Students will investigate cooking techniques and justify the use of the best techniques for key foods. They develop an understanding of food processing techniques to prevent spoilage in industrial and domestic settings, and will also preserve foods using some of the techniques.

Areas of study
• Food preparation and processing.
• Maintaining food safety in Australia.
• Developing a design plan folio.

Unit 4 – Food Production, Development and Emerging Trends
In this unit students work independently to complete the challenge of implementation of the design plan they established in Unit 3. In completing this task, students apply food safety and hygiene guidelines and evaluate the product planning and processes in the plan. Students examine food product development, and research and analyse factors that have contributed to product development such as packaging, packaging systems and marketing.

Areas of Study
• Implementing a design plan.
• Product development.
• New and emerging food trends.
Information Technology

Unit 1 – IT in action
This unit focuses on how individuals and organisations use, and can be affected by, information and communications technology (ICT) in their daily lives. When creating solutions, students need an understanding of the problem-solving methodology, as detailed in the accredited Study Design. In this unit the emphasis is on the problem-solving stages of design and development.

Areas of Study
- From data to information
- Networks
- ICT in a global society

Unit 2 – IT pathways
This unit focuses on how individuals and organisations use ICT to meet a range of purposes. Students apply a range of knowledge and skills to create solutions, including those that have been produced using a programming or scripting language, to meet users’ needs. In this unit, students apply all stages of the problem-solving methodology when creating solutions.

Areas of Study
- Data analysis and visualisation
- Programming and pathways
- Tools, techniques and procedures

Unit 3 – IT applications
The focus of Unit 3 is the World Wide Web and how it supports the information needs of individuals, communities and organisations. Students apply the analysis, design and development stages of the problem-solving methodology when creating solutions.

Areas of Study
- Online communities
- Organisations and data management

Unit 4 – IT applications
In this unit students focus on how ICT is used by organisations to solve ongoing information problems and on the strategies used to protect the integrity and security of data and information. When creating solutions to ongoing information problems, students apply all stages of the problem-solving methodology.

Areas of Study
- Organisations and information needs
- Information management
Resources

It is important that students consult up-to-date resources as prerequisites can change from year to year. The following resources may be useful:

- VTAC Courselink [www.vtac.edu.au](http://www.vtac.edu.au) → courselink
- Where to Now? Guide to the VCE, VCAL and Apprenticeships and Traineeships for 2011
- Job Guide Victoria
- Tertiary Entrance 2014 (Age/Herald Sun July)
- Tertiary Entrance Requirements 2014 (VICTER) – VTAC
- Job and Course Explorer
- University/TAFE materials including websites
- Careers Counselling
- Attending Open Days at Universities and TAFE Institutions

Choosing careers and pathways beyond school requires careful thought and planning. Students should consult Terry McGann, Director of Pathways, for advice and information.