Table of Contents

Introduction

This Handbook is a resource for students and parents/guardians which outlines the Victorian Certificate of Education (VCE) curriculum at Suzanne Cory High School across Year 11 and Year 12.

This Handbook is designed to assist students and parents to understand the structure of VCE. It is also designed to help with the selection of a course of subjects that support students' career aspirations and associated tertiary pathways.

The Handbook has three sections:

1. The VCE Program,
2. VCE Course Selections
3. Descriptions of VCE Studies that may be conducted at Suzanne Cory High School, subject to sufficient student numbers per class, in 2015.

In addition to this Handbook, students have been directed towards the following additional material:

- ***Choice! VCE Studies and the ENTER***, published by Victorian Tertiary Admissions Centre (VTAC) at www.vtac.edu.au
- ***VICTER Tertiary Entry 2015:*** the university and TAFE entrance requirements for the year in which most students will begin tertiary study (2015). Published by VTAC and available in major newspapers in July.
- ***Where to Now? – A guide to the VCE, VCAL and Apprenticeships and Traineeships.*** This guide is published by the VCAA. http://www.vcaa.vic.edu.au/vce/publications/wheretonow/index.html
- ***ABC of Scaling.*** Published by VTAC. http://www.vtac.edu.au/pdf/publications/abcofscaling.pdf

Other sources of information

Each student will have a course counselling meeting with a Careers Counsellor in Term 2 and again in term 3. Students will receive advance notification of meeting times.

Courselink is a computerised program that allows students to key in proposed VCE subjects. Students can then obtain a printout of relevant tertiary and TAFE courses available to them. *Courselink* is available on the VTAC website (www.vtac.edu.au).

Students should take advantage of any career and course related opportunities that arise, including Open Days. A list is available at www.vtac.edu.au Students will be notified of these on the daily bulletin and the school WIGO@SCHS newsletter. There is also a program of lunchtime speakers at the school to speak about various professions and answer the questions of students.

SECTION 1. The VCE Program

The Victorian Certificate of Education (VCE) is a program designed to be taken over a minimum of two years. Each subject offered at VCE is broken up into 4 units

1.1 The structure of the VCE

VCE studies are divided into units, each unit lasting one semester. Most studies offer four units, but students do not necessarily have to take all four units.

There are two levels of units within the VCE:

- **Units 1 and 2** - These are usually taken in the first year of VCE in Year 11. Most students take both units in a study, but it is possible in Year 11 (subject to timetabling constraints) to take only one unit of a particular study. All VCE units that are part of the current Year 10 course at school are at Units 1 or 2 level.
- **Units 3 and 4** - These are more advanced, and are mostly taken in Year 12. Units 3 and 4 must be studied *as a sequence* - that is, if you take Unit 3 of any study, you must also take Unit 4.

Students at Suzanne Cory High School will normally be expected to take 18 or 20 units in their Year 11 and 12 programs. This is in addition to any units studied in 2012 while in Year 10. This means:

- 12 units (6 studies) at this school while in Year 11, and
- 10 units (5 studies) at this school while in Year 12

1.2 Satisfactory VCE graduation

The Victorian Curriculum and Assessment Authority (VCAA) sets these minimum requirements for satisfactory graduation in the VCE:

The VCE is awarded on the basis of satisfactorily completing at least 16 units. This minimum of 16 must include:

- *at least 3 units of an English study (of either English, EAL, English Language or Literature) from Units 1-4 in all, AND*
- *a sequence of units 3 and 4 in three studies as well as the compulsory English study*

1.3 The English requirement

In order to qualify for an Australian Tertiary Admission Rank (ATAR) you must obtain a pass in a Unit 3 and 4 English study. The English study may be selected from any of the following studies:

- English (Units 3 & 4)
- English Language (Units 3 & 4)
- Literature (Units 3 & 4)
- English as an Additional Language (Units 3 & 4) – eligibility criteria apply for EAL (see EAL Eligibility below)

If a student does more than four units of English studies, the extra units will be counted simply as additional VCE units, as is the case with any other VCE subject.

In calculating the ATAR: Any English Units 3 and 4 will be counted, but no more than two will be allowed in the **primary four studies** (see *How ATAR is calculated* below for an explanation of the

primary four). Additional English studies will contribute as a fifth or sixth subject, to the value of 10% of the study score.

These are the minimum graduation requirements. Please note that entry to certain tertiary courses requires prerequisite subjects and ATAR scores well beyond the minimum requirements.

1.4 Satisfactory completion of units

Procedures for the assessment of levels of achievement in units 1 and 2 are a matter for each school to decide in alignment with the Victorian Curriculum and Assessment Authority (VCAA) VCE Study Designs. The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the set of outcomes specified for the unit. This decision will be based on the teacher's assessment of the student's performance in the unit. This includes, but is not limited to, student performance in assessment tasks. Students must also abide by all school and VCAA policies including authentication and attendance policies. The school's VCE Handbook provides more details about these policies.

In Units 3 and 4, the VCAA will supervise the assessment of all students. Students' level of achievement will be determined by a combination of School-assessed Coursework (SAC), School-assessed Tasks (SAT – relevant to only a few subjects), and end-of-year examinations which may be written, oral or performance. Students undertaking a Unit 3/4 sequence will also sit the General Achievement Test (GAT) each year.

To receive a study score, students must achieve two or more graded assessments and receive *Satisfactory* for both Units 3 and 4. The study score is reported on a scale of 0–50. This is a measure of how well the student performed in relation to all others who took the study.

Information about specific assessments and timelines will be provided by teachers at the beginning of 2015 in line with the appropriate VCAA Study Design and Assessment Handbooks.

1.5 Tertiary entrance

There are a range of institutions that provide courses of tertiary study: universities, TAFE colleges and a small number of private providers. Applicants apply for most tertiary courses in Victoria through the Victorian Tertiary Admissions Centre (VTAC). Applicants for courses through VTAC can obtain all the relevant information from the VTAC Guide published each July. The Victorian Tertiary Entrance Requirements (VICTER) for 2015 will be published in major newspapers in July. The VICTER Tertiary Entrance booklet outlines selection procedures for all courses in Victoria in 2015. These procedures include meeting prerequisite studies and possibly extra requirements that are published three years in advance, as well as gaining an Australian Tertiary Admissions Rank (ATAR). This rank is an overall measure of how well each student has performed in their VCE studies and is the basis for selection to most Australian universities and TAFE colleges.

The ATAR places students on a percentile ranking with 99.95 being the highest rank. The ATAR gives the comparative performance of each student against all applicants for a given year. In short, the better the result which is gained, the higher the rank.

1.6 Calculation of the ATAR

For each study, VCE students will obtain a Study Score (relative position) out of 50 based on the grades awarded for examinations, school-assessed tasks (SAT) and school-assessed coursework (SAC). The ATAR will take into account the study score for an approved Unit 3/4 sequence in the **English** group, the applicant's **best three other** scores and 10% of the applicant's **next two best** scores (English and the best three other scores are called the **primary four**).

Important points to note about the ATAR:

- Prerequisite studies are not necessarily required to be in the best four when calculating the ATAR; therefore students have greater freedom in subject choice. However, note that many universities have minimum study scores as part of their prerequisites.
- No more than two LOTE or two Mathematics or two Music or two Information Technology or two History or two English studies may be included in the best four. Only one of 'English' and 'English as an Additional Language' (EAL) is allowed.
- See the document *ABC of Scaling* for an explanation of the subject scaling process. http://www.vtac.edu.au/pdf/publications/abcofscaling.pdf
- To encourage the study of languages, a further adjustment is made during the scaling process. Each LOTE is adjusted up by adding five to the initial ATAR subject score average. All students of a LOTE receive an adjustment, but it is not a uniform adjustment. For scores at or close to 30, the adjustment is 5, but the adjustment decreases as the score moves away from 30. This bonus on the study score is also added on to a second LOTE.
- There will be no penalty for taking VCE over more than two years. However, time taken to complete the VCE may be taken into account by some tertiary institutions. Please check with individual universities. Accumulation of a further study or studies in a later year will lead to the calculation of a new ATAR Ranking and course entry will be based on the most current ATAR (although VTAC will provide previous ATAR scores to selection authorities).

1.7 Prerequisite studies for admission to particular tertiary courses

Knowledge of tertiary prerequisites is important as it will help students to strike an appropriate balance between selected subjects in order to keep career pathways and options open. Information about prerequisites can be found in *VICTER Tertiary Entrance 2016* when it is published by the Victorian Tertiary Admissions Centre (VTAC) in July. When investigating requirements for particular courses, make sure that you obtain information from a range of institutions as different tertiary providers may have different prerequisites.

SECTION 2. VCE Course Selection

2.1 Submitting course selections

Students will submit their course selection online and in paper form. The online system will be open from **2nd - 9th August** with a link to the website on eWorkspace. Students will be given individual usernames and passwords to access this system. The hardcopy of selections must be signed by the student, a parent and their course counsellor. This must be stapled to the printout of their online selection and submitted to the front office by **Friday 9th August**.

2.2 Promotion to VCE from year 10

Decisions about a student's readiness to proceed to the VCE are based upon:

- The student's academic results in Year 10
- Factors such as approaches to study, regularity of attendance and any personal hardships which may have impacted on progress
- Organisational skills such as the ability to complete assignments and meet timelines.

2.3 Number of VCE units to select

The expected courseloads for students at Suzanne Cory High School are:

Year 10: A full load of year 10 core classes, one Year 10 elective plus the potential to access one Unit 1/2 subject, provided the student meets the early entry to VCE requirements.

Year 11: 6 subjects in Semester 1 and 6 subjects in Semester 2. This may be a mixture of Units 1-4, subject to meeting the early entry to VCE requirements for Unit 3/4.

Year 12: Most students will take five Unit 3/4 sequences. In some rare cases students may only be expected to take 4 Unit 3/4 units. These circumstances include:

- Students who have already completed 2 or more VCE unit 3/4 sequences either at the school or externally.
- Students who have been accepted into a Higher Education Study and have already complete one or more VCE Unit 3/4 sequence either at the school or externally.

2.4 Early entry to VCE

A maximum of six Unit 3/4 studies can contribute to ATAR scores, so there can be some benefit in completing one Unit 3/4 study in Year 11 to add to the five Unit 3/4 sequences in Year 12. In addition some students may benefit from the additional challenge of taking a VCE unit early, either a Unit 1/2 in year 10 and/or a Unit 3/4 in Year 12)

On the other hand, it must be recognized that this is an increased pace of learning, and some students have not yet fully developed the skills to manage this, particularly in terms of organisational skills and study habits. There is also a risk that some students may concentrate on the accelerated VCE subject to the detriment of their other subjects. This can be counterproductive and lead to a lower attainment at Unit 3/4 level in the following year as the student lacks the required background. Year 10 studies build key skills and lay the groundwork for VCE. Similarly Unit 1/2 studies build knowledge and skills essential for success at Unit 3/4.

Hence students will only be approved for early entry to VCE if they have demonstrated *all* of the following:

1. That they are achieving at least *at* the expected level in English and Mathematics

2. That they are achieving *above* the expected level in the subject area for which they are applying for Early Access to unit 3/4
3. That they consistently submit work on time
4. That they consistently meet the school's attendance requirements.

In 2015 this will be measured in the following way:

Criteria for early entry to one VCE subject in Year 10

- Achieving over 50% VG in all subject areas.
- Achieving *at* or *above* the expected AusVELS level in English and Maths
- Achieving *above* the expected AusVELS level in the curriculum area they wish to accelerate in.
- No more than one 'non-submitted' assessment task across all subjects.
- Attendance rate above 85%

Criteria for early entry *to* one internal and one external VCE subject in Year 10 is as above and includes:

- Achieving over 75% VG in all subject areas

Criteria for early entry to one Unit 3/4 subject in Year 11

- Achieving over 50% VG in all subject areas
- Achieving at or above the expected AusVELS level in English and Maths
- Achieving above the expected AusVELS level in the curriculum area they wish to accelerate in.
- Achieving a C or above in any VCE units taken in Year 10.
- No more than one 'non-submitted' assessment task across all subjects.
- Attendance rate of 85% plus, and 90% plus in any completed VCE units.

Criteria for early entry to one internal and one external unit 3/4 subject in Year 11 is as above plus

- Achieving a B or above in any Unit 1/2 Subjects
- Achieving over 75% VG in all subject areas

Criteria for early entry to two internal Unit 3/4 subject in year 11is as above plus

- Achieving an A or above in any Unit 1/2 subjects
- Achieving over 90% VG in all subjects

2.5 Key considerations in selecting a VCE course

It is difficult to be absolutely certain about career plans at this stage of a student's schooling. One of the worst things a student can do at this stage is to say "I already know what subjects I'm doing next year". Instead, think deeply about selections in the context of maintaining some breadth, focusing on your interests and strengths, doing some further research into the different VCE studies, and finding out the prerequisites for different tertiary courses.

Students are advised to think through the following:

1. **Breadth:** The flexibility of the VCE encourages all students to take a variety of studies, while providing them with the ability to specialise in a particular area.

A student may decide to specialise in Humanities studies, Science studies or Arts studies, but it is very important to also be able to prepare for a range of possible career options. Students should not choose subjects that may overly restrict their career choices.

2. **Interest:** Choose studies that you enjoy. Most students perform better in these subjects. Beware of choosing subjects based on the impact of scaling in calculating the ATAR and *never* choose subjects simply because they are 'scaled up'. **VTAC's *Choice!*** booklet makes it clear that such a practice is unwise and may actually disadvantage students when they choose studies in which they are not strong.
3. **Realism:** If you currently find certain subjects difficult and have trouble grasping and understanding topics in Year 10, remember that the subject will become more complex at Units 1 and 2 level, and even more so at Units 3 and 4 level, not less so. Hard work alone cannot guarantee success in each area. Students must take their current abilities and performance in particular subjects into account.
4. **Research:** Find out about all the various studies - read all of the unit descriptions, and talk to teachers about them. Also see the Careers Counsellor for further advice and counselling.
5. **Taking Unit 1/2 studies before Unit 3/4 studies:** It is possible to enter some VCE studies at Unit 3/4 level *without* having previously studied Units 1 or 2. Some subjects in our curriculum do not have a Unit 1/2 requirement. In most cases, however, preparatory Units 1 and 2 are strongly recommended if you are planning to take the Units 3 and 4 that follow.
6. Be careful about choosing more than two subjects in the Arts domain within your course such as Music Performance, Studio Arts, or Media. These all have intense periods of work and preparation for assessment. Students *must* be well organised if they are to successfully undertake more than two Arts subjects.
7. **This is your choice:** The choice of subjects you make may ultimately determine your career, and how you will spend a large proportion of your life. Students should ensure they are aiming for a future that will satisfy them, rather than friends or family, however well-meaning they may be.
8. **Tertiary prerequisites.** Be aware of VCE prerequisites for tertiary courses, listed in *VICTER Tertiary Entry 2015.* These prerequisites will apply to tertiary and TAFE courses in 2015. Do not rely on other years' prerequisites (e.g. for 2014 or 2015) as there may have been changes to the 2015 prerequisites. Similarly, be wary of advice about prerequisites from past students or friends and relatives as things may have changed.

Once students have settled on a range of subjects that enable a balance of interests, abilities and tertiary requirements, some choices will need to be made. The selection of subjects should be guided by the information in this Handbook, which contains descriptions of Unit 1-4 VCE studies being offered at Suzanne Cory High School. Please note that whether a subject proceeds in 2015 will depend on sufficient student numbers. Preliminary selection of Year 12 subjects can be assisted by reference to the relevant descriptions of Unit 3 & 4 courses included in this handbook as well descriptions of the Units 1 & 2 sequence.

2.6 Summary overview of VCE course options

	Year 11 Semester 1		Year 11 Semester 2		Year 12 Semester 1 & 2
Option A (most common)	**Study K Unit 1**	⇨	**Study K Unit 2**	⇨	**Study K Units 3 and 4**
Option B	**Study K Unit 1**	⇨	**Study L Unit 2** (subject to constraints)	⇨	**Study L Units 3 and 4**
Option C	**Study K Unit 1**	⇨	**Study K Unit 2**	⇨	**Study L Units 3 and 4**
Option D	**Study Z Unit 3**	⇨	**Study Z Unit 4**	**(To take unit 3/4 in Year 11, eligibility criteria apply as outlined above)**	

Depending on timetable options and available space in classes, changing from a Unit 1 study in Semester 1 to a different Unit 2 study in Semester 2 might be possible for students who realise that a particular subject does not suit their interests, strengths and aspirations. However, changing from a particular unit 1 study (e.g. "Study K" Unit 1 above) to a different Unit 2 study (e.g. "Study L" unit 2 above) may not always be possible or sensible for these reasons:

- Class size and timetable constraints may prevent a transfer from one subject to another
- Attaining success in a VCE Study depends on learning specific knowledge and skills so it is important to undertake both Units 1 and 2 in a sequence whenever possible.

Consequently it is in each student's best interests to think seriously and thoroughly about their selections in the first place, rather than apply to switch studies later on in Year 11.

Students must undertake their Unit 3/4 units as a sequence and *cannot* change their selections after the second week of February.

2.7 Studying VCE units that are not offered at Suzanne Cory High School

Students can gain credit for any VCE studies that are satisfactorily completed at an approved VCE provider. Some of our students have already undertaken the study of a VCE Language Other Than English (LOTE) at community schools, and they may seek to continue with that study next year.

Students who choose to include their external study within their program must study at an *approved* VCE provider. Approved providers may be the Victorian School of Languages (VSL) and community LOTE schools. Please include the details of this subject on your Course Selection form, along with the course for Suzanne Cory High School. Any student undertaking and external subject should see Ms Goodridge-Kelly to discuss their enrolment.

Students will be required to attend Suzanne Cory High School in a full time capacity, which equates to 6 studies or 12 units in Year 11, and 5 studies or 10 units in Year 12. For all students, an external study via Distance Education or at evening or weekend school will be additional to their full course here at Suzanne Cory High School.

2.8 English as an Additional Language (EAL) Eligibility

EAL was previously referred to as ESL. A student is considered eligible for English as an Additional Language (EAL) status if *both* of the following conditions are satisfied:

1. The student has been a resident in Australia or other predominantly English speaking country for no more than **seven (7) years**. Note: The period of seven (7) years is to be calculated cumulatively over the student's whole life. Calculation is made prior to January 1 of the year in which the study is taken at the Units 3/4 level.
2. English has been the student's major language of instruction for a total period of not more than **seven (7) years** prior to the commencement of the year in which the study is taken at Units 3/4.

Students can apply for EAL status on a form available from the General Office. Supporting evidence will be required and the responsibility to supply the evidence rests with the student. Completed applications must be submitted by the due date noted on the form.

2.9 Chinese options

'*Chinese Second Language*' & '*Chinese Second Language Advanced*'

The *VCE Chinese Second Language* curriculum is designed to cater for students who have learnt all they know of the language in an Australian school or similar environment. In addition to *Chinese Second Language*, the subject *Chinese Second Language Advanced* is offered to students who have lived and/or studied with Chinese as their language of instruction for only a certain time. (See Section 3 for specific criteria). All enrolments in these studies must be approved by VCAA. Students cannot be enrolled in Chinese Second Language or Second Language Advanced studies until endorsement of their eligibility is received from VCAA. The student must provide sufficient evidence to support their application, and the responsibility for providing supporting documentation rests with the student. Application forms are available from Ms Goodridge-Kelly and must be submitted by the end of 2015, so that forms can be sent to VCAA for endorsement.

2.10 Higher Education Studies in Year 12

Some student may wish to apply for a Higher Education Studies program in Year 12 in 2015 as part of their normal VCE course. Please note this is only for students in Year 12. This program is offered by universities and the VCAA. Involvement in this program enables academic challenge, credit towards an undergraduate qualification, and contribution toward the calculation of the ATAR via an increment for a sixth study. Specifically, an Extension Study is a first-year Higher Education study that is:

- Equivalent in content and assessment in every respect to one or more of current first-year university studies and constitutes at least 20 per cent of a full-time first-year university undergraduate course
- Of a level for a high-achieving student and therefore is a clear advance on an identified VCE Unit 3 and 4 study, and commensurate in workload with an additional VCE study
- Of a level that will normally allow the student, on successful completion, to proceed to second year study at the university in that discipline.

2.11 Eligibility for a Higher Education Study

Higher Education studies are designed for high achieving and highly independent Year 12 students. Ultimately the university will decide whether to accept a student. Normally, for Extension studies, students enrolling will have demonstrated:

- High achievement across all studies
- A VCE study score of 40 or more in the preparatory study

- A good work ethic in all VCE subjects

Students who have achieved outstanding results may be encouraged by the school to consider a Higher Education Study. Students will be expected to include five Unit 3/4 studies in their overall VCE course, as well as the university study - therefore the university study would count as a *sixth* subject, *not* as a primary four subject, in the calculation of a student's ATAR.

Students would be required to take *four* unit 3/4 studies at Suzanne Cory High School during Year 12, so a Higher Education Study will be additional to that minimum course, that is it would be a fifth study in Year 12. Interested students should discuss the opportunity for Higher Education studies with Ms Goodridge-Kelly.

SECTION 3. VCE Studies offered

The following subjects are offered at units 1-4 inclusive**. Subjects will only run if there is sufficient demand.

Subject Area	Study	Early Entry?	Page
1. English	English and EAL		16
	English Language		18
	Literature		20
Humanities	Accounting	✔	22
	Business Management	✔	24
	Economics		26
	Geography	✔	28
	Global Politics	✔	30
	History • Unit 1&2: Global Empires • Unit 1&2: Ancient History • Units 3 & 4: Revolutions • Units 3 & 4: Ancient History	✔	32
	Legal Studies	✔	34
	Philosophy		36
LOTE	Chinese (Second Language & Second Language Advanced)	✔*	38
	French	✔*	40
Art, Design & Technology	Food and Technology	✔*	42
	Information Technology (Software development)	✔	44
	Media	✔	46
	Music Performance		48
	Studio Arts		50
	Systems Engineering	✔	52
	Visual Communication and Design		54
Health and PE	Health and Human Development	✔	56
	Physical Education	✔	58
Science	Biology	✔	60
	Chemistry		62
	Environmental Science	✔	64
	Physics		68
	Psychology	✔	70
Mathematics	General Mathematics 1/2		72
	Further Mathematics 3/4	✔	74
	Mathematical Methods		76
	Specialist Mathematics 3/4		78

* Students wishing to take a unit 3/4 Language in year 11 must have enrolled in unit 1/2 French or Chinese externally whilst they are in year 10. Those wishing to take unit 3/4 Food technology in year 11 must have taken the year 10 Food elective.

Acknowledgement: Information on the following VCE Study Designs is based on VCAA documents. A full list of all VCE studies available in Victoria can be found on the VCAA website: http://www.vcaa.vic.edu.au/vce/studies/index.html

The English Group

All students must undertake at least two units of English Studies in each of Years 11 and 12.
The school expects that our students will undertake English (or English as an Additional Language, if eligible); however, if students wish to study English Language or Literature in place of English a written application will be required. Students may choose to study more than one English subject.

English Studies include:

- English (Units 1 & 2; Units 3 & 4)
- English as an Additional Language (EAL) (Units 3&4)
- English Language (Units 1 & 2; Units 3 & 4)
- Literature (Units 1 & 2; Units 3 & 4)

Note: the new study designs for these studies commence in 2016 for Units 1/2 and 2017 for Units 3/4.

English: This subject consolidates knowledge and skills developed during Years 9 and 10 in the areas of literacy, language and literature. This approach to the study of English is consistent with student experiences of the subject in Years 9 and 10 and as such is the recommended English group study. In 2016, the final 3 hour examination will consist of three extended pieces of writing in response to the study of text, Context and language analysis. As of 2017, the final 3 hour examination will consist of three extended pieces of writing-analysing a single text; analysing a pair of texts and analysing argument.

EAL: English as an Additional Language is only offered at Unit 3/4 level to students who meet the eligibility requirements. (See page 11 for eligibility details.) The structure of the EAL course is similar in many respects to the English study, but is modified and will include a listening component as of 2017. EAL students generally study one less text on the text list and undertake a different end of year exam paper at Unit 3/4 level.

English Language: This subject is an option for students who enjoy and excel at analysing language and its uses. English Language is based on linguistics, which takes an objective, analytical look at the nature and functions of language. There is a strong emphasis on Australian English with a range of both spoken and written texts studied at Year 11 and Year 12. The final 2 hour examination consists of short answer responses, an extended response and an essay. In the short and extended responses students are expected to demonstrate their ability to use relevant descriptive and metalinguistic tools.

Literature: Literature is recommended to strong English students who enjoy reading and analysing a range of texts in depth with specific focus on how authors create meaning. This is undertaken through close analysis of the texts. There is also a strong emphasis on historical and cultural contexts, views and values, adaptations and endorsing or refuting differing perspectives. The final 2 hour examination consists of two extended pieces of writing on two different texts.

Structure of options:

- Students have the option to choose from English, EAL, English Language or Literature in order to fulfill the VCE English requirement of a minimum of four units of English.
- More than one English subject may be selected in any given year.
- **Any student who wishes to select Literature or Language as their sole English study must submit an application explaining their reasons for selecting this subject. This document should outline the student's learning habits, skills and interests. It should also indicate the relevance of this choice to possible tertiary and career pathways.**
- The course content of Unit 1 English Language provides essential knowledge and skills in preparation for Unit 3-4 English Language. No student will be admitted to English Language or Literature after Unit 1.
- Any student who undertakes Unit 1 English Language or Literature at unit 1 and wishes to change out of this English group study will then undertake Units 2-4 English.
- If English Language and/or Literature are chosen at Unit 1 and 2, students can easily move back to mainstream English for Units 3 and 4.

Recommendations and advice:

Students are encouraged to carefully consider their options for English to ensure they are selecting the most appropriate subject for their interest and their strengths. Before making a decision about the choice of English subjects, students are advised to find out about each course from the information in this Handbook and the respective VCE Study Designs available on the VCAA website, and then discuss options with their teacher, who will make a recommendation. Each VCE English subject is challenging in its own way. It is vital that students make an informed decision and select a subject based on an honest and realistic evaluation of interest, abilities, work habits and pathways.

English and EAL

Introduction

The English language is central to the way in which students understand, appreciate and critique their world and to the ways in which they participate socially, culturally and economically in Australian society. The study of English encourages the development of literate individuals capable of critical and imaginative thinking, aesthetic appreciation and creativity. The mastery of the key knowledge and skills described in this study design underpins effective functioning in the contexts of study and work as well as productive participation in a democratic society in the twenty-first century. The study of texts focuses on creating and analysing texts, understanding and interpreting texts, and moving beyond interpretation to reflection and critical analysis. Essential to this course is the development of oral communication skills and an understanding of how language is used to persuade.

Eligibility for English as an Additional Language (EAL)

See eligibility requirements on page 11.

Course content
(incorporates new study design)

Unit 1 (2016)	**Unit 2 (2016)**
In this unit, students read and respond to texts analytically and creatively. They analyse arguments and the use of persuasive language in texts and create their own texts intended to position audiences. Students develop their skills in creating written, spoken and multimodal texts.	In this unit students compare the presentation of ideas, issues and themes in texts. They analyse arguments presented and the use of persuasive language in texts and create their own texts intended to position audiences. Students develop their skills in creating written, spoken and multimodal texts.
Unit 3 (2017)	**Unit 4 (2017)**
In this unit students read and respond to texts analytically and creatively. They analyse arguments and the use of persuasive language in texts. Texts selected for study in Area of Study 1 must be chosen from the Text List published annually by the VCAA. The texts selected for study in Unit 3 Area of Study 2 must have appeared in the media since 1 September of the previous year. The term 'selected text' refers to a text chosen from the list of prescribed texts in the Text List published by the VCAA.	In this unit students compare the presentation of ideas, issues and themes in texts. They create an oral presentation intended to position audiences about an issue currently debated in the media. Texts selected for Area of Study 1 must be chosen from the Text List published annually by the VCAA. The issues selected for Area of Study 2 must have appeared in the media since 1 September of the previous year, but need not be the same as the issue selected for study in Unit 3. The term 'selected texts' refers to a combination of texts chosen from the list of prescribed texts for comparative study in the Text List published by the VCAA.

Choose this subject if you enjoy:	**Learning Activities will include:**
• Reading • Learning about different styles of writing (expository, analytical, persuasive and imaginative) • Writing in a variety of forms • Discussing ideas, themes and characters within literary texts • Working in groups • Participating in discussions and debates about topical issues • Listening to and delivering oral presentations	• • Reading, listening and viewing of multi-modal texts • Creative writing in response to a literary text • Close analysis of literary features in print and non-print texts • Comparative analysis of ideas, themes and issues presented in texts • Sustained and timed writing exercises and re-drafting activities • Group discussions about themes, ideas and characters in texts • Reading, watching and discussing persuasive texts

Careers

- Lawyer
- Writer
- Journalist
- Editor
- Politician
- Diplomat
- Teacher
- Lecturer

Available for Early Access to unit 3/4?	**Early Entry Requirements:**
No	NA

English Language

Introduction

VCE English Language explores the ways in which language is used to establish identity and group membership and how it reflects social values. It examines in depth the conventions and codes used by speakers and writers of English. Informed by the discipline of linguistics, it provides students with the tools to understand and analyse language use, variation and change. The study of English Language enables students to understand the structures and features of written and spoken texts. Students examine the subsystems of language (morphology, lexicology, phonology, syntax, semantics and discourse) in depth, and use these to analyse a wide range of texts. They will study not only formal and literary language, but also the language that we use in everyday conversation, and as users of social media. They explore the reasons that writers and speakers have for choosing to use formal or informal language.

Students are expected to read, consider and collate a wide range of examples of language use, and examine publications and public commentary about language in print and multimodal form. Students also observe and discuss contemporary language in use, as well as considering a range of historical and contemporary written and spoken texts.

Course content

Unit 1: Language and communication	**Unit 2: Language change**
Language is an essential aspect of human behaviour and it is the means by which individuals relate to one another, to communities, and to the world. The focus of this unit is exploring the nature of language and the various functions it performs in a range of contexts, such as marking group membership and phatic communication. Students consider the way language is organised. The differences between the modes of language (spoken, written and sign) and the elements of non-verbal communication are examined. Students learn that language is a highly elaborate system of signs and conventions with accepted systems informing the use of language. Theories of language are also explored. Students examine the stages of child language acquisition, and understand how children acquire knowledge of the appropriate use of language conventions in different social situations. Students analyse theories of child language acquisition, and engage with theories regarding additional language acquisition and bilingual children.	This unit focuses on the dynamic nature of languages, and how change is an inevitable and continuous process. Students consider factors contributing to language change over time, and also the rapid global spread of English and its development as an international language. Students will examine past and contemporary texts, encompassing Old English, Middle English and modern standard varieties of the language. Students will consider how language has changed. Students will examine how the global spread of English has led to a diversification of the language and how English is now more prevalent as an additional language than as a first language. The future of the English language is explored. The increasingly rapid spread of English has displaced other languages and encouraged the decline of indigenous languages, and students will consider the cultural repercussions of this.
Unit 3: Language variation and social purposes	**Unit 4: Language variation and identify**
Students build on their knowledge of Australian varieties of English along a continuum of informal and formal registers, and continue to examine how language use communicates information,	In this unit, students focus on the role of language in establishing and challenging different identities. They explore how Standard Australian English, as the variety offered prestige by public institutions,

ideas, attitudes, prejudices and ideological stances. Students examine the stylistic features of formal and informal language in spoken and written modes. They build on their knowledge of the grammar and structure of language and the choice and meanings of words within texts. Students explore how texts construct message and meaning. Students consider how texts are influenced by their situational and cultural contexts. They examine how language choices are determined by audience, purpose, setting, attitudes and beliefs. Students learn how speakers and writers adopt registers and stylistic features to establish a degree of formality. They learn how language reflects power structures and may be used for the purposes of inclusion or exclusion.	has played a pivotal role in establishing the legitimacy of Australian English in comparison to other national varieties of English. Students explore the role non-Standard English varieties play in constructing users' social and cultural identities. Historical and contemporary print and digital texts are examined to consider the ways different identities are constructed. These include extracts from novels, films or television programs, poetry, letters and emails, transcripts of spoken interaction, songs, advertisements, speeches and bureaucratic or official documents. Students explore how our sense of identity is constantly evolving in response to situations and experiences and is influenced by how we see ourselves and how others see us. Through our language we establish how we are unique as individuals, as well as signalling our membership of particular groups. Students explore how language can distinguish between 'us' and 'them', creating solidarity and reinforcing social distance.

Choose this subject if you enjoy:	**Learning Activities will include:**
• Understanding grammar and the building blocks of language • Analysing and interpreting language use • Using concepts and metalanguage to describe and analyse formal spoken and written language in an objective and systematic way • Evaluating features of language in the public domain	• Collecting and annotating examples of language use, transcribing speech, analysing language used in different forms, such as comedy, slang and graffiti

Careers

Knowledge of how language functions provides a useful basis for further study or employment in numerous fields beyond the humanities. Language related fields include psychology, the study of other languages, speech therapy, and journalism. It also supports other communication-related fields, including designing information and communications technology programs.

Available for Early Access to unit 3/4?	**Early Entry Requirements:**
No	NA

Literature

Introduction

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

The study is based on the premise that meaning is derived from the relationship between the text, the context in which it was produced and the experience of life and literature the reader brings to the texts. Accordingly, the study encompasses texts that vary in form and range from past to contemporary social and cultural contexts. Students learn to understand that texts are constructions, to consider the complexity of language and to recognise the influence of contexts and form. The study of literature encourages independent and critical thinking in students' analytical and creative responses to texts, which will assist students in the workforce and in future academic study.

Course content

Unit 1: Approaches to Literature	**Unit 2: Context and Connections**
In this unit students focus on the ways in which the interaction between text and reader creates meaning. Students' analyses of the features and conventions of texts helps them develop increasingly discriminating responses to a range of literary forms and styles. Students respond critically, creatively and reflectively to the ideas and concerns of texts and gain insights into how texts function as representations of human experience. They develop familiarity with key terms, concepts and practices that equip them for further studies in literature. They develop an awareness of how the views and values that readers hold may influence the reading of a text.	In this unit students explore the ways literary texts connect with each other and with the world. They deepen their examination of the ways their own culture and the cultures represented in texts can influence their interpretations and shape different meanings. Drawing on a range of literary texts, students consider the relationships between authors, audiences and contexts. Ideas, language and structures of different texts from past and present eras and/or cultures are compared and contrasted. Students analyse the similarities and differences across texts and establish connections between them. They engage in close reading of texts and create analytical responses that are evidence-based. By experimenting with textual structures and language features, students understand how imaginative texts are informed by close analysis.
Unit 3: Form and Transformation	**Unit 4: Interpreting Texts**
In this unit students consider how the form of a text affects meaning, and how writers construct their texts. They investigate ways writers adapt and transform texts and how meaning is affected as texts are adapted and transformed. They consider 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. Students develop their skills in communicating ideas in both written and oral	In this unit students consider how the form of a text affects meaning, and how writers construct their texts. They investigate ways writers adapt and transform texts and how meaning is affected as texts are adapted and transformed. They consider 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. Students develop their skills in communicating ideas in both written and oral

forms.	forms.

Choose this subject if you enjoy: • Reading a variety of literary texts • In depth discussion about big ideas and themes within texts • Deconstructing characters • Understanding the preoccupations and concerns of particular eras • Writing creatively and analytically	**Learning Activities will include:** • Text analysis questions • Text response essays • Creative responses • Passage analyses • Role playing
Careers • Literary Criticism • Film Criticism • Journalism • Teaching • Lecturing • Editing • Creative Writing	
Available for Early Access to unit 3/4? **No**	**Early Entry Requirements:** NA

Accounting

Introduction

VCE Accounting focuses on the financial recording, reporting and decision-making processes of a sole-proprietor small business. Accounting is the process of recording, reporting, analysing and interpreting financial data and accounting information, which is then communicated to internal and external users of this information. It plays an integral role in the successful operation and management of businesses.

Course content

Unit 1 Establishing and operating a service business	**Unit 2: Accounting for a trading 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 and recording financial data and the reporting and analysing of accounting information by internal and external users. The cash basis of recording and reporting is used throughout this unit. 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.	This unit extends the accounting process from a service business and focuses on accounting for a sole proprietor of a single activity trading business. Students use a single entry recording system for cash and credit transactions and the accrual method for determining profit. They analyse and evaluate the performance of the business using financial and non-financial information. Using these evaluations, students suggest strategies to the owner on how to improve the performance of the business. Students develop their understanding of the importance of ICT in the accounting process by using a commercial accounting software package to establish a set of accounts, record financial transactions and generate accounting reports.
Unit 3 Recording and reporting for a trading business	**Unit 4: Control and analysis of business performance**
This unit focuses 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 use the double entry system of recording financial data and prepare reports using the accrual basis of accounting. The perpetual method of stock recording with the First In, First Out (FIFO) method is used.	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 is based on the double entry accounting system and the accrual method of reporting for a single activity trading business using the perpetual inventory recording system. Students investigate the role and importance of budgeting for the business and undertake the practical completion of budgets for cash, profit and financial position. Students 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

Choose this subject if you enjoy:

- Maths
- Humanities
- Learning about the finance sector
- Record keeping
- Data analysis

Learning Activities will include:

- Preparing journals, ledger accounts, stock cards and other subsidiary records
- Preparing a range of financial reports manually and electronically
- Use of a commercial ICT accounting package
- Participation in the ASX sharemarket game
- Speaking to experienced industry professionals
- Analysis of published annual reports of large Australian companies

Careers

Accounting VCE is useful if you want to study

- Accounting
- Business
- Commerce
- Finance
- Management

Accounting can lead to careers in

- Accounting
- Auditing
- Business
- Finance
- Taxation
- Banking

Available for early access to unit 3/4?
Yes

Early Entry Requirements:
Meet general requirements for early access to unit 3/4

Business Management

Introduction

VCE Business Management examines the ways in which people at various levels within a business organisation manage resources to achieve the objectives of the organisation. Students develop an understanding of the complexity, challenges and rewards that come from business management and gain an insight into the various ways resources can be managed in small, medium and large-scale organisations.

The study recognises that there is a range of management theories. In each unit students examine some of these theories and, through exposure to real business scenarios and direct contact with business, compare them with management in practice.

Course content

Unit 1 Small Business Management	**Unit 2: Communication and management**
Small rather than large businesses make up the large 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 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 accessible in daily life. This unit provides an opportunity for students to explore the internal operations of a small business and its likelihood of success.	This unit focuses on the importance of effective communication in achieving business objectives. Students investigate communication both internal and external to the business. They develop knowledge of aspects of business communication and are introduced to skills related to its effective use in different contexts. The vital functions of marketing and public relations are considered, with students developing an understanding of the important role these functions play in the ultimate success of a business.
Unit 3 Corporate management	**Unit 4: Managing people and change**
In this unit students investigate how large-scale organisations operate. Students examine the environment (both internal and external) in which large-scale organisations conduct their business, and then focus on aspects of the internal environment of individual businesses and how the operations of the business are managed. Students develop an understanding of the complexity and challenge of managing large-scale organisations and have the opportunity to compare theoretical perspectives with practical applications.	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.

Choose this subject if you enjoy:

- Learning about the business sector
- Managing or leading people
- Learning about motivation and behaviour management
- Keeping up with current affairs

Learning Activities will include:

- Interviewing a small business operator and large business operator
- Guest speakers from small and large businesses
- Analysis of current media issues affecting businesses
- Undertaking the role of a small business owner (Unit 1 and 2)
- Undertaking the role of management (Unit 3 and 3)

Careers

VCE Business Management is useful if you want to study

- Business
- Commerce
- Human Resource Management
- Management

Business Management can lead to careers in

- Human Resource Management
- Business
- Finance
- Any industry of your choosing. Business Management refers to the skills and abilities of managers which apply across a broad range of industries rather than a specific field.

Available for early access to unit 3/4?
Yes

Early Entry Requirements:
Meet general requirements for early access to unit 3/4

Economics

Introduction

Economics is the study of how individuals and societies use resources to satisfy needs and wants. Economic decisions involve the allocation of scarce resources in producing goods and services and deciding about the distribution of this production. Students will develop an awareness of the links between economics and the influence of political, ethical, environmental and social forces on economic decision making.

VCE Economics equips students with a unique set of concepts, ideas and tools to apply to individual and social circumstances, and helps them to be more informed citizens and consumers. Students develop an ability to identify, collect and process data from a range of sources, and to analyse data and form conclusions supported by evidence.

Course content

Unit 1: Choices and consequences	**Unit 2: Economic change: Issues and challenges**
The study of economics involves an examination of how a society organises itself to meet its needs and wants. The Australian economy is characterised by a combination of the operation of the market mechanism and government intervention. Students learn how the decisions made by individuals, firms and governments affect how the three economic questions of what to produce, how to produce and for whom to produce are addressed. Students examine factors influencing price and resource allocation by studying in depth the operation of a particular market, such as the online market, stock market or foreign exchange market. Students are able to understand how economic decisions are made in response to changing market and economic conditions. An examination of market failure allows students to appreciate the limitations of the price mechanism. Students consider the different degrees of market power, such as in exercised in a monopoly market, to illustrate how it affects resource allocation, price and living standards in society, and consider the importance of competition. Students examine contemporary economic issues which impact upon the welfare and living standards of the population and of future generations. These may include the trade-off between economic growth and sustainable development, the importance of achieving low inflation and the merits and limitations of pursuing greater equality of income distribution in society.	The changing nature of Australia's population will have an impact upon future rates of economic growth, living standards and the ability to balance the federal budget. Students consider the effects of an ageing population and the debates regarding skilled and labour migration. Students gain an appreciation of the potential challenges facing businesses wishing to expand. Students examine the macroeconomic goal of full employment and analyse the policy initiatives directed toward its achievement. Students analyse the impacts of high unemployment on society and the individual, and current and future living standards. Students conduct an in depth examination of Australia's trading relationships, and the factors influencing Australia's terms of trade and exchange rate. The increased volume of world trade and movement of the factors of production, such as capital and labour, are examined in the context of how they affect living standards in Australia. Students may also consider the topics of development economics or economic globalization. By studying the accelerating integration of the global economic system, students will come to understand the causes of globalization and its social and economic impacts on Australia. Development economics examines the reasons for differing levels of economic development among nations, the causes of global poverty along with the reasons for global economic and wealth inequality. Students will learn about possible solutions to global poverty and the role of government and private aid in promoting improving conditions in developing nations.

Unit 3 : Economic activity	Unit 4: Economic management
The Australian economy is a contemporary market capitalist economy. In this unit, students build on their understanding of the operation of the price mechanism and the existence of differing degrees of market power, examining the influence on the allocation of resources. Students examine key macroeconomic goals such as price stability, external stability, the promotion of a fair and reasonable distribution of income in society, and sustainable economic growth, and how different goals are prioritised at different times for economic, political and social reasons. Students conduct a detailed study of the trend in these goals over the last four years, and develop an understanding of the role that each goal plays in improving living standards. The study of economic growth is extended to include the impact of international trade and economic conditions on Australian growth rates. Students examine the role of trade with international households, businesses, governments and other groups, and the importance of international movement of capital for Australia's living standards. Students examine the reasons for income inequality and the social costs and benefits, and the impact on living standards associated with inequity.	Students examine the use of government macroeconomic policies to influence the level of aggregate demand in the economy. Students understand that in recent years, the government has made use of monetary policy to manipulate the level of demand in the economy. Students learn how changes in interest rates affect inflation, unemployment levels and the rate of economic growth. Students also examine how fiscal (budgetary) policy may be used to influence the achievement of economic goals of economic growth, full employment, external stability and greater equity in the distribution of income. The relationship between the two macroeconomic demand policies is analysed in terms of their impact upon economic goals. Students also examine how the government manages the supply side of the economy to improve standards of living. The objective of expanding the nation's production possibility frontier to satisfy growing aggregate demand is considered. Students investigate how the government has utilised fiscal policy to directly influence aggregate supply, such as through infrastructure projects. The role of microeconomic reform in promoting competition, efficiency and expanding productive capacity is also evaluated. Students also examine the role of immigration policy and environmental policies in influencing the supply-side of the economy, including how immigration helps to address the problems caused by an ageing population, and how environmental policies can be used to counteract environmental problems that will cause restrictions on the economy's capacity to produce over time. Students apply the language, theories and tools of economics to develop a critical perspective about the role of aggregate demand and aggregate supply policies in the current government policy mix.

Choose this subject if you enjoy:

- Understanding cause and effect relationships
- Analysing current issues

Learning Activities will include:

- Evaluating current issues, debating, presenting and analysing data in various forms and predicting economic events

Careers

Knowledge of economics provides a useful basis for further study or employment in numerous fields including commerce, finance, banking, marketing, journalism and treasury, as well as political fields such as the public and diplomatic service.

Available for early access to unit 3/4?
No

Early Entry Requirements:
NA

Geography

Introduction

Geography examines what makes one place different from another, and how and why these differences matter. The purpose of this study is to develop in students an ability to see meaning in the arrangement of natural and human phenomena across spaces. Students observe and understand the interrelationships between people, places and environments. They use geographic skills and apply spatial perspectives to describe and interpret patterns on the surface of the Earth and the processes that created them.

This study investigates a diversity of themes, environments and places at different scales (local, regional, national, international and global) and in different contexts, particularly in Australia. It explores the patterns and processes of physical geography and their interaction with aspects of human geography. Geographers use a number of spatial concepts as tools to help them to investigate, interpret and explain these patterns. The spatial concepts provide a unique conceptual structure and framework of ideas for geographic investigations of phenomena.

Through studying Geography, students develop knowledge and skills that enable them to understand the complex interactions of their world from a spatial perspective. They learn to participate effectively as global citizens in the sustainable use and management of the world's resources.

Course content

Unit 1: Natural Environments	**Unit 2: Human Environments**
Area of study 1: Characteristics of natural environments. On completion of this unit the student should be able to describe the geographic characteristics of at least two natural environments and explain how they are developed by natural processes, including extreme natural events. Area of study 2: Changes in natural environments. On completion of this unit the student should be able to analyse and explain the changes in natural environments due to natural processes and human activity	Area of study 1: Characteristics of human environments. On completion of this unit the student should be able to describe and explain the geographic characteristics of different types of rural and urban environments. Area of study 2: Changes in human environments. On completion of this unit the student should be able to analyse and explain changes due to human activities in rural and urban environments.
Unit 3: Regional resources	**Unit 4: Global perspectives**
Area of study 1: Use and management of an Australian water resource. On completion of this unit the student should be able to analyse the use and management of water within the Murray-Darling Basin region and evaluate its future sustainability. Area of study 2: Use and management of local resources. On completion of this unit the student should be able to describe characteristics of a local resource and justify a policy for its future use and management using data collected in the field.	Area of study 1: Global phenomena. On completion of this unit, the student should be able to evaluate the relative importance of factors that affect changes in human population and one other selected global phenomenon. Area of study 2: Global responses. This area of study focuses on the ways in which people and organisations respond to the global impact of two phenomena, including human population at a range of scales.

Choose this subject if you enjoy: • Understanding how the human and natural worlds interact • Exploring problems relating to human use and exploitation of the natural environment • Questioning different living standards across the globe • Collecting raw data from field trips and analysing the results	**Learning Activities will include:** • Recording and reporting on data collected in the field; • Data processing, analysis and presentations; • Multimedia presentations • Oral presentations; • Short-answer questions; • Structured questions; • Research reports; • Written responses; • Role-plays; • Tests. • At least one assessment task involving fieldwork.
Careers Geography skills are relevant to a number of careers, including engineering, mining, agriculture, aid and development, community services and environment/green industries.	
Available for early access to unit 3/4? Yes	**Early Entry Requirements:** Meet general requirements for early access to unit 3/4

Global Politics

Introduction

VCE Australian and Global Politics is the study of contemporary political power at both national and global levels. Through this study students explore, explain and evaluate national and global political issues, problems and events. They analyse how individuals gain political power, their motivations and how they exercise it. Students also learn about political ideology and political movements both nationally and globally.

Politics is the study of the political, social, cultural and economic forces that shape interactions between state and non-state actors in the twenty-first century. It examines the interconnectedness of twenty-first century global citizens and the impact of globalisation on culture, language, human rights and the environment. It examines the nature and effectiveness of key global actors in the twenty-first century and global challenges, including human rights, people movements, development issues and weapons proliferation. It explores the nature of global crises such as environmental degradation, war and terrorism, and the effectiveness of responses and proposed solutions by key global actors.

Course content

Unit 1: The national citizen	**Unit 2: The global citizen**
In this unit students are introduced to the study of politics as the exercise of power by individuals, groups and nation-states. Students consider 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 are studied, as well as the operation and nature of contemporary Australian representative democracy. Students examine 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 by others is explored. Students also examine the role and influence of social and political movements as methods of organising political ideas and action. VCE Australian Politics is contemporary in focus. While the focus of this study is the twenty-first century and current events, historical events, examples and illustrations may provide students with contextual understanding and may provide unique examples of the workings of the Australian political system	This unit focuses on the contemporary international community. Students examine their place within this community through considering the debate over the existence of the 'global citizen'. In Area of Study 1 they explore the myriad ways their lives have been affected by the increased interconnectedness – the global threads – of the world through the process of globalisation. In Area of Study 2, students consider the extent to which the notion of an international community exists, and investigate 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. While these may have antecedents in issues and events before the twenty-first century that students need to understand to contextualise contemporary global situations, focus needs to be on the twenty-first century when choosing particular examples and case studies.
Unit 3: Global actor	**Unit 4: Global Challenges**
In this unit students investigate the key global actors in twenty-first century global politics. They	In this unit students investigate key global challenges facing the international community in

use contemporary evidence to analyse the key global actors and their aims, roles and power. They develop an understanding of the key actors through an in-depth examination of the concepts of national interest and power as they relate to the state, and the way in which one Asia-Pacific state uses power within the region to achieve its objectives. For the purposes of this study, the term 'non-state actors' covers a range of global actors: altruistic non-government organisations (NGOs), for example Amnesty International and Greenpeace; organised religions; terrorist movements and organised crime syndicates. This unit is concerned with contemporary issues and events. While these may have antecedents in issues and events before the twenty-first century, that students need to understand to contextualise contemporary global situations, focus needs to be on the twenty-first century when choosing particular examples and case studies.	the twenty-first century. They examine and analyse the debates surrounding two ethical issues, which are underpinned by the contested notion of global citizenship. They then evaluate the effectiveness of responses to these issues. Students also explore the context and causes of global crises, and consider the varying effectiveness of responses and challenges to solving them. This unit is concerned with contemporary issues and events. While these may have antecedents in issues and events before the twenty-first century, that students need to understand to contextualise contemporary global situations, focus needs to be on the twenty-first century when choosing particular examples and case studies.

Choose this subject if you enjoy: • Current affairs/World events • Political developments	**Learning Activities will include:** • Case studies/debates/discussion • Writing short and extended responses to case studies
Careers Global Politics provides knowledge and skills that prepare students for a range of careers, including academia, management, and government. Students may also pursue occupations in corporate and private enterprises in fields such as journalism, law, research and politics.	
Available for early access to unit 3/4? Yes	**Early Entry Requirements:** Meet general requirements for early entry to unit 3/4

History

Introduction

Studying History broadens students' understanding of the world and the human experience. The study builds a conceptual and historical framework within which students can develop an understanding of the issues of their own place and time. It helps build knowledge and skills that underpin a wide range of subjects and careers. It focuses on key writing and analytical skills, which assist students to achieve greater success in Year 12 English and other subjects. These skills will also benefit students as they move into tertiary study and the workforce. Studying History is both fascinating and challenging but at the same time is a lot of fun.

In VCE History there are various options open to you at both Units 1&2 and Units 3&4. These are broken down into two sequences.

- **Sequence One** involves Units 1&2 Global Empires followed by Units 3&4 Revolutions
- **Sequence Two** involves Units 1&2 Ancient History followed by Units 3&4 Ancient History

The content in the Units 1&2 courses provides you with foundation knowledge and understanding that will be useful in completing the Units 3&4 course.

Course content	
Units 1&2 Global Empires	**Units 1&2 Ancient History**
Global Empires examines the Early Modern Era (1400 – 1775), which was characterized by the transition from medieval feudalism to the establishment of empires and the nation-state. Unit 1 addresses the reasons for voyages of exploration mounted by European empires and the impact of these voyages on empires such as Britain and Spain. Emerging ideas and movements, which challenged traditional beliefs and institutions, such as the Scientific Revolution, Protestant Reformation and the Enlightenment are examined. In Unit 2, students investigate how and why colonies, such as those in the Americas, were established as well as the significance of new global systems of exchange, including slavery. An examination of the challenges to the colonisers through events such as early slave revolts and the Germantown Quaker Petition of 1688 is undertaken. The impact of disputes between empires is analysed through conflicts such as the Anglo-Spanish War (1585 – 1604) and the Dutch-Portuguese War (1602 – 03) Primary sources (written and visual) are used to analyse the beliefs, values and attitudes of the time period. Students compare a range of historical perspectives from people of the time period and historical interpretations to construct arguments about the time period.	Units 1 and 2 Ancient History explores the establishment of civilisations and how they developed into vast empires. In Unit 1, students explore Ancient Mesopotamia, the region between the rivers Tigris and Euphrates. They investigate the invention of agriculture and the subsequent emergence of city-states such as Ur (approx.. 3500BC). Students examine change and continuity between the First Babylonian Dynasty (1900 BC) and the Assyrian Empire, exploring emerging new cultures and the ruling elite. Unit 2 focuses on Ancient Egypt (2920BC – 1550BC) a civilization that endured for approximately three thousand years. The unit explores the significance of the old king in the Old Kingdom and addresses beliefs, values and attitudes in Ancient Egypt. The use of power and propaganda by the rulers of the Middle Kingdom is explored. Students examine archaeological artefacts, such as the tablets from the library of Assurbanipal in Nineveh, the Narmer Palette and hieroglyphs. They compare perspectives of people from the ancient past and historical interpretations to construct arguments about the time period.

Unit 3 & 4: Revolutions	Units 3&4 Ancient History
The Revolutions course provides an in-depth study of the American Revolution (1754-1789) and the Russian Revolution (1896-1927). Each unit comprises the examination of one revolution and is divided into two outcomes: Causes of Revolutions and Consequences of Revolution. Students examine the long-term causes and short-term triggers of each revolution. The ideas underpinning the development of a revolutionary situation are explored, such as the Enlightenment ideals embraced by American revolutionaries and Marxism, which characterised Russian revolutionary thought. The influence of key figures such as James Otis, Samuel Adams, Vladimir Lenin and Leon Trotsky is examined. The impact of significant events such as the Boston Tea Party and Bloody Sunday on the outbreak of revolution is analysed. Students then examine the new forms of government created and question whether revolution brought about real change for all groups in society. Primary sources (written and visual) are used to analyse both the causes and consequences of revolution. Students compare a range of historical perspectives to understand key ideas and the experiences of individuals and evaluate historical interpretations of the revolution.	Ancient History provides an in-depth study of Ancient Greece (800 – 403BC) and Ancient Rome (c.700 – 23BC). Each unit explores the structures and legacy of, as well as, a period of crisis of one civilisation. Students examine the social, political and economic features of Archaic Greece and the Roman Republic. The impact of wars such as the Persian invasions of Greece and the Punic Wars between Carthage and Rome is explored. Key developments that contributed to conflict within the societies such as the Peloponnesian Wars between Athens and Sparta are analysed. The influence of key individuals such as Lysander, Julius Caesar, Cleopatra VII and Mark Antony is examined. Students judge the historical significance of these crises and the individuals who took part in them. Students examine the archaeological sites of the Panathenaic Way in Athens and the part of Ostia near Rome. They compare perspectives of people from the ancient period and historical interpretations to construct arguments about the time period.

Choose these subject if you enjoy:

- Arguing about issues.
- Reading.
- Refining and developing your vocabulary and writing skills.
- Thinking and learning about the past.
- Questioning accepted truths.
- Finding patterns across different places and times.
- Being given the flexibility to explore ideas with the level of complexity that you feel comfortable with.

Learning Activities will include:

- Debates/ group discussion
- Illustrated maps and timelines
- Lectures and note-taking
- Short writing tasks
- Re-enactments and film-watching
- Emulating authentic cultural expressions
- Essays
- Document and Image Analysis
- Quizzes
- End of Semester exam.

Careers

VCE History is relevant to any career that requires writing coherently, thinking creatively and reading critically. As a result it is highly valued by universities and potential employers.
VCE History is also specifically relevant to those pursuing a career in law, education, public policy/government, journalism, aid and community sectors, and the arts and entertainment industry.

Available for early access to unit 3/4?
Yes

Early Entry Requirements:
Meet general requirements for early entry to unit 3/4

Legal Studies

Introduction

VCE Legal Studies investigates the ways in which the law and the legal system relate to and serve individuals and the community. This knowledge is central to understanding the workings of contemporary Australian society. Legal Studies examines the processes of law-making, dispute resolution and the administration of justice in Australia. Students develop an understanding of the impact of the legal system on the lives of citizens, and the implications of legal decisions and outcomes on Australian society. The study provides students with an appreciation of how individuals can be involved in decision-making within the legal system, encouraging civic engagement and helping them to become more informed and active citizens.

Students develop an understanding of the complexity of the law and the legal system and the challenges faced by our law-makers and dispute resolution bodies. They investigate the workings of the Australian legal system and undertake comparisons with international structures and procedures. Students develop an ability to identify, collect and process information from a range of sources and engage in its interpretation and analysis. Skills for independent inquiry, critical thinking and legal reasoning to solve legal problems are also fostered.

Course content

Unit 1: Criminal law in action	**Unit 2: Issues in civil law**
The law influences all aspects of society – at home, at work and in the wider community. Laws are used by society to preserve social cohesion, and to ensure the protection of people from harm and from the infringement of their rights. Students examine the need for laws in society. They investigate the key features of criminal law, how it is enforced and adjudicated and possible outcomes and impacts of crime. Through a consideration of contemporary cases and issues, students learn about different types of crimes and explore rights and responsibilities under criminal law and the role of Parliament as the impact of the Victorian Charter of Rights and Responsibilities on law enforcement.	The civil law regulates the rights and responsibilities that exist between individuals, groups and organisations. If legal rights have been infringed, the aggrieved party may pursue legal action through the court system, through a tribunal, or by using one of the methods of dispute resolution. They investigate types of civil laws and related cases and issues and develop an appreciation of the role of civil law in society and how it affects them as individuals. The unit also focuses on the resolution of civil disputes through judicial determination and alternative methods in courts, tribunals and independent bodies. Students examine these methods of dispute resolution and evaluate their effectiveness.
Unit 3: Law making	**Unit 4: Resolution and justice**
In this unit students develop an understanding of the institutions that determine our laws, and their law-making powers and processes. They undertake an	The legal system provides mechanisms by which legal disputes of both a criminal and a civil nature can be resolved in a fair and just manner. Dispute resolution bodies such as

informed evaluation of the effectiveness of law-making bodies and examine the need for the law to keep up to date with changes in society. Students develop an appreciation of the complex nature of law-making by investigating the key features and operation of parliament, the Constitution and the importance of the role played by the High Court of Australia in interpreting and enforcing the Constitution. They also investigate the relationships that exist between parliaments and courts. Throughout this unit, students examine relevant cases to support their learning and apply legal principles to these cases.	courts and tribunals employ a range of means and processes that enables the resolution of legal disputes. Students examine the institutions that adjudicate criminal cases and civil disputes. They also investigate methods of dispute resolution that can be used as an alternative to civil litigation. Students investigate the processes and procedures followed in courtrooms and develop an understanding of the adversary system of trial and the jury system, as well as pre-trial and post-trial procedures that operate in the Victorian legal system. They also consider reforms or changes that could further improve its effective operation.

Choose this subject if you enjoy: • Finding out more about your rights and responsibilities (life skills) • Investigating crime in society • Knowing you legal rights • Exploring how laws evolve over time • Exploring Human rights issues • Environmental issues	**Learning Activities will include:** • Unit 1 – SAC 1 (20%), SAC 2 (20%), SAC 3 (20%) and end of semester examination (40%) • Unit 2 – SAC 1(25%), SAC 2 (25%), SAC 3 (25%), SAC 4 (25%) and end of semester examination (100%) • Unit 3 – SAC 1 (25%), SAC 2 (50%), SAC3 (25%). School-assessed Coursework for Unit 3 contributes 25 per cent • Unit 4 –SAC 1 (40%), SAC 2 (60%). School-assessed Coursework for Unit 3 contributes 25 %. • External examination, worth 50 %.
Careers Lawyers (private practice, government, in-house counsel, Community Law Centers), judges, solicitors, tribunal members, police (state/federal officers), prosecutors, foreign affairs and trade (administrator, diplomat, international law advocate, Attorney-General, parliamentary counsel, para-Legal (legal researcher, legal secretary)	
Available for early access to unit 3/4? Yes	**Early Entry Requirements:** Meet general requirements for early entry to unit 3/4

Philosophy

Introduction

Philosophy is the oldest academic discipline. It is broadly concerned with ethics, epistemology (philosophy of knowledge) and metaphysics. It is the founding discipline of logic, and continues to develop and refine the tools of critical reasoning, influencing approaches in mathematics, science and the humanities. Philosophers grapple with the most profound questions, such as: What is the nature of reality? Is it possible to attain certainty about anything? Is there a common human nature? What is it to live a good life? Philosophy is thus not only concerned with issues of public debate such as artificial intelligence, justification for a charter of human rights or censorship of speech or art, but with the problems that lie at their foundation. Philosophers are concerned with thinking rigorously and rationally about ideas, and exploring their meaning, context, coherence and implications.

VCE Philosophy explores some of the most enduring and influential ideas that underpin some of society's greatest achievements in ethics, science and the arts. This, together with learning to think critically and with an open mind, fosters the reflection necessary for deep insights and ethical decision making at all levels of society. Doing philosophy is about developing the ability to clarify concepts, analyse problems and construct reasonable, coherent arguments. Philosophy is intellectually challenging.

Course content

Unit 1: Existence, knowledge and reasoning	**Unit 2: Questions of value**
What is the nature of reality? How can we acquire certain knowledge? These are some of the questions that have challenged humans for millennia and underpin ongoing endeavours in areas as diverse as science, justice and the arts. This unit engages students with fundamental philosophical questions through active, guided investigation and critical discussion of two key areas of philosophy: epistemology and metaphysics. The emphasis is on philosophical inquiry – 'doing philosophy' – and hence the study and practice of techniques of logic are central to this unit. As students learn to think philosophically, appropriate examples of philosophical viewpoints and arguments, both contemporary and historical, are used to support, stimulate and enhance their thinking about central concepts and problems. Students investigate relevant debates in applied epistemology and metaphysics, and consider whether the philosophical bases of these debates continue to have relevance in	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? This unit invites students to explore these questions in relation to different categories of value judgment within the realms of morality, political and social philosophy and aesthetics. Students also explore ways in which viewpoints and arguments in value theory can inform and be informed by contemporary debates.

contemporary society and our everyday lives.	
Unit 3: Minds, bodies and persons	**Unit 4: The good life**
This unit considers 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? Students 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.	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? In this unit, students explore texts by both ancient and modern philosophers that 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 ancient and modern periods to their own views on how we should live, and use their understandings to inform their analysis of contemporary debates. Students develop and justify responses to debates on consumerism, technology and our obligations to others in relation to the good life.

Choose this subject if you enjoy: • Analysing problems • Constructing reasoned and coherent arguments • Reflecting critically on your own thinking • Learning to think differently • Considering the 'big questions' • Intellectual rigour	**Learning Activities will include:** • Reading primary texts • Discussions and debates • Socratic dialogue • Writing analytical and reflective essays • Independent thinking and reasoning

Careers

The ability to think philosophically is highly regarded in careers where conceptual analysis, strategic thinking, insightful questioning and carefully reasoned arguments are needed. The key knowledge and skills fostered by philosophy also provide excellent preparation for any future career, whether in science or law, business or the arts. Experts in any field will inevitably confront philosophical questions.

Available for early access to unit 3/4? No	**Early Entry Requirements:** NA

Chinese

Introduction

The study of a language other than English contributes to the overall education of students, most particularly in the area of communication, but also in the areas of cross-cultural understanding, intercultural learning, cognitive development, literacy and general knowledge. It provides access to the culture of communities which use the language and promotes understanding of different attitudes and values within the wider Australian community and beyond.

Eligibility Criteria

1. **Chinese Second Language**

A student is NOT eligible for Chinese Second Language if they have had either:

- 12 months or more education in a school where Chinese is the medium of instruction, or
- 3 years (36 months) or more residence in any of the VCAA nominated countries or regions.

The nominated countries and regions are China, Taiwan, Hong Kong or Macau.

2. **Chinese Second Language Advanced**

A student is eligible for Chinese Second Language Advanced if:

- they have had no more than 7 years of education in a school where Chinese is the medium of instruction
- the highest level of education attained in a school where Chinese is the medium of instruction is no greater than the equivalent of Year 7 in a Victorian school.

The time periods referred to in these criteria will be counted cumulatively since the time of the student's birth. As the formal education commencement age for a Victorian student is 5 years of age, then all applicants will be deemed to have commenced formal education by the end of their 5th year of age, regardless of the setting.

Course content

Unit 1:	**Unit 2:**
On completion of this unit the student must be able to establish and maintain a spoken or written exchange related to personal areas of experience, to listen to, read and obtain information from spoken and written texts and translate from characters into English, and to produce a personal response to a text focusing on real or imaginary experience.	On completion of this unit the student must be able to participate in a spoken or written exchange related to making arrangements and completing transactions, to listen to, read, and extract and use information and ideas from spoken and written texts, and to give expression to real or imaginary experience in spoken or written form.
Unit 3	**Unit 4:**
On completion of this unit the student must be able to express ideas through the production of original texts, to analyse and use information from spoken texts, and to exchange information, opinions and experiences.	On completion of this unit the student must be able to analyse and use information from written texts and translate part of the text(s) into English, and to respond critically to spoken and written texts which reflect aspects of the language and culture of Chinese-speaking communities.

Choose this subject if you enjoy :	**Learning Activities will include:**
• Developing your linguistic skills • Learning and exploring the Chinese culture - politics, history, arts, music, film and literature and gaining a better understanding of the relationship between Australia and Chinese speaking communities • Travelling overseas and meeting new people and experiencing new cultures • Improving your communication skills through negotiating meaning, comprehending and composing in Chinese • Increasing career opportunities by working internationally or for an international company • Being interested in and learning about how the language works and comparing this with English • Communicating, interacting and negotiating within and across languages and cultures • Understanding our own and others' languages (and extending our insight into how our native language works) • Developing cognitive skills through analytical thinking, solving problems, and making connections in learning.	• Discussing popular activities for holidays, comparing class views • Searching the Internet for job advertisements and deciding whether you have the qualities for these jobs; and making short notes listing your qualities • Listening to a radio broadcast advertising two travel packages and completing a chart comparing the costs, places visited and particular benefits of each package • Planning and organising information and notes before writing a short article on the value of sports and health exercises • Participating in a role-play which involves arranging to see a Chinese film • Researching the types of Chinese foods available in restaurants in Australia and comparing them with popular dishes in China; noting your findings on a chart • Analysing grammar and completing exercises • Learning vocabulary, sentence structures and expressions through Language Perfect

Careers

The ability to communicate in another language, in conjunction with other skills, may provide opportunities for employment in the fields of interpreting, foreign affairs, social services, international laws/finance, international relations, diplomacy, the arts, commerce, technology, science, journalism, education, the tourism and hospitality industries etc.

Available for Early Access to unit 3/4? **Yes- For students who have undertaken unit 1/2 Externally**	**Early Entry Requirements:** Meet general requirements for Early Access to unit 3/4 Previous completion of unit 1/2

French

Introduction

The study of a language other than English contributes to the overall education of students, most particularly in the area of communication, but also in the areas of cross-cultural understanding, intercultural learning, cognitive development, literacy and general knowledge. It provides access to the culture of communities which use the language and promotes understanding of different attitudes and values within the wider Australian community and beyond. The study of French develops students' ability to understand and use a language which is widely learned internationally, and which is an official language of many world organisations and international events. The ability to use and understand French also provides students with a direct means of access to the rich and varied culture of francophone communities around the world.

Course content

Unit 1:	**Unit 2:**
On completion of this unit the student must be able to establish and maintain a spoken or written exchange related to personal areas of experience, to listen to, read and obtain information from spoken and written texts and translate from French into English, and to produce a personal response to a text focusing on real or imaginary experience.	On completion of this unit the student must be able to participate in a spoken or written exchange related to making arrangements and completing transactions, to listen to, read, and extract and use information and ideas from spoken and written texts, and to give expression to real or imaginary experience in spoken or written form.
Unit 3	**Unit 4:**
On completion of this unit the student must be able to express ideas through the production of original texts, to analyze and use information from spoken texts, and to exchange information, opinions and experiences. Students also learn to explore and compare aspects of the language and culture of the French-speaking community through a range of oral and written texts in French and develop knowledge and understanding of historical or contemporary aspects of French culture and society.	On completion of this unit the student must be able to analyze and use information from written texts and translate part of the text(s) into English, and to respond critically to spoken and written texts which reflect aspects of the language and culture of French-speaking communities. Students also learn to explore and compare aspects of the language and culture through a range of oral and written texts in French and develop knowledge and understanding of historical or contemporary aspects of French culture and society.

Choose this subject if you enjoy:	**Learning Activities will include:**
• Developing your linguistic skills • Learning and exploring the French culture - politics, history, arts, music, film and literature and gaining a better understanding of the relationship between Australia and French speaking communities • Travelling overseas and meeting new people and experiencing new cultures	• Participating in a conversation with a friend about daily life • Writing a letter or email to your pen friend telling of your family, your school and your daily routine • talking about holiday packages and filling in a summary sheet for friends • Planning an online itinerary for a holiday in Europe and plotting places on a map

• Improving your communication skills through negotiating meaning, comprehending and composing in French • Increasing career opportunities by working internationally or for an international company • Being interested in and learning about how the language works and comparing this with English • Communicating, interacting and negotiating within and across languages and cultures • Understanding our own and others' languages (and extending our insight into how our native language works) • Developing cognitive skills through analytical thinking, solving problems, and making connections in learning.	• Researching the career of your choice on the Internet and presenting this as a two-minute oral presentation to the class • Listening to a song and completing a cloze exercise • Searching the Internet for information about a famous French actor and preparing questions for an interview with him or her • Researching two Internet sites on pollution (land, sea, air) and summarising • Interviewing an adult on their views about the advantages/disadvantages of working in the city • Using an online site, completing some grammatical exercises on prepositions with the definite article/partitive article; next, complete *Si* clause exercises • Using Language Perfect to improve knowledge of vocabulary and sentence structures

Careers

The ability to communicate in another language, in conjunction with other skills, may provide opportunities for employment in the fields of interpreting, foreign affairs, social services, international law/finance, international relations, diplomacy, the arts, commerce, technology, science, journalism, education, the tourism and hospitality industries etc.

Available for Early Access to unit 3/4? **Yes- For students who have undertaken unit 1/2 Externally**	**Early Entry Requirements:** Meet general requirements for Early Access to unit 3/4 Previous completion of unit 1/2

Food and Technology

Introduction

VCE Food and Technology focuses on the importance of food in our daily lives from both a theoretical and practical point of view. The study enables students to apply their theoretical understanding of the relationship between food and technology as they develop skills in food preparation.

The food sector is dynamic, diverse and creative. Innovative food products are continually being introduced into the marketplace in response to changing social and consumer demands. Contemporary society is aware of the links between food, food processing, nutrition, health and well-being. The issues associated with these have become a high priority for consumers. VCE Food and Technology challenges students to make these links and provides them with the opportunities to acquire knowledge and skills to make informed choices when selecting, storing, purchasing, preparing and consuming foods that will contribute to a healthy lifestyle. Students also consider the importance of environmental issues and sustainability practices in food production, as well as the important role of technology in food product development and the way food is produced, processed, packaged and marketed.

Through this study students develop knowledge of the physical, chemical, sensory and functional properties of food and are able to apply this knowledge when using food in a practical situation. They develop and apply the knowledge and skills to prepare food safely and hygienically. Students use the design process, critical thinking and problem-solving skills to develop food products to suit specific situations or to meet the needs of individual consumers and their lifestyles. In this process, they also develop independent and cooperative learning skills.

The study may provide a foundation for pathways to food science and technology, consumer science, home economics, child care and education, community services and aged care, the hospitality and food manufacturing industries, and nutrition and health studies.

Course content

Unit 1: Food safety and properties of food	**Unit 2: Planning and preparation of food**
In this unit students study safe and hygienic food handling and storage practices to prevent food spoilage and food poisoning, and apply these practices in the preparation of food. They consider food preparation practices suitable for use in a small-scale food operation, such as in the home, a school setting or in a small food business. Students consider the selection and use of a range of tools and equipment suitable for use in food preparation. Students examine the links between classification of foods and their properties, and examine changes in properties of food when different preparation and processing techniques are used. Students apply this knowledge when preparing food. They investigate quality and ethical considerations in food selection. Students use the design process to meet the requirements of design briefs to maximise the qualities of key foods.	In this unit students investigate the most appropriate tools and equipment to produce optimum results, including the latest developments in food technology. Students research, analyse and apply the most suitable food preparation, processing and cooking techniques to optimise the physical, sensory and chemical properties of food. Students work both independently and as members of a team to research and implement solutions to a design brief. They use the design process to respond to challenges of preparing food safely and hygienically for a range of contexts and consumers, taking into account nutritional considerations, social and cultural influences, and resource access and availability. Students also explore environmental considerations when planning and preparing meals.
Unit 3: Food preparation, processing and food controls	**Unit 4: Food product development and emerging trends**

In this unit students develop an understanding of food safety in Australia and the relevant national, state and local authorities and their regulations, including the Hazard Analysis and Critical Control Points (HACCP) system. They investigate the causes of food spoilage and food poisoning and apply safe work practices while preparing food. Students demonstrate understanding of key foods, analyse the functions of the natural components of key foods and apply this information in the preparation of foods. They investigate cooking techniques and justify the use of the techniques they select when preparing key foods. Students develop an understanding of the primary and secondary processes that are applied to key foods, including food processing techniques to prevent spoilage. They also preserve food using these techniques. Students devise a design brief from which they develop a detailed design plan. Evaluation criteria are developed from the design brief specifications. In preparing their design plan, students conduct research and incorporate their knowledge about key foods, properties of food, tools, equipment, safety and hygiene, preparation, cooking and preservation techniques. They make decisions related to the specifications of the brief. In developing the design plan, students establish an overall production timeline to complete the set of food items (the product) to meet the requirements of the brief for implementation in Unit 4.	In this unit students develop individual production plans for the proposed four to six food items and implement the design plan they established in Unit 3. In completing this task, students apply safe and hygienic work practices using a range of preparation and production processes, including some which are complex. They use appropriate tools and equipment and evaluate their planning, processes and product. Students examine food product development, and research and analyse driving forces that have contributed to product development. They investigate issues underpinning the emerging trends in product development, including social pressures, consumer demand, technological developments, and environmental considerations. Students also investigate food packaging, packaging systems and marketing.

Choose this subject if you enjoy: • Creating edible food products • Working in both a team environment and individually • Working under time constraints • Building useful life skills	**Learning Activities will include:** • Design briefs • Evaluations of food product • Sensory analysis • Methods of cookery

Careers

Food scientist, chef, tourism, food safety language, department of health, hospitality, cheese maker, food stylist, food critic, food journalist, food photographer, food promotions, food merchandising, advertising, home economics teacher, food production and design, wine making, Food product, Catering, Agricultural, Food broker.

Available for Early Access to unit 3/4? **Yes**	**Early Entry Requirements:** Meet general requirements for Early Access to unit 3/4 Completed one semester of Year 10 Food and Technology

Computing

Introduction

VCE Computing (previously called Information Technology) is about creating digital solutions that meet specific needs. Students learn about the components of an information system – people, processes, data, hardware, software and networks. They develop skills in applying new ways of thinking as well as technical and social protocols.

The rapid pace of developments in digital systems, and the increasing availability of digitised data and information are having major influences on many aspects of society and the economy. This study equips students with the knowledge and skills to be discerning users of digital systems, data and information and creators of solutions.

An important component of the study is the opportunity for students to develop social capital, that is, the shared understanding in social networks that enable cooperation and a cooperative approach to problem solving.

VCE Computing supports students to participate in a globalised society and economy as they learn how to exploit the capabilities of digital systems and manage risks when communicating and collaborating with others locally and globally. The study provides students with practical opportunities to create digital solutions for real-world problems in a range of settings, developing an essential tool set for current and future learning, work and social endeavours.

Course content

Unit 1: Computing	**Unit 2: Computing**
In this unit students focus on how data, information and networked digital systems can be used to meet a range of users' current and future needs. In Area of Study 1 students collect primary data when investigating an issue, practice or event and create a digital solution that graphically presents the findings of the investigation. In Area of Study 2 students examine the technical underpinnings of wireless and mobile networks, and security controls to protect stored and transmitted data. They design a network solution that meets an identified need or opportunity, and they predict the impact on users if the network solution were implemented. In Area of Study 3 students acquire and apply their knowledge of information architecture and user interfaces, together with web authoring skills, collaborating to create websites to present different viewpoints on contemporary issues.	In this unit students focus on applying computational, design and systems thinking skills to create solutions that automate the processing of data. In Area of Study 1 students develop their computational thinking skills when using a programming or scripting language to create solutions. They learn to use an object-oriented programming language to create working software modules. In Area of Study 2 students develop a sound understanding of 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. In Area of Study 3 students apply all stages of the problem-solving methodology to create a solution using database

	management software and explain how they are personally affected by their interactions with a database system.
Unit 3: Software Development	**Unit 4: Software Development**
In this unit students develop a detailed understanding of the analysis, design and development stages of the problem-solving methodology and use a programming language to create working software modules. In Area of Study 1 students examine a range of software design representations and interpret these when coding, testing and documenting their own modules using some of the features of the programming language. Each module allows the testing of the program logic in readiness for creating a complete solution later. In Area of Study 2 students analyse a real-world need or opportunity identified by them. The analysis is stated in terms of solution requirements, constraints and scope (analysis stage of problem-solving methodology) and presented as a formal Software Requirements Specification. This is the first part of a project, with the second part undertaken in Unit 4.	In this unit students focus on how the information needs of individuals and organisations are met through the creation of software solutions used in a networked environment. They continue to study the programming language used in Unit 3. In Area of Study 1 students further their computational thinking skills by transforming their detailed design prepared in Unit 3 into a software solution. They evaluate the efficiency and effectiveness of the solution in meeting needs or opportunities. They also assess the effectiveness of the project plan in monitoring project progress. In Area of Study 2 students apply systems thinking skills when explaining the relationship between two information systems that share data and how that dependency affects the performance of the systems.

Choose this subject if you enjoy: • Learning to write programs or apps • Interacting with software	**Learning Activities will include:** • Analysing digital systems • Creating programs that can meet people's needs
Careers VCE Computing provides pathways to further studies and careers in Information Technology-based areas. It also prepares students for programs that require an IT-related subject or for a range of careers that require digital technology skills.	
Available for Early Access to unit 3/4? **Yes**	**Early Entry Requirements:** Meet general requirements for Early Access to unit 3/4

Media

Introduction

VCE Media examines media products as the expression of creative ideas, specific symbolic languages and discourses of society and culture that shape meaning and reflect the society in which they were created. This study explores a variety of media forms, including audio, audiovisual, print-based, digital and interactive media technologies and convergent media processes. Students examine and analyse the relationships between audiences and the media; this analysis is undertaken through a theoretical and practical study that places the student in the role of a media creator.

VCE Media provides students with the opportunity to analyse media products and concepts in an informed and critical way. Students consider media texts, technologies and processes from various perspectives, including an analysis of structure and features. They examine industry production and distribution context, audience reception and the media's contribution to and impact on society. This aspect of the study is integrated with the individual and collaborative design and production of media representations and products. VCE Media supports students to develop and refine their analytical, critical and creative thinking and expression. Students strengthen their communication skills and technical knowledge.

Course content

Unit 1: Representation and technologies of representation	**Unit 2: Media Production and the media industry**
In this unit students develop an understanding of the relationship between the media, technology and the representations present in media forms. They study the relationships between media technologies, audiences and society. Students develop practical and analytical skills, including an understanding of the contribution of codes and conventions to the creation of meaning in media products, the role and significance of selection processes in their construction, the role audiences play in constructing meaning from media representations, and the creative and cultural impact of new media technologies.	In this unit students develop their understanding of the specialist production stages and roles within the collaborative organisation of media production. Students participate in specific stages of a media production, developing practical skills in their designated role. Students also develop an understanding of media industry issues and developments relating to production stages and roles and the broader framework within which Australian media organisations operate.
Unit 3: Narrative and media production design	**Unit 4: Media: process, influence and society's values**
In this unit students develop an understanding of film, television or radio drama production and story elements, and learn to recognise the role and significance of narrative organisation in fictional film, television or radio drama texts. Students examine how production and story elements work together to structure meaning	In this unit, students further develop practical skills in the production of media products to realise the production design plan completed during Unit 3. Organisational and creative skills are refined and applied throughout each stage of the production process. Students analyse the relationship between media texts, social

in narratives to engage audiences. Students also develop practical skills through undertaking exercises related to aspects of the design and production process. They complete a media production design plan for a specific media form and audience. They 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.	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.

Choose this subject if you enjoy: • Film study • Photography • Advertising • Creativity • ICT • Art	**Learning Activities will include:** • Analysis Tasks: film, television and print media • Research Tasks • Practical applications • Product design, creation and evaluation
Careers • Advertising • Film production • Photography • Journalism • Critic • Digital design • Marketing	
Available for Early Access to unit 3/4? **Yes**	**Early Entry Requirements:** Meet general requirements for Early Access to unit 3/4

Music Performance

Introduction

VCE Music offers students opportunities to engage in the practice of performing, creating and studying music that is representative of diverse genres, styles and cultures. Students develop knowledge of stylistic, aesthetic and expressive qualities and characteristics of music and develop their ability to communicate their understanding through music making: performing, composing, arranging and/or improvising; and musicianship: aural perception, analysis and music language.

Course content

Unit 1	**Unit 2**
This unit focuses on building performance and musicianship skills. Students present performances of selected group and solo music works using one or more instruments. They study the work of other performers and explore strategies to optimise their own approach to performance. They identify technical, expressive and stylistic challenges relevant to works they are preparing for performance and practise technical work to address these challenges. They also develop skills in performing previously unseen music. Students study aural, theory and analysis concepts to develop their musicianship skills and apply this knowledge when preparing and presenting performances.	In this unit students build their performance and musicianship skills. They present performances of selected group and solo music works using one or more instruments. Students study the work of other performers through listening and analysis and use specific strategies to optimise their own approach to performance. They also study strategies for developing technical and expressive performance skills. They identify technical, expressive and stylistic challenges relevant to works they are preparing for performance and practise related technical work. They develop skills in performing previously unseen music and study specific concepts to build their musicianship knowledge and skills. Students also devise an original composition or improvisation.
Unit 3	**Unit 4**
This unit prepares students to present convincing performances of group and solo works. In this unit students select a program of group and solo works representing a range of styles and diversity of character for performance. They develop instrumental techniques that enable them to interpret the works and expressively shape their performances. They also develop an understanding of performance conventions they can use to enhance their performances. Students develop skills in unprepared performance, aural perception and comprehension, transcription, music theory and analysis. The focus for analysis in Area of Study 3 is works and performances by Australian musicians.	In this unit students refine their ability to present convincing performances of group and solo works. Students select group and solo works that complement works selected in Unit 3. They further develop and refine instrumental and performance techniques that enable them to expressively shape their performance and communicate their understanding of the music style of each work. Students continue to develop skills in aural perception and comprehension, transcription, theory, analysis and unprepared performance. Students continue to study ways in which Australian performers interpret works that have been created since 1910 by Australian composers/songwriters.

Choose this subject if you enjoy: • Performing • Listening to Music • Playing in a band	**Learning Activities will include:** • Group and Solo Performance • Technical Work • Composition • Analysis
Careers • Musician • Composer • Producer • Music Therapist • Teacher	
Available for Early Access to unit 3/4? No	**Early Entry Requirements:** N/A

Studio Arts

Introduction

VCE Studio Arts encourages and supports students to recognise their individual potential as art makers and presents a guided process to assist their understanding and development of art-making. Students develop an understanding of how to source artistic inspiration related to their individual interests and explore a wide variety of materials and techniques for use in the development of their own creative artworks. The study establishes effective art practices through the application of an individual design process to assist the student's production of a folio of artworks.

The theoretical component of this study is an important basis for studio practice as it offers students a model for inquiry that can support their art-making practices. Students' research focuses on the visual analysis of artworks and investigates how artists have interpreted sources of inspiration and influences in their art-making. Students examine how artists have used materials, techniques and processes to create aesthetic qualities, develop individual styles and explore their cultural identity in their artwork. Students use this knowledge to inform their own processes to support their art-making.

Course content

Unit 1: Artistic information and techniques	**Unit 2: Design exploration and concepts**
This unit focuses on using sources of inspiration and individual ideas as the basis for developing artworks and exploring a wide range of materials and techniques as tools for communicating ideas, observations and experiences through art-making. Students also explore and research the ways in which artists from different times and cultures have interpreted and expressed ideas, sourced inspiration and used materials and techniques in the production of artworks.	This unit focuses on students establishing and using a design process to produce artworks. The design process includes the formulation and use of an individual approach to locating sources of inspiration, experimentation with materials and techniques, and the development of aesthetic qualities, directions and solutions prior to the production of artworks. Students also develop skills in the visual analysis of artworks. Artworks made by artists from different times and cultures are analysed to understand the artists' ideas and how they have created aesthetic qualities and identifiable styles.
Unit 3: Studio production and professional art practices	**Unit 4: Studio production and art industry contexts**
This unit focuses on the implementation of an individual design process leading to the production of a range of potential directions and solutions. Students develop and use an exploration proposal to define an area of creative exploration. They plan and apply a design 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 design process to support the making of finished artworks in Unit 4. For this study, the exploration proposal supports the student to identify a direction for their design process. The design process is	This unit focuses on the production of a cohesive folio of finished artworks. To support the creation of the folio, students present visual and written documentation explaining how selected potential directions generated in Unit 3 were used to produce the cohesive folio of finished artworks. These artworks must reflect the skilful application of materials and techniques, and the resolution of ideas and aesthetic qualities. 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,

individually determined by the student. It records trialling, experimenting, analysing and evaluating the extent to which their art practices successfully communicate their aims and ideas. From this process students can develop directions for the development of finished artworks in Unit 4. The study of artists and their work practices and processes may provide inspiration for students' own approaches to art-making. Students investigate and analyse the response of artists to a wide range of stimuli, and examine their use of materials and techniques. They explore professional art practices of artists in relation to particular artworks and art form/s and identify the development of styles in artworks. Throughout their study of art processes, students also consider the issues that may arise from the use of other artists' work in the making of new artworks. Students are expected to visit at least two different exhibition spaces in their current year of study.	presentation and conservation of artworks. Students examine a range of environments for the presentation of artworks exhibited in contemporary settings. Students are expected to visit at least two different exhibition spaces in their current year of study.

Choose this subject if you enjoy:

- Being creative
- Working in a tactile/hands on manner
- Exploring and developing individual ideas
- Discovering, experimenting with and exploring new materials and techniques
- Expressing your ideas and communicating to others in a visual form
- Learning about the aims, ideas and techniques used by artists throughout history

Learning Activities will include:

- Development of a Design Process which includes:
  -Exploration of images and ideas
  -Experimentation and exploration of a variety of media and techniques in a range of artforms which may include drawing, painting, printmaking and ceramics
  -Evaluation of their processes, aesthetic qualities and potential directions
- Folio development
- Research and analysis of individual artists and art styles
- Investigation into the art industry

Careers

Animator, Artist, Art Conservator, Art Critic, Art Restorer, Art Historian, Architect, Architectural Draughtsperson, Cartoonist, Costume Designer/Maker, Curator (Gallery /Museum), Fashion/Graphic/Interior/Industrial Designer, Jeweller, Gallery Director, Milliner, Photographer, Printmaker, Sculptor, Set Designer, Teacher, Textile Designer, Visual Merchandising

Available for Early Access to unit 3/4?
No

Early Entry Requirements:
N/A

Systems engineering

Introduction

VCE Systems Engineering involves the design, creation, operation and evaluation of integrated systems, which mediate and control many aspects of human experience. Integral to Systems Engineering is the identification and quantification of systems goals, the development of alternative system designs concepts, trial and error, design trade-offs, selection and implementation of the best design, testing and verifying that the system is well built and integrated, and evaluating how well the completed system meets the intended goals.

This study can be applied to a diverse range of engineering fields such as manufacturing, land, water, air and space transportation, automation, control technologies, mechanisms and mechatronics, electrotechnology, robotics, pneumatics, hydraulics, and energy management. Systems Engineering considers the interactions of these systems with society and natural ecosystems. The rate and scale of human impact on the global ecology and environment demands that systems design and engineering take a holistic approach by considering the overall sustainability of the systems throughout their life cycle. Key engineering goals include using a project management approach to attain efficiency and optimisation of systems through innovation. Lean engineering and lean manufacturing concepts and systems thinking are integral to this study.

Course content

Unit 1: Introduction to mechanical systems	Unit 2: Introduction to electrotechnology systems
This unit focuses on 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. Through research, students explore and quantify how systems use or convert the energy supplied to them. In this unit, students are introduced to the Systems Engineering Process. They are introduced to 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.	In this unit, students study 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. In addition, students 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. Students study 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 will provide a tangible demonstration of some of the theoretical principles studied in this unit.
Unit 3: Integrated systems engineering and technology	**Unit 4: Systems control and new and emerging technologies**
In this unit students study the engineering principles that are used to explain the physical properties of integrated systems and how they work. Through the application of their knowledge, students design and plan an operational, mechanical-electrotechnology integrated and controlled system. They learn about the technologies used to harness energy sources to provide power for engineered systems. Students commence work on the design, planning and construction of one substantial controlled integrated system. This project has a strong emphasis on designing, manufacturing, testing and innovation. Students manage the project throughout the Systems Engineering Process, taking into consideration the factors that will influence the design, planning, production and use of their integrated system. The systems engineering principles underpin students' understanding of the fundamental physics and applied mathematics needed to provide a comprehensive understanding of mechanical and electrotech systems and how they function. Students learn about sources and types of energy that enable engineered technological systems to function. Comparisons are made between the impacts of the use of renewable and non-renewable energy sources. Students learn about the technological systems developed to capture and store renewable energy and technological developments to improve the credentials of non-renewables.	In this unit students complete the production work and test and evaluate the integrated controlled system they designed in Unit 3. Students investigate new and emerging technologies, consider reasons for their development and analyse their impacts. Students use their investigations, design and planning to continue the fabrication of their mechanical-electrotechnology integrated and controlled system using the Systems Engineering Process. They use project and risk management methods through the construction of the system and use a range of materials, tools, equipment, and components. In the final stages of the Systems Engineering Process, students test, diagnose and analyse the performance of the system. They evaluate their processes and the system. Students expand their knowledge of new and emerging developments and innovations through their investigation and analysis of a range of engineered systems. They analyse a specific new or emerging innovation, including its impacts.

Choose this subject if you enjoy: • Tinkering with machines • Tinkering with electronics	**Learning Activities will include:** • Construction of small machines • Programming of interactive mechanical devices

Careers

Robotics engineer	Aerospace engineer
Electronics technician	Automotive engineer
Mechatronics specialist	Civil engineer
Mechanical engineer	Electrical engineer

Available for Early Access to unit 3/4? **Yes**	**Early Entry Requirements:** Meet general requirements for Early Access to unit 3/4

Visual Communication and Design

Introduction

In the fields of architecture, engineering, graphic, industrial and multimedia design, advertising and marketing, cartography and fashion, visual communicators use text and/or image to communicate information. Students examine the way visual language can be used to convey ideas, information and messages in the fields of communication, environmental and industrial design. Designers create and communicate through visual means to shape the everyday quality of life for individuals, communities and societies. Visual communication design relies on drawing as the primary component of visual language to support the conception and visualisation of ideas. Consequently, the study emphasises the importance of developing a variety of drawing skills to visualise thinking.

Students employ a design process to generate and develop visual communications. The design process provides a structure to organise design thinking and is shaped by considerations of aesthetics and functionality, as well as social, environmental and economic factors. Students develop the skills to manipulate and organise design elements, design principles, selected media, materials and production methods when creating visual communications. Creative, critical and reflective thinking (design thinking) supports students to progress through and focus on the design process. Throughout the study students explore manual and digital methods to develop and refine presentations.

Course content

Unit 1: Introduction to visual communication design	**Unit 2: Applications of visual communication design**
The main purpose of this unit is to enable students to develop an understanding of instrumental drawing methods and freehand drawing including drawing from direct observation. The unit involves the study of a range of drawing methods, including relevant Australian Standards conventions. Students develop practical skills in the application of appropriate drawing methods, design elements and principles, and information and communications technology. The unit also introduces students to the diversity of visual communication and the role of the design process in visual communication production.	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. Students use 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. They investigate how typography and imagery are used in visual communication design. They 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.
Unit 3: Design thinking and practice	**Unit 4: Design development and presentation**
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. 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. They 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 their own design ideas and concepts.	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. 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. They utilise a range of digital and manual two- and three-dimensional methods, media and materials. They investigate how the application of design elements and design principles creates different communication messages with their target audience.

Design from a variety of historical and contemporary design fields is considered by students to provide directions, themes or starting points for investigation and inspiration for their own work. Students use observational and visualisation drawings to generate a wide range of design ideas and apply design thinking strategies to organise and evaluate their ideas. The brief and investigation work underpin the developmental and refinement work undertaken in Unit 4.	As students revisit stages to undertake further research or idea generation when developing and presenting their design solutions, they develop an understanding of the iterative nature of the design process. Ongoing reflection and evaluation of design solutions against the brief assists students with keeping their endeavours focused. Students refine and present two visual communications within the parameters of the brief. They reflect on the design process and the design decisions they took in the realisation of their ideas. They evaluate their visual communications and devise a pitch to communicate their design thinking and decision making to the client.

Choose this subject if you enjoy:

- Developing inventive ideas and imaginative solutions to problems.
- Visually explaining ideas.
- Illustrating using manual drawing methods or digital media.
- Expressing your own identity and style visually.
- Practical hands on subjects.
- Analysing designs and observing different design trends.
- Thinking creatively about how you can change the environment you live in.
- The creation of 2D designs and 3D models.

Learning Activities will include:

- Production of Folio work exploring a variety of design tasks. Including Communication Design (eg. Logo design, Poster design, Advertising design and Packaging design), Industrial Design (eg. Product design, Fashion design or Furniture design) and Environmental Design (eg. Interior Design, Landscape Design and Architectural Design)
- Investigation and written analysis of Visual Communication Designs.
- Written and conceptual responses to the historical and contemporary design movements.
- Evaluation and evidence of experimentation with the design process applied in professional practice.

Careers

Communication Design

- Graphic Design
- Web Design
- Advertising Design
- Multimedia Design
- Animation
- Digital Artist
- Digital Media Design
- Illustration
- Creative Direction
- Design Director
- Packaging Design
- Motion Design

Environmental Design

- Architecture
- Architectural Draftsman
- Interior Design
- Interior Decoration
- Landscape Architecture
- Landscape Architectural Draftsman
- Set Design

Industrial Design

- Engineering Design
- Industrial/ Product Design
- Furniture Design
- Fashion Design

Available for Early Access to unit 3/4?
No

Early Entry Requirements:
N/A

Health and Human Development

Introduction

Through the study of VCE Health and Human Development, students investigate health and human development in local, Australian and global communities.

The VCE Health and Human Development study approaches the concept of 'development' as a continuum that begins with individual human development in Units 1 and 2 and progresses towards human development at a societal level in Unit 4. The study of Health and Human Development is based on the premise that health and human development needs to be promoted at an individual level, and within group and community settings at national and international levels, to maximise global development potential. This underpins the structure of the four units of Health and Human Development. The study also promotes the understanding that nutrition plays a major role in influencing both health status and individual human development.

Course content

Unit 1: The health and development of Australia's youth	**Unit 2: individual human health and development issues**
In this unit students are introduced to the concepts of health and individual human development. The World Health Organization (WHO) defines health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (World Health Organization, 1946). The WHO's definition is still widely used today, despite the identification of a number of limitations. In this unit students identify issues that impact on the health and individual human development of Australia's youth. Students investigate one health issue in detail and analyse personal, community and government strategies or programs that affect youth health and individual human development.	Individual human development is perceived as involving a series of orderly and predictable changes, which can be classified as physical, social, emotional and intellectual. Over the lifespan, individuals accumulate life experiences that affect both their health and individual human development. This unit focuses on the lifespan stages of childhood and adulthood. The study of health is constantly changing with many emerging issues that have impacts on Australia's health and development. An ageing population, new advances in technology, use of alternative health services, the impact of environmental change and acknowledgement of human rights and ethics are all issues that governments and communities need to consider in planning for the future of the health system.
Unit 3: Australia's Health	**Unit 4: Global Challenges**
Australians generally enjoy good health and are among the healthiest people in the world when compared to other developed countries. 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. Regardless of how	This unit takes a global perspective on achieving sustainable improvements in health and human development. In the context of this unit human development is about creating an environment in which people can develop to their full potential and lead productive, creative lives in accord with their needs and interests. It is about expanding people's choices and enhancing capabilities (the range of things people can be and do), having access to knowledge, health and a decent standard of living, and participating in the life of their community and decisions affecting their lives (adapted from the United Nations Development Programme, 1990). 'Sustainability refers to meeting the needs of the present without

health is measured, health is not shared equally by all Australians. Different levels of health are experienced by different groups, which can be attributed to biological, behavioural and social determinants of health.	compromising the ability of future generations to meet their own needs' (United Nations, 1992).

Choose this subject if you enjoy: • Exploring the health issues facing Australia's youth • Analysing and using data to explain trends on the impact of health on the individual and society.	**Learning Activities will include:** • Research tasks, • Group and individual work, • Presentations.
Careers Human Health and Development provides knowledge and skills that prepare students for a range of careers, including health education, health and physical education teacher, physiotherapist, sports coach, sports psychologist, sports nutritionist, personal trainer, sports development officer and much more.	
Available for Early Access to unit 3/4? Yes	**Early Entry Requirements:** Meet general requirements for Early Access to unit 3/4 Above the expected level in Health and Physical Education subjects

Physical Education

Introduction

VCE Physical Education examines the biological, physiological, psychological, social and cultural influences on performance and participation in physical activity. It focuses on the interrelationship between motor learning and psychological, biomechanical, physiological and sociological factors that influence physical performances, and participation in physical activity. The study of physical activity and sedentary behaviour is significant for the understanding of health, wellbeing and performance of people.

The study enables the integration of theoretical knowledge with practical application through participation in physical activities. There are opportunities for students to apply theoretical concepts and reflect critically on factors that affect all levels of performance and participation.

Course content

Unit 1: Bodies in motion	**Unit 2: Sports coaching and physically active lifestyles**
In this unit students explore how the body systems work together to produce movement and analyse this motion using biomechanical principles. Through practical activities students explore the relationships between the body systems and physical activity. They are introduced to the aerobic and anaerobic pathways utilised to provide the muscles with the energy required for movement and the basic characteristics of each pathway. Students apply biomechanical principles to improve and refine movement. They use practical activities to demonstrate biomechanical principles and how the correct application of biomechanics can lead to improved performance in sport and physical activity. In Area of Study 3, there are two detailed studies: Technological advancements from a biomechanical perspective and Injury prevention and rehabilitation, which will expand and build on the knowledge and skills introduced in Areas of Study 1 and 2. Students select one of these detailed studies to explore in greater depth.	This unit explores a range of coaching practices and their contribution to effective coaching and improved performance of an athlete. The way in which a coach influences an athlete can have a significant effect on performance. The approach a coach uses, the methods applied and the skills used will have an impact on the degree of improvement experienced by an athlete. By studying various approaches and applying this knowledge to a practical session, students gain a practical insight into coaching. Students are introduced to physical activity and the role it plays in the health and wellbeing of the population. Through a series of practical activities, students gain an appreciation of the level of physical activity required for health benefits and investigate how participation in physical activity varies across the lifespan. They explore a range of factors that influence participation in regular physical activity, and collect data to identify perceived barriers and the ways in which these barriers can be overcome. In Area of Study 3, there are two detailed studies: Decision making in sport and Promoting active living, which will expand and build on the knowledge and skills introduced in Areas of Study 1 and 2.
Unit 3: Physical activity participation and psychological performance	**Unit 4: Enhancing performance**
This unit introduces students to an understanding of physical activity and sedentary behaviour from a participatory and physiological perspective. Students apply various methods to assess physical	Improvements in performance, in particular fitness, depend on the ability of the individual or coach to gain, apply and evaluate knowledge and understanding of training. Students undertake an

activity and sedentary levels, and analyse the data in relation to adherence to the National Physical Activity Guidelines. Students study and apply the social-ecological model to identify a range of Australian strategies that are effective in promoting participation in some form of regular activity. Students investigate the contribution of energy systems to performance in physical activity. In particular, they investigate the characteristics of each system and the interplay of the systems during physical activity. Students explore the multi-factorial causes of fatigue and consider different strategies used to delay and manage fatigue and to promote recovery.	activity analysis. Using the results of the analysis, they then investigate the required fitness components and participate in a training program designed to improve or maintain selected components. Athletes and coaches aim to continually improve and use nutritional, physiological and psychological strategies to gain advantage over the competition. Students learn to critically evaluate different techniques and practices that can be used to enhance performance, and look at the rationale for the banning or inclusion of various practices from sporting competition.

Choose this subject if you enjoy: • Exploring the body's response to exercise. • Applying movement understanding to improve performance outcomes	**Learning Activities will include:** • Biomechanical practical application through labs • Varied range of innovative theoretical task and activities
Careers This VCE study is suitable for students with a wide range of aspirations, including those who wish to pursue further formal study at tertiary level or in vocational education and training settings. The study prepares students for such fields as the health sciences, exercise science and education, as well as providing valuable knowledge and skills for participating in their own sporting and physical activity pursuits to develop as critical practitioners and lifelong learners.	
Available for Early Access to unit 3/4? Yes	**Early Entry Requirements:** Meet general requirements for Early Access to unit 3/4 Above the expected level in Health and Physical Education subjects

Biology

Introduction

Biology is the study of life and how living things interacts. Biologists look at living things on the microscopic and sub-microscopic scale, in the study of genetics and molecular biology, through to the large scale interaction of communities in ecosystems. Biologists base their work on observations from practical experiments and draw conclusions from these to build theories that explain the interactions seen.

In VCE biology students will be exposed to all these contexts. They will learn about the make up of cells in plants, animals and bacterial. Student will study how cells interact in the nervous and endocrine systems. They will also study the interactions of organisms in a food chain and how living things interact with the non-living environment. Study will also include how these interactions influence evolution.

Course content

Unit 1 How do living things stay alive?	**Unit 2: How is the continuity of life maintained?**
In this unit students explore what makes an organism a living thing and how they stay alive. This include the role of the cell membrane in contoling what enters and exist the cell and how organisms ensure they have a relatively stable internal environment. They then move on to look at how living systems sustain life. This area of study focuses on the adaptations of individual organisms to a range of different environments and how homeostatic mechanisms in the organism ensure stability of the cells in the face of widely fluctuating environmental conditions. They will also study the biology of populations by looking at the interactions between organisms of different species and those of the same species. All students will complete a self designed investigation into the survival of an individual or a species. The investigation requires the student to develop a question, plan a course of action to answer the question, undertake an investigation to collect the appropriate data, organise and interpret the data and reach a conclusion in response to the question.	In this unit students explore the importance of reproduction in maintaining life. Its role in both the reproduction of whole organisms to create the next generation, and in cells to ensure growth and repair of tissues is studied. In looking at reproduction students will study the cell cycle and the two main methods of cell reproduction; mitosis and meiosis. Students will then go to study how reproduction links to inheritance and what characteristics are inheritable. They will study the interaction of genes and the environment in developing the traits of an individual and the epigenetic nature of inheritance. All students will complete and individual investigation of an issued relating to genetics as part of this unit. This might include Human cloning, genetic modification of organisms, the use of forensic DNA databanks, assisted reproductive technologies and prenatal and predictive genetic testing challenge social and ethical norms.
Unit 3 How do cells maintain life?	**Unit 4: How does life change and respond to challenges over time?**
In this unit students will look the biology of cells, they will further their understanding from unit 1 of the role of the plasma membrane in maintaining a stable environment by studying	In this unit students will study evolution as a mechanism for change in communities. They will look at hoe existing species are related and the evidence for this which can be structural,

how a range of molecules can be moved across it. They will also study the key biological molecules, in particular the structure of DNA and how this is used to code for a protein. They will explore the expression of genes including how and why they are switched on and off in response to internal and external stimuli. Students will also study reactions that take place in cells including photosynthesis and respiration and how enzymes are used to control these reactions. They will explain the actions of enzymes and the conditions in which they work well. Students will also study the communication between adjacent and non-adjacent cells. They will look at the nervous, endocrine and immune systems as signaling pathways and explain the disorders that can arise when these signals do not work properly.	genetic or based on the fossil record. Students will also study the impact of human behaviors on natural processes. This includes the action of humans in artificially selecting mates and hunting animals as well as more modern techniques such as DNA manipulation. There is a focus in this unit on social and ethical implications of biology and how an increase in scientific knowledge can be a challenge for society to address.

Choose this subject if you enjoy:

- Learning about how life developed
- Exploring the living world on the microscopic and whole organism level
- Using theory to explain things we see in everyday life.

Learning Activities will include:

- Dissections
- Practical investigations
- Fieldwork
- Posters, models and other projects
- Group work
- Worksheets
- Tests

Careers

VCE Biology provides for continuing study pathways within the discipline and leads to a range of careers. Branches of biology include botany, genetics, immunology, microbiology, pharmacology and zoology. In addition, biology is applied in many fields of endeavour including biotechnology, dentistry, ecology, education, food science, forestry, health care, horticulture, medicine, optometry, physiotherapy and veterinary science. Biologists also work in cross-disciplinary areas such as bushfire research, environmental management and conservation, forensic science, geology, medical research and sports science.

Available for entry to Unit 3&4?
Yes

Early Entry Requirements:
Meet general requirements for Early Access to unit 3/4.
Above expected level in Science.

Chemistry

Introduction

Chemistry is the study of the matter that is all around us. In this course we examine the properties of matter on the atomic and molecular level and explore the different types of bonding that influence the properties of materials. Students will also learn the chemistry behind different types of reactions and how we can analyse these reactions.

Chemistry is used in a wide range of industries where it is useful tool in analysing the content of compounds and mixtures. The manipulation of large molecules in living systems and in industry to make medicinal drugs and other useful compounds is also explored. Students will also gain an insight into how changing physical conditions can alter the speed and yield of important chemical reactions.

Studying Chemistry can enrich students' lives through the development of particular knowledge, skills and attitudes, and enable them to become scientifically capable members of society. It will also provide a window on what it means to be a scientific researcher, working as a member of a community of practice, including insight into how new ideas are developed and investigated, and how evidence or data collected is used to expand knowledge and understanding of chemistry.

Course content

Unit 1: How can knowledge of chemistry explain the properties of matter?	**Unit 2: What makes water such a unique chemical?**
Unit 1 focuses on the key underlying ideas in chemistry. Starting with the study of the main reference material, the periodic table. This exploration includes examining how students can use the periodic table to predict the properties of an element. Measuring quantities in chemistry is an important factor in ensuring scientists have the correct amounts of substances to react safely and efficiently. In this unit students explore 'The mole' the counting unit of chemistry and how this can be used to determine the formula of compounds. The properties of substances very considerably depending on the bonding within them. Students will explore the bonding in metals and ionic bonded substances. They will also explore the range of materials that can be made from non-metallic elements and how these can be combined in simple molecules, lattices, and complex organic molecules and polymers.	Unit 2 focuses on chemistry within the natural environment and the effect of the chemical industry on the environment. Student will study the properties of water in many contexts within this topic. The solvent properties of water and its ability to create aqueous solutions that can readily react is particularly focused on. Students will look at a range of reactions that take place in aqueous environments, including acid/ base reactions and redox reactions. They will explore how the quantities of reactants influence the quantities of the products made and how chemists can predict this. Students will also explore how to analyse the quantities of substances contained within an aqueous environment by UV-Visible and Atomic Absorption Spectroscopy.
Unit 3: How can chemical processes be designed to optomise efficiency?	**Unit 4: How are organic compounds categorised, analysed and used?**
In unit 3 students investigate fuel choices with consideration of the energy content of a range of different fuels and their renewability and	In unit 4 students investigate organic reactions and the chemistry of particular organic molecules. A detailed knowledge of the structure and

environmental impact. They also explore industrial production of chemicals and the energy changes associated with chemical reactions. Features that affect chemical reactions such as the rate and yield or equilibrium position are investigated. Students explore how an understanding of these features is used to obtain optimum conditions in the industrial production of a selected chemical. New ways of producing energy using Galvanic cells and Fuel cells and studied and students explore the advantages and disadvantages of these new technologies. Students also explore the operation of electrolytic cells in industry and laboratory work and explain the energy conversions that take place Students will also look at how electrical energy can be used to force reactions to occur via electrolysis and how this can be used to reverse reactions in rechargeable batteries.	bonding of organic chemicals is important to the work of the synthetic organic chemist. Students also explore the range of organic molecules in living things including DNA, proteins, lipids and carbohydrates. A range of methods to analyse and identify organic molecules are utilised and how they can be used together to find out different information about the structure of these complex molecules is discussed. Students will also study the chemistry of food, looking at how the different component of food can be built up in living things and broken down in the human digestive system. The role of enzymes in this digestion is explored as well as how we can determine the energy content of foods.

Choose this subject if you enjoy:

- Learning about how matter behaves
- Explaining the properties of materials you see
- Doing practical work and explaining the theory behind the results
- Manipulating data to apply your knowledge numerically

Learning Activities will include:

- Practical investigations
- Analysis of data
- Model making
- Posters and other projects
- Group work
- Worksheets
- Tests

Careers

Many people develop an 'applied' knowledge of chemistry through their careers and day-to-day pursuits. Chemistry permeates numerous fields of endeavour, including agriculture, art, biochemistry, dietetics, engineering, environmental studies, food, forensic science, forestry, horticulture, law, medicine, oceanography, pharmacy, sports science and winemaking.

The chemistry undertaken in this study is representative of the discipline and the major ideas of chemistry. Some students will develop a passion for chemistry and be inspired to pursue further studies. All students, however, must become more informed, responsible decision-making citizens, able to use chemical knowledge and scientific arguments in their everyday lives and to evaluate and debate important contemporary issues such as the future of our environment and its management.

Available for Early Access to unit 3/4?	**Early Entry Requirements:**
No	NA

Environmental Science

Introduction

Environmental science is an interdisciplinary science, involving aspects of Biology, Chemistry and Physics, that explores the interactions and interconnectedness between humans and their environments and analyses the functions of both living and non-living elements that sustain Earth systems.

In VCE Environmental Science, Earth is understood as a set of four interdependent systems: the Atmosphere, Biosphere, Hydrosphere and Lithosphere. The study explores how the relationships between these systems produce environmental change over a variety of time scales. Students investigate the extent to which humans modify their environments and the consequences of these changes in local and global contexts with a focus on pollution, biodiversity, energy use and climate change; they explore the conceptual, behavioural, ethical and technological responses to these changes.

Students develop a range of inquiry skills involving practical experimentation and research, analytical skills including critical and creative thinking, and communication skills. Students use scientific and cognitive skills and understanding to analyse contemporary issues related to environmental science, and communicate their views from an informed position.

Course content

Unit 1: How are Earth's systems connected?	Unit 2: How can pollution be managed?
Area of Study 1: How is life sustained on Earth? Life on Earth is dependent on four major inputs: energy, nutrients, air and water. Students examine the processes and interactions occurring within and between Earth's four systems that affect the availability, accessibility and usability of these inputs for life. **Area of Study 2: How is Earth a dynamic system?** Students explore changes in systems that can occur over different time scales (short, medium or long term), have cyclic or unpredictable patterns, and can be caused by natural- or human-induced factors. They examine the flow of matter and energy in selected environmental events and phenomena with reference to natural and unpredictable or abrupt environmental changes in Earth's four systems. **Area of Study 3: Practical Investigation** Students design and conduct a practical investigation into the monitoring of ecosystems or their components and/ or change in ecosystems.	**Area of Study 1: When does pollution become a hazard?** Students examine biotic and abiotic indicators of pollution in various environments. Using selected examples, they distinguish between pollutants that result in bioaccumulation, and air- or water-borne pollutants. **Area of Study 2: What makes pollution management so complex?** Students investigate three pollutants of national or global concern. They explain how pollutants move through, and affect, the atmosphere, biosphere, hydrosphere and lithosphere, and compare treatment and management options for each pollutant. **Area of Study 3: Case Study:** Students investigate a case study involving the management of a selected pollutant of local interest. Students prepare a communication that explains the relevant scientific concepts, identifies different management options including social, economic, legal and ethical implications, and presents a justified position on a preferred solution.

Unit 3: (Available from 2017) How can biodiversity and development be sustained?	Unit 4: (Available from 2017) How can the impacts of human energy use be reduced?
Area of Study 1: Is maintaining biodiversity worth a sustained effort? Students examine the categories of biodiversity, the role of biodiversity in sustaining ecosystems, the provision of ecosystem services for human well-being and the strategies employed to counteract threats, both natural and human induced, so as to maintain biodiversity in the short, medium and long term. **Area of Study 2: Is development sustainable?** Students explore definitions of sustainability and consider how these may be interpreted and applied in addressing environmental issues. Students select one environmental science case study to be studied in depth, and assess the associated environmental impacts and risks.	**Area of Study 1: What is a sustainable mix of energy sources?** Students examine the concepts associated with the use of different forms of energy by human societies. Focus includes the uses of local sources of energy to examining the global impacts of these uses, including the consequences over short (seconds to years), medium (multiple years to hundreds of years) and long (thousands to millions of years) time scales. **Area of Study 2: Is climate predictable?** Students investigate the astronomical, solar, and Earth systems and human-based factors that have altered important relationships between the energy, water and nutrient cycles, resulting in the enhanced greenhouse effect and climate change. **Area of Study 3: Practical Investigation** Students design an investigation related to biodiversity or energy use from an environmental management perspective.

Choose this subject if you enjoy:	**Learning Activities will include:**
• Working in the environment and want to be influential in the expanding field of environmental management and science. • Undertaking the challenge of securing effective biodiversity management and a sustainable future and have a passion for science.	• Practical investigations • Fieldwork • Posters, models and other projects • Media Analysis • Tests

Careers

VCE Environmental Science provides for many continuing study pathways and leads to a range of careers. Diverse areas of employment range from design, including landscape or building architecture, engineering and urban planning, environmental consultancy and advocacy, which may involve employment in air, water and/or soil quality monitoring and control, agriculture, construction, mining and property management and water quality engineering. Environmental scientists also work in cross-disciplinary areas such as bushfire research, environmental management and conservation, geology and oceanography.

Available for entry to Unit 3&4?	**Early Entry Requirements:**
Yes	Meet general requirements for Early Access to unit 3/4. Above expected level in Science.

Physics

Introduction

Physics contributes to our understanding of everything from the minute building blocks of matter to the energies of the unimaginably vast expanses of the Universe.

This study is designed to enhance students' scientific literacy in Physics, which will enable them to engage in debates about the nature of evidence, theories and models, and appreciate the value of Physics in society. They can describe and use theories and models, propose and investigate hypotheses, collect data, analyse the limitations of that data, draw conclusions, make recommendations, and select and use a range of appropriate technologies and mathematical techniques.

The knowledge gained through studying Physics can be used in a wide range of industrial, medical, engineering and technical careers.

Course content

Unit 1: What ideas explain the physical world?	**Unit 2: What do experiments reveal about the physical world?**
Unit 1 includes three core areas of study: - How can thermal effects be explained? - How do electric circuits work? - What is matter and how is it formed? In Thermodynamics, students investigate the principles relating to heating processes, including concepts of temperature and energy, the environmental impact of Earth's thermal systems, and debates related to climate science. In Electricity students analyse DC electrical circuits including the mathematical relationships linking charge, current, voltage, resistance, energy and power. They investigate household electric circuits and hazards. In the study of Matter students investigate the origins of atoms, time and space, explain radioactivity and subatomic forces and particles, nuclear transformations, anti-matter, nuclear fission and fusion, energy generation and the production of light. Students perform practical work using suitable materials, apparatus and measurement procedures to collect	In Unit 2 students investigate the ways in which forces are involved both in moving objects and in keeping objects stationary. Students then choose one of twelve options as listed below, and finally carry out a major practical investigation. In studying Motion students explore the effects of balanced and unbalanced forces. They investigate, analyse and mathematically model the motion of objects and study energy, momentum, gravitational and spring energies and power. In their option study students will select one of: Astrobiology, Astrophysics, Bioelectricity, Biomechanics, Electronics, Flight, Medical Physics, Nuclear Energy, Nuclear Physics, Optics, Sound or Sports Science. Each topic contains a range of key knowledge to be studied and requires students to apply a set of practical science skills. In their major practical investigation students design and undertake an investigation of a physics question related to the scientific inquiry processes of data

relevant data and draw reliable conclusions.	collection and analysis, and draw conclusions based on evidence from their collected data.
Unit 3:	**Unit 4:**
Unit 3 consists of two core areas of study: Motion in one and two dimensions, and Electronics and Photonics. A detailed study is to be chosen in either Unit 3 or Unit 4 from one of six detailed studies: Einstein's special relativity, Materials and their use in structures, Further electronics, Synchrotron and its applications, Photonics, and Sound. Motion in one and two dimensions includes the study of circular motion, both horizontal and vertical, the parabolic motion of projectiles, gravitational fields, forces and energies, and the orbital motion of satellites. In studying Electronics and Photonics, students investigate electronic circuits comprising diodes, resistors, thermistors and photonic transducers including light dependent resistors, photodiodes and light emitting diodes, and their use in domestic and industrial systems. In the Detailed Study, students carry out a series of theoretical and practical investigations into the topic selected from the set of six listed above.	Unit 4 consists of two core areas of study: Electric Power and Interactions of Light and Matter, plus the on-going Detailed Study begun in Unit 3. In studying Electric Power, students will investigate magnetic fields and forces related to current-carrying wires, magnetic flux in coils, and the operation of AC and DC motors and generators, as well as the operation of transformers in electricity distribution. Interactions of Light and Matter includes the investigation of wave diffraction and the photo-electric effect, and its implications for the nature of light and the wave behaviour of matter, including absorption and emission spectra from atomic energy levels. In both Units 3 and 4, students develop conceptual understanding by investigating practical activities and demonstrations. They record raw data and present an accurate and reliably processed analysis of their results, identifying sources of error and uncertainty. They apply safe and responsible practices when completing independent and collaborative investigations.

Choose this subject if you enjoy: • Learning about the Universe • Doing practical experiments • Finding out how things work	**Learning Activities will include:** • Practical investigations • Independent and group research

Careers

Physicist	Medical Radiographer	Civil Engineer
Astronomer	Electronics specialist	Technician
Space scientist	Avionics Engineer	Architect

Available for early entry to Units 3&4? No.	**Early Entry Requirements:** N/A

Psychology

Introduction

Psychology is a broad discipline that incorporates both the scientific study of human behaviour through biological, psychological and social perspectives and the systematic application of this knowledge to personal and social circumstances in everyday life.

In the VCE study of Psychology, students explore complex human behaviours and thought processes. They develop an understanding of mental health issues in modern society and are encouraged to adopt an empathetic and educated approach towards individuals with mental health issues. Students are given the opportunity to apply psychological principles to everyday situations such as school, employment and their everyday social interactions. Psychology provides students with a sophisticated framework for understanding the complex interactions between the biological, behavioural, cognitive and socio-cultural factors that influence our thoughts, emotions and behaviour. The study assists students to further develop effective language skills for communication, and numeracy skills for research, data analysis and other applications. In addition, students develop a range of broader skills including those of problem solving, critical evaluation and the application of processes of scientific inquiry.

Course content

Unit 1: How are behaviour and mental processes shaped?	**Unit 2: How do external factors influence behaviour and mental processes?**
Human development involves changes in thoughts, feelings and behaviours. In this unit students investigate the structure and functioning of the human brain and the role it plays in the overall functioning of the human nervous system. Students explore brain plasticity and the influence that brain damage may have on a person's psychological functioning. They consider the complex nature of psychological development, including situations where psychological development may not occur as expected. Students examine 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. A student-directed research investigation related to brain function and/or development is undertaken in this unit. The research investigation draws on content from Area of Study 1 and/or Area of Study 2.	A person's thoughts, feelings and behaviours are influenced by a variety of biological, psychological and social factors. In this unit students investigate how perception of stimuli enables a person to interact with the world around them and how their perception of stimuli can be distorted. They evaluate the role social cognition plays in a person's attitudes, perception of themselves and relationships with others. Students explore a variety of factors and contexts that can influence the behaviour of an individual and groups. They examine the contribution that classical and contemporary research has made to the understanding of human perception and why individuals and groups behave in specific ways. A student practical investigation related to internal and external influences on behaviour is undertaken in this unit. The investigation draws on content from Area of Study 1 and/or Area of Study 2.
Unit 3: The conscious self	**Unit 4: Brain, behaviour and experience**
This unit focuses on the relationship between the brain and the mind through examining the concepts of consciousness, behaviour, cognition and memory. Students study the structure and functioning of the human brain and nervous	This unit focuses on the interrelationship between learning, behaviour, the brain and its response to experiences. Students investigate learning as a mental process that leads to the acquisition of knowledge, development of new

system, as well as a range of disorders and phenomena that may occur as a result of localised brain damage. They also explore the nature of both normal and altered states of consciousness including sleep, daydreaming and the mind-altering effects of alcohol and illicit substances. Students then consider the function of the nervous system in memory and investigate the ways in which information is processed, stored and utilised. They apply different theories of memory and forgetting to their everyday learning experiences, and discover methods for both improving and manipulating human memory. Students conduct their own experimental research on a key theory of memory formation, and learn how to present their findings and conclusions in accordance with the Australian Psychological Society's reporting guidelines.	capacities and changed behaviours. They also discover the brain's adaptive 'plastic' ability to physically change in response to different experiences and understand how the mechanisms of learning may be applied to assist them in everyday functioning. Students then build on their conceptual understanding of learning to consider it as one of several important facets involved in the analysis of mental health and illness. They consider different concepts of normality, and learn to differentiate between normal stress responses and clinical disorders. Students use a biopsychosocial framework to explore the nature of stress and a selected mental disorder. The intent of the study is not that of diagnosis and treatment but to explore causes of mental illness, avenues of assistance and factors that promote mental wellbeing.

In all units, students will analyse research methodologies and consider ethical issues associated with the conduct of research. They will also apply appropriate research methods when undertaking their own investigations.

Choose this subject if you enjoy: • Understanding why people behave in different ways. • Learning how your brain works and how it can be tricked or trained.	**Learning Activities will include:** • Textbook activities & worksheets. • Quizzes. • Experiments. • Excursions.
Careers The study of Psychology leads to opportunities in a range of careers that involve working with children, adults, families and communities in a variety of settings. These include roles in academic and research institutions, management and human resources, and government, corporate and private enterprises. Fields of applied psychology include educational, environmental, forensic, health, sport and organisational psychology. Specialist fields of psychology include counselling and clinical contexts, as well as neuropsychology, social psychology and developmental psychology.	
Units 3&4 available for study in Year 11? Yes.	**Early Entry Requirements:** Meet school requirements for early entry, Results above the expected level in Science.

Mathematics

Introduction
Mathematics is not compulsory at VCE level, however it is a subject that many students choose to undertake at Suzanne Cory High School. It is the only VCE subject offered at a range of levels and it is important that students choosing to undertake a VCE mathematics study consider the subject offerings carefully.

Mathematics is the study of function and pattern in number, logic, space and structure. It provides both a framework for thinking and a means of symbolic communication that is powerful, logical, concise and precise. It also provides a means by which people can understand and manage their environment.

Essential mathematical activities include calculating and computing, abstracting, conjecturing, proving, applying, investigating, modelling, and problem posing and solving. The VCE Mathematics studies are designed to provide access to worthwhile and challenging mathematical learning in ways which take into account the needs and aspirations of a wide range of students. They are also designed to promote students' awareness of the importance of mathematics in everyday life in a technological society, and confidence in making effective use of mathematical ideas, techniques and processes.

Mathematics provides courses of study for a broad range of students. Some students may not study Mathematics beyond Units 1 and 2, while others will intend to study Mathematics Units 3 and 4. Although VCE does not require a student to complete any Mathematics, many tertiary courses do require some Mathematics at VCE level and so different courses are offered to cater for the needs and abilities of students.

The following guidelines will help you decide which courses are best suited to your needs, but you must still check tertiary course entrance prerequisites to make sure that you have made the right choice because changing from one Mathematics course to another during Year 11 is not always possible nor wise for a number of reasons:

- Class size and timetable constraints may prevent it.
- Each subject depends on a store of specific knowledge and skills, and a student transferring into a new course cannot acquire this store overnight.

Consequently it is in each student's best interests to choose realistically in the first place.

Structure:

Units 1 and 2:	**General Mathematics (Standard)**
and/or	**Mathematical Methods CAS** (Computer Algebra System)
and/or	**Specialist Mathematics**
Units 3 and 4:	**Further Mathematics**
and/or	**Mathematical Methods (CAS)**
and/or	**Specialist Mathematics**

Specialist Mathematics unit 1&2 is designed to empower mathematical skills in students It is highly recommended with Mathematical Methods 1&2 (CAS) as the prerequisites for Specialist Mathematics 3&4. **Specialist Mathematics** is designed by VCAA to be the most difficult level of mathematics and it is expected that only the most able and interested mathematicians undertake this course. Students wishing to enroll in Specialist Mathematics must also complete unit 1-4 Mathematical Methods (CAS).

General Mathematics is designed to empower mathematical skills in students undertaking Year 12 **Further Mathematics.** Please note that students may not take both General Mathematics (Standard) and General Mathematics (Advanced) as these courses are different interpretations of the same study design.

Mathematical Methods is a unit 1-4 sequence. Students wishing to undertake unit 3/4 Mathematical methods must undertake unit 1/2 Mathematical methods as a prerequisite.

Each of these options is described more fully on the following pages.

General Mathematics

Introduction

General Mathematics Units 1 and 2 are designed to prepare students to undertake Further Mathematics (Unit 3 & 4). These two subjects together are also designed to promote students' awareness of the importance of mathematics in everyday life in a technological society, and give them confidence in making effective use of mathematical ideas, techniques and processes.

Mathematics provides courses of study for a broad range of students. Some students may not study Mathematics beyond Units 1 and 2, while others will intend to study Further Mathematics Units 3 and 4.

The areas of study for Unit 1 and Unit 2 of General Mathematics are 'Algebra and structure' (linear relations and equations), 'Arithmetic and number' (computation and practical arithmetic, financial arithmetic), 'Discrete mathematics' (matrices, graphs and networks, number patterns and recursion), 'Geometry, measurement and trigonometry' (shape and measurement, applications of trigonometry), 'Graphs of linear and non-linear relations' (linear graphs and models, inequalities and linear programming, variation) and 'Statistics' (investigating and comparing data distributions, investigating relationships between two numerical variables).

Course content

Unit 1	**Unit 2**
In Unit 1 students focus on topics including **Investigating and comparing data distributions**, specifically univariate data, frequency tables, bar charts and dot plots, measures of central tendency and spread: mean, median and mode, range, interquartile range, variance, standard deviation, stem plots, frequency tables, histograms, relative and cumulative frequency. Students also study **Geometry, Measurement and Trigonometry**, including 3D surface area and volume, Pythagoras in two and three dimensions, similarity and scale models, trigonometric ratios and rules, exact values and solution of triangles. In the **Matrices** topic, students study matrix arithmetic and inverses, applications including costing or pricing problems and solving simultaneous linear equations and transformations.	In Unit 2 students focus on topics including **Linear Graphs,** determining gradients, intercepts and the equations of straight lines, plotting and sketching graphs from equations and determining points of intersection, and simple applications of linear modeling. In studying **Investigating relationships between two numerical variables**, students create scatterplots and interpret their patterns and features, investigate pearson correlation coefficients and use of the least squares line to model and observed linear association. Students also study **Graphs and networks** including the description of networks in terms of faces or regions, vertices and edges, the application of Euler's formula, traversibility of a network, rules for following a path, and applications of networks to simple distance or time minimisation problems.

In **Linear relations and equations,** students focus on formula and equation solution, substitution and transposition, developing formulas from word descriptions, using algebraic techniques to solve real world applications, and using calculator technology to determine solutions.	In **Financial arithmetic** students study cash flow in common savings and credit accounts including interest calculations, applications of simple interest and compound interest formulas, comparison of purchase options including cash, credit and debit cards, personal loans, time payments and recursion.

Choose this subject if you enjoy:

- Problem solving
- Using theory to explain everyday phenomena
- Applications of Mathematics
- Using technology

Learning Activities will include:

- Real life problem solving
- Practical investigations
- Analysis Tasks
- Group work
- Projects
- Extensive use of CAS calculator
- Topic tests

Careers

General Mathematics provides the necessary maths background for many careers including such areas as Economics, Commerce, IT and Biology. This Maths pathway also provides the mathematics background for everyday life, especially the Business topic. General Maths and Further Maths also complement other Mathematics subjects for students with a strong maths focus.

Available for early access to unit 3/4?
N/A

Early Entry Requirements:
N/A

Further Mathematics

Introduction

Further Mathematics is a Unit 3 and 4 sequence only. It consists of 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 comprises 'Data analysis' and 'Recursion and financial modelling'. The Applications comprises two modules to be completed in their entirety, from a selection of four possible modules: 'Matrices', 'Networks and decision mathematics', 'Geometry and measurement' and 'Graphs and relations'.

Assumed knowledge and skills for the Core are contained in the General Mathematics Units 1 and 2 topics: 'Computation and practical arithmetic', 'Investigating and comparing data distributions', 'Investigating relationships between two numerical variables', 'Linear graphs and modelling', 'Linear relations and equations', and 'Number patterns and recursion'.

In undertaking these units, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algebraic manipulation, equations, and graphs. They should have a facility with relevant mental and by-hand approaches to estimation and computation. The use CAS technology for learning mathematics is incorporated throughout each unit.

Course content

Unit 3:	**Unit 4:**
In the **Data Analysis** core study, students focus on 'Investigating data distributions', including representation, display and description of the distributions of numerical variables; five-number summary and boxplots; sample mean and standard deviation; use of distributions to answer statistical questions; normal distributions and z-scores; population parameters and sample statistics. Students also focus on 'Investigating associations between two variables', including response and explanatory variables; contingency (two-way) frequency tables; stem plots, parallel dot plots and scatter plots; Pearson correlation coefficient and non-causal explanations for observed associations.	Students will study two of the following four modules: **Matrices and their applications:** including matrix arithmetic; the inverse of a matrix and its determinant; the use of matrices to represent tabular numerical information; binary and permutation matrices; communication and dominance matrices; transition matrices, and the use of matrices to solve systems of linear equations. **Networks and decision mathematics:** including Graphs and network terminology; travelling problems, including Eulerian circuits and Hamiltonian paths; Trees and minimum connector problems; Flow problems; Shortest path problems; Bipartite graph matching problems; The scheduling problem and critical path analysis.

'Investigating and modelling linear associations' includes: least squares line of best fit; modelling linear associations between numerical variables; the least squares method; data transformations. In **Recursion and financial modelling**, students focus on the use of first-order linear recurrence relations and technology to model and analyse a range of financial situations, and solve related problems involving interest, appreciation and depreciation, loans, annuities and perpetuities. Areas include: Depreciation of assets; Compound interest investments and loans; Reducing balance loans (compound interest loans with periodic repayments); Annuities and perpetuities (compound interest investments with periodic payments made from the investment); and Compound interest investment with periodic and equal additions to the principal (annuity investments).	**Geometry and measurement** including: Measurement and trigonometry; surface area and volume of composite shapes; application of linear scale factors; methods for solving right and non-right-angled triangles; specification of location using three-figure bearings; Spherical geometry: circle mensuration; areas of sectors and segments; use of trigonometry and Pythagoras' theorem in two and three dimensions; use of meridians and great circles. **Graphs and relations** including: Construction and interpretation of graphs; straight-line, line segment and step graphs; simultaneous linear equations in two unknowns; non-linear graphs; Linear programming; graphs of systems of linear inequalities; and solving linear programming problems with two decision variables.

Choose this subject if you enjoy: • Problem solving • Using theory to explain everyday phenomena • Applications of Mathematics • Using technology	**Learning Activities will include:** • Real life problem solving • Practical investigations • Analysis Tasks • Group work • Projects • Extensive use of CAS calculator • Topic tests
Careers Further Mathematics provides the necessary maths background for many careers including such areas as Economics, Commerce, IT and Biology. This Maths pathway also provides the maths background for everyday life, especially the Business topic. Further Mathematics also complements other Mathematics subjects for students with a strong maths focus.	
Available for early access to unit 3/4? Yes.	**Early Entry Requirements:** Meet general requirements for early access to unit 3/4. Above expected level in Mathematics.

Mathematical Methods

Course content

Unit 1	Unit 2
Mathematical Methods Units 1 and 2 provide an introductory study of simple elementary functions of a single real variable, algebra, calculus, probability and statistics and their applications in a variety of practical and theoretical contexts. They are designed as preparation for Mathematical Methods Units 3 and 4 and contain assumed knowledge and skills for these units. The focus of Unit 1 is the study of simple algebraic functions, and the areas of study are 'Functions and graphs', 'Algebra', 'Calculus' and 'Probability and statistics'. At the end of Unit 1, students will have covered the content outlined in each area of study, with the exception of 'Algebra' which extends across Units 1 and 2. This content will be presented so that there is a balanced and progressive development of skills and knowledge from each of the four areas of study with connections between and across the areas of study being developed consistently throughout both Units 1 and 2. In undertaking this unit, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algebraic manipulation, equations, graphs and differentiation with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, will be incorporated throughout the unit as applicable.	In Unit 2 students focus on the study of simple transcendental functions and the calculus of simple algebraic functions. The areas of study are 'Functions and graphs', 'Algebra', 'Calculus', and 'Probability and statistics'. At the end of Unit 2, students will have covered the material outlined in each area of study. Material from the 'Functions and graphs', 'Algebra', 'Calculus', and 'Probability and statistics' areas of study will be organised so that there is a clear progression of skills and knowledge from Unit 1 to Unit 2 in each area of study. In undertaking this unit, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algebraic manipulation, equations, graphs and differentiation with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic and statistical functionality of technology for teaching and learning mathematics, for working mathematically, and in related assessment, will be incorporated throughout the unit as applicable.
Unit 3	**Unit 4**
Mathematical Methods Units 3 and 4 are completely prescribed and extend the introductory study of simple elementary functions of a single real variable, to include combinations of these functions, algebra, calculus, probability and statistics, and their applications in a variety of practical and theoretical contexts. Units 3 and 4 consist of the areas of study 'Functions and graphs', 'Calculus', 'Algebra' and 'Probability and statistics', which	For Unit 4 the areas of study will include 'Functions and graphs', 'Calculus' and 'Algebra', and the study of random variables and discrete and continuous probability distributions and the distribution of sample proportions. For Unit 4, the content from the 'Calculus' area of study will include the treatment of anti-differentiation, integration, the relation between integration and the area of regions specified by lines or curves described by the rules of functions, and simple

must be covered in progression from Unit 3 to Unit 4. Assumed knowledge and skills for Mathematical Methods Units 3 and 4 are contained in Mathematical Methods Units 1 and 2, and will be drawn on, as applicable, in the development of related content from the areas of study, and key knowledge and skills for the outcomes of Mathematical Methods Units 3 & 4. For Unit 3 the areas of study will include 'Functions and graphs' and 'Algebra', and applications of derivatives and differentiation, and identifying and analysing key features of the functions and their graphs from the 'Calculus' area of study.	applications of this content. The selection of content from the areas of study will be constructed so that there is a development in the complexity and sophistication of problem types and mathematical processes used (modelling, transformations, graph sketching and equation solving) in application to contexts related to these areas of study. There will be a clear progression of skills and knowledge from Unit 3 to Unit 4 in each area of study.

Choose this subject if you enjoy:

- Investigating and solving problems in a variety of mathematical situations
- Rigorous application of mathematical methods to analysis, application and logical reasoning tasks
- Using technology to solve mathematical problems

Learning Activities will include:

- Efficient and accurate operation of CAS calculators
- Skills practice in standard mathematical routines
- Analysis/problem solving tasks
- Application/modelling tasks
- Tests
- Exam preparation and exam taking technique

Careers

Accounting	Engineering	Radiography
Biotechnology	Information Technology	Science
Business	Medicine	Veterinary Studies
Dentistry	Optometry	

Available for early access t unit 3/4?
No- except for students who have already completed unit 1/2 in 2015

Early Entry Requirements:
General requirements for early access to unit 3/4.
Prior enrollment in unit 1/2 mathematical methods.

Specialist Mathematics

Introduction

Specialist Mathematics provides 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, modeling, problem solving and reasoning. This study has a focus on interest in the discipline of mathematics in its own right and investigation of a broad range of applications, as well as development of a sound background for further studies in mathematics and mathematics-related fields.

Mathematical Methods Units 1 & 2 and Specialist Mathematics Units 1 & 2, together provide a comprehensive preparation for Specialist Mathematics Units 3 & 4. Students undertaking Units 3&4 must also be taking or have completed Maths Methods 3&4. In undertaking these units, students are expected to be able to apply techniques, routines and processes involving rational, real and complex arithmetic, sets, lists and tables, diagrams and geometric constructions, algebraic manipulation, equations and graphs with and without the use of technology. They should have facility with relevant mental and by-hand approaches to estimation and computation. The use of CAS technology will be incorporated throughout each unit.

Course content

Unit 1	**Unit 2**
Number systems & Algebra: Real numbers; Sequences & series; proof by mathematical induction; proof of irrationality for surds; definition and properties of complex numbers; rational numbers and general solution of quadratic equations. **Plane Geometry and Proof**: geometric objects and relations; dynamic geometry construction of objects; proof of Pythagoras theorem; congruence of triangles; circle theorems. **Graph theory:** vertices and edges of undirected graphs; applications of graph theory using optimisation problems; degree of a vertex; isomorphism of graphs; Euler's formula; planarity of graphs. **Simulation, sampling and distributions**: random experiments; events and event spaces; use of simulation to generate a random sample; random sampling for a finite population; random variables for discrete distributions; difference between a population parameter and a sample statistic; mean and proportion; distribution of sample means and proportions; variation in sample proportions using dot plots; measures of central tendency and measures of spread.	**Vectors in the plane**: representation of plane vectors, addition, subtraction and multiplication of vectors; scalar product; perpendicular and parallel vectors; applications. **Graphs of non-linear relations**: reciprocal functions; equation of the locus of a point to form a Parabola, Ellipse, Circle and Hyperbola; Cartesian, polar and parametric form of non-linear relations; graphs of limaçons, cardioids, roses, lemniscates and spirals; parametric form of cycloids, lissajous figures and epicycles. **Transformation, trigonometry and matrices**: Translations, Reflections, Dilations, Rotation about the origin of functions and shapes; linear transformation and their inverse; Composition of transformations; Mapping transformation; invariance of properties under transformation. **Identities**: proof and application of the Pythagorean identities; identities between $a\sin(x) + b\cos(x)$; applications. **Kinematics**: Position, velocity and acceleration; Motion due to constant acceleration; Velocity time graphs; instantaneous rate of change; modelling and analysis of rectilinear motion; approximation of velocity-time relationships; Using antiderivatives for kinematics problems.
Unit 3	**Unit 4**
Functions and graphs: Inverse circular functions,	**Functions and graphs** includes: the remaining

reciprocal functions, rational functions and other simple quotient functions, the absolute value function, graphical representation of these functions, and the analysis of key features of their graphs including intercepts, asymptotic behaviour and the nature and location of stationary points, points of inflection, periodicity, and symmetry. **Algebra**: The expression of simple rational functions as a sum of partial fractions; the arithmetic and algebra of complex numbers, including polar form; points and curves in the complex plane; introduction to factorisation of polynomial functions over the complex field; and an informal treatment of the fundamental theorem of algebra. **Calculus**: Advanced calculus techniques for analytic and numeric differentiation and integration of a range of functions, and combinations of functions; and their application in a variety of theoretical and practical situations, including curve sketching, evaluation of arc length, area and volume. **Vectors**: The arithmetic and algebra of vectors, linear dependence and independence of a set of vectors, proof of geometric results using vectors, vector representation of curves in the plane and vector kinematics in one and two dimensions.	content from this area of study. **Algebra** includes: the remaining content from this area of study. **Calculus** includes: the remaining content from this area of study, including differential equations and kinematics. **Vectors** includes: the remaining content from this area of study, vector representation of curves in the plane and vector kinematics in one and two dimensions. **Mechanics** includes: An introduction to Newtonian mechanics, for both constant and variable acceleration. **Probability and statistics** includes: Statistical inference related to the definition and distribution of sample means, simulations and confidence interval. In particular, students are encouraged to use graphics calculators and other technologies both in the learning of new material and the application of this material in a variety of different contexts.

Choose this subject if you enjoy: • Investigating and solving problems in a variety of mathematical situations • Analysis, application and logical reasoning tasks • Using technology to solve mathematical problems	**Learning Activities will include:** • Efficient and accurate operation of CAS calculators • Skills practice in standard mathematical routines • Assignments structured around the development of standard applications of mathematical skills and procedures • Application/modelling tasks • Exam preparation and technique

Careers

Accounting	Astrophysics	Radiography
Aerospace	Engineering	Science
Biotechnology	Information Technology	Veterinary Studies
Business analysis	Medicine	
Dentistry	Optometry	

Available for early entry? No.	**Early Entry Requirements:** N/A

VCE Course Selection Interview Form

STUDENT NAME: _____ HOMEGROUP: _____
An appointment will be made for you to discuss your VCE subject selection with a careers counselor.

Due to the timeframe, it is important that you attend your interview as there is unlikely to be an opportunity for your appointment to be rescheduled. If for some reason you need to change your appointment please try to arrange a swap with someone else in your Home Group. Complete this form and bring it along with you to your course counseling interview.

To help assist you with your subject selection, consider the following:

1. Subjects I have enjoyed and been most interested in this year:

2. The following subjects are those that I perform strongest in:

Occupations/ Areas of Study that are of interest to me	**Related Courses**	**Pre-requisite Subjects** Information on course prerequisites can be found in the VICTER 2017 (Available in newspaper supplement or online www.vtac.edu.au in July)

You must also take your course selection form with you to your interview so your course counselors can sign this.