NOSSAL
High School

Senior School Handbook
2017

'Embrace the Challenge'
Graduates who work hard, show self-discipline, and collaborate with peers and staff throughout the VCE are rewarded with CHOICES about the pathways they can follow beyond secondary schooling. Our job throughout the course selection and careers and pathways program, is to help students (and their parents) make choices and develop skills that will assist them to find a fulfilling pathway.

As students move into the senior years of schooling (Years 10 - 12) they have the opportunity to take more control over the pathway they follow, within the parameters of school and VCAA curricula guidelines. It is an exciting and challenging time. It prompts great thought, research and planning to find one’s passion and to identify a range of pathways (both linear and indirect) that will help them to reach their goals.

It seems a little cruel that we ask students halfway through Year 9 to map out their pathway towards a goal that may not come to fruition until they are 21 or 22 years old (or older), and indeed, a goal that may change multiple times between now and then. We do, however, provide support to assist them in the process:

- Year 9s have a comprehensive careers program through Year 9 Nossal Time
- Year 10s complete Work Experience and the Morrisby Careers and Pathways Aptitude Test
- All year levels are supported by:
  - the Whole School Nossal Time program, and the peer to peer interactions within that
  - the Career Action Planning process on Compass
  - access to our Careers Advisor Ms Julie Ryan and our Careers and Pathways Leader, Ms Emma Geyer
  - the Careers and Pathways Expo on Thursday 21 July
  - this comprehensive Handbook and it’s planning pages.

There is, however, no substitute for research and planning. Whilst we encourage students to make every effort to get their choices right, we remain as flexible as possible if changes must be accommodated, since we understand that this is an evolving process.

The research, the collective wisdom of the staff, and the evidence from each of the three graduating cohorts clearly indicates that students must be encouraged to find their own pathway. When parents and extended family exert undue influence over the pathway and subject choices of their children, they can create pressure, reduce their child’s interest in and love for learning and make school seem like a chore; worse still, they may become stuck, unhappy, in unfulfilling careers. Many of our graduates are still finding their way to their own pathway, many are swapping subjects and courses at university. Increasingly, we find graduates who did not quite reach their goal at graduation, work hard, identify other possibilities, and gain entry into their pathway of choice after their first and second year of university. This is our definition of success - our graduates are adaptable, resourceful and resilient.

Whilst choosing subjects is important as a first step to getting where you want to be, life ends up being less about subjects, and more about the capacity to learn and grow, to be creative, to problem solve, to show resilience in the face of setbacks, and most importantly, enjoyment.

I wish you well in your choices.

Ms Sue Harrap
Assistant Principal
Nossal High School is committed to providing an innovative, inclusive and dynamic educational environment. We aim to challenge our students to be creative and critical thinkers with good communication skills and the resilience necessary to succeed in an ever changing world. We aim to build their skills, self-confidence, leadership abilities and community spirit through a rigorous, but rich and varied curricular and co-curricular program. We want our graduates to be ambitious, ethical and responsible citizens who conduct themselves with humility and compassion.

Nossal is a school that:

- leads and develops leadership
- creates and cultivates creativity
- is respectful and fosters respectful citizenship
- inspires and seeks inspiration
- is ethical and develops ethical behaviours
- pursues excellence and celebrates individual achievement
- develops resilience and independence and nurtures happiness
- encourages a strong work ethic with an emphasis on personal growth

We encourage and support all members of our school community to challenge themselves through intellectual, social, physical and leadership pursuits. Our school motto, “Embrace the Challenge” signifies the importance we place on the notion that continued personal challenge results in personal growth.

We are a learning community where everyone, staff and students alike, consider themselves as learners, utilising Gardner’s Five Minds for the Future (2008) as a framework to develop:

- deep knowledge and mastery in at least one discipline
- the ability to integrate ideas from disparate sources
- the capacity to create new solutions and questions
- an awareness of and appreciation for differences in society
- the fulfilment of one’s responsibilities as a worker and citizen in an ethical way
Who can support you?

It is very important that students engage in discussion with their parents/guardians and the staff at Nossal who can assist with the process before a final decision is made about their subject selections. There are also outside agencies that can be accessed for support. Some of these are listed in the back of this booklet.

All members of staff at Nossal High School are dynamic and enthusiastic professionals who care about the future of our students and are committed to:

- guiding the students through the best possible learning pathways to personalise their learning
- the development of learning and teaching programs with clearly defined outcomes for highly able students
- the delivery of effective assessment, recording and reporting strategies
- meeting all curriculum and assessment requirements
- assisting all students to work to their personal best

Students can seek guidance from:

Director of VCE – Ms Katherine Warriner
Director of Curriculum and Pedagogy – Ms Tracey Mackin
Director of Transitions and Pathways – Ms Emma Geyer
Careers and Pathways Advisor – Ms Julie Ryan
Director of House and Wellbeing – Mrs Leanne Ansalde
Director of e-Learning – Mr Stuart Fankhauser
Assistant Principal – Ms Sue Harrap
Assistant Principal – Mr Keith Butler
Principal – Mr Roger Page
VSL Coordinator – Mr Rohan Bramley

2016 -2017 Domain Leaders

English – Dr Briony Schroor
Maths – Mr Ian Pegram
Science – Mrs Diane Latham
Humanities – Mr Angus Clark
Arts & Technology – Ms Samantha Crust
PE & Health – Mr Andrew Hamilton
Language – Ms Shelley Warner

Before students make their final choice, they are advised to:

- read this guide carefully
- be well informed; engage in conversations with parents, older siblings, Old Nossalonians and the above personnel, as well as referring to the VCAA website www.vcaa.vic.edu.au

How your selections affect school organisation:

Studies on offer in this handbook will run in 2017 only if sufficient numbers of students select them. Decisions about the subjects to be run in 2017 and individual student courses will be made after all students’ subject selections are submitted online (midnight 11th August). These important decisions can only be made after that time, therefore, it is imperative that students meet the deadline and they are clear and decisive about the choices they have made. The organisation of the school in 2017, including the hiring of staff, is determined by these selections.

Some students may need further course counselling after the curriculum offerings for 2017 have been finalised, particularly if their original selections will not run in 2017. The timeline on the back cover of this handbook indicates when this will occur.
As Nossal High is a select entry school the nature of our students means that they work at a very high level in all academic subjects. All of our students can access an individual learning pathway and choose subjects appropriate to their own strengths and interests. For many students this may include accelerating in one or more subject areas.

We have guidelines in place that students should be aware of when choosing their academic course from year to year.

**Progression to Year 10, VCE 1 & 2 and VCE 3 & 4**

Students who wish to progress in a subject should be achieving at Just Acceptable or above in all areas of assessment in that subject. Students who are not achieving at this level will review their course during course counselling to ensure that they are in an appropriate pathway.

**Acceleration**

For some students it may be of benefit to accelerate by commencing a VCE Unit 1 & 2 subject in Year 10 and then continuing on to study a Unit 3 & 4 subject in Year 11. This allows students to have a sixth subject to contribute towards their ATAR. The ATAR calculation is complicated, but in simplest terms it counts English first, then the next three top scores (this is called the primary four) and then 10% of the fifth subject. If students accelerate by studying a Unit 3 & 4 subject in Year 11 they will receive an additional 10% of their sixth subject in the calculation.

The other advantage to students who accelerate is that they gain the experience of VCE earlier and know what to expect in the following year. As acceleration can, however, put undue stress on some, students need to be achieving at an appropriate level to accelerate.

- We recommend that students accelerate in one subject only.
- We recommend acceleration only to students who have demonstrated maturity, organisational skills and high performance in the area they wish to study.
- We recommend students do not accelerate in the subjects they require as prerequisites for tertiary study. We consider additional time to develop maturity and concepts to be the best preparation.
- Some subjects will have specific criteria that students need to satisfy to be eligible to accelerate.

For these reasons, the following guidelines apply for acceleration:

Students who wish to accelerate in **one subject** should be achieving at **Good or above** in at least the areas of **Knowledge, Skills and Study Habits** in the relevant subject or appropriate subject area. For example, for Philosophy Units 1 & 2 at Year 10, students should achieve at Good or above in Year 9 Humanities and/or English.

Students who wish to accelerate in **more than one subject** should be achieving an average of **Very Good or above**, in the number of subjects specified for their year level, in at least the areas of **Knowledge, Skills and Study Habits**.

For 2017 these are:

<table>
<thead>
<tr>
<th>Year Level</th>
<th>Number of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 9</td>
<td>7</td>
</tr>
<tr>
<td>Year 10</td>
<td>5</td>
</tr>
<tr>
<td>Year 11</td>
<td>5</td>
</tr>
</tbody>
</table>

For all progression and acceleration, students will be assessed on what they are currently achieving and those who wish to accelerate must be achieving at that level for acceleration when they choose their courses.

Students should also note that some VCE subjects will not be available for acceleration. These are indicated in the subject descriptions.
Higher Education Scored Studies in the VCE (Extension)

For high achieving students there may be the opportunity to apply to study a university subject in their final year of school whilst completing their VCE. The school has an internal approval process for this. Students must first express an interest and complete an interview, then the school will approve eligible students to continue with their application. Applications are subsequently made directly to the university.

Extension studies should only be considered if students have demonstrated high performance in all subjects. Prior to 2012, only students with a 40+ study score were considered eligible to apply by the universities; even though this is no longer a requirement, it is clear they are only looking for high performing students.

An extension study can only ever be included as the sixth increment in the ATAR calculation with a maximum of five for results above 90% in their university studies. Universities have different criteria for assessing eligibility.

For further information on extension studies see Ms Warriner.

*Ms Emma Geyer*  
*Director of Transitions & Pathways*
Students have a wide variety of subjects to choose from in Year 10. In order to maintain a breadth of study the following guidelines apply for course selection in Year 10:

1. Students must study at least two, but no more than three, semesters of English over the year.
2. Students must study one **Maths** subject for the whole year.
   
   A student undertaking Year 10 Maths Advanced or Units 1 & 2 Maths Methods would not undertake Year 10 Maths.

3. **Science** – Students must study at least one unit of Science. They have a choice of two pathways:
   
   a. A choice of one or two semester length Foundation Sciences or
   
   b. Intensive Science, which covers Biology, Chemistry and Physics and runs for a full year.

   A student undertaking a Units 1 & 2 Science subject has a number of choices:
   
   a. That may be the only Science they undertake

   (Students will be counselled and alerted to how this may limit their ability to undertake other sciences in the future. Final decisions will be made based on a student’s individual pathway),
   
   or

   b. They may choose to do one or two semester length Foundation Sciences as well.

   Biology and Psychology are the Science subjects that are recommended for acceleration for Year 10 students.

   Chemistry and Physics are not recommended.

4. **Health and Physical Education** – All students are required to undertake **Year 10 Health & PE** for one semester. They have the option of selecting additional subjects from within this Domain, if their subject selection allows. A student undertaking Units 1 & 2 Physical Education would not be required to undertake Year 10 Health & PE.

5. **Humanities** – All students are required to complete a full year of Humanities in Year 10. The Humanities course in Year 10 is made up of **Modern History** in Semester One and **Political and Legal Studies** in Semester Two.

   A student undertaking VCE Units 1 & 2 History, Geography, Legal Studies, Economics or Philosophy would not be required to undertake Year 10 Humanities; however, they can do so if they wish.

   A student undertaking VCE Units 1 & 2 Accounting or Business Management in Year 10 **would** still have to undertake Year 10 Humanities, as these subjects do not count as ‘exemptions’.

6. **Arts/Technology** – All students are required to undertake one semester of Arts/Technology. They have the option of selecting additional subjects from within this Domain, if their subject selection allows.

7. **Foreign language study** – Students are offered two languages: French and Japanese. Students may study one or both languages, depending on previous experience. A student wishing to choose a language, must choose it for **both Semester One and Two**. Students choosing a language at Year 10 can negotiate an individual pathway which is outside the subject guidelines (above) in order to fit in all of their subjects. This can be done during their course confirmation appointment in Term 3.
Year 10 Subjects

Index

English Domain
Year 10 English - Elective Structure 10
Year 10 Novel Study 11
Year 10 Shakespeare Study 11
Year 10 Foundation English 11
Year 10 Just the Classics 12
Year 10 From Page to Screen 12
Year 10 Persuasion and Deception 13

Maths Domain
Year 10 Maths 14
Year 10 Maths (Advanced) 15

Science Domain
Year 10 Intensive Science 16
Year 10 Foundation Biology 17
Year 10 Foundation Chemistry 18
Year 10 Foundation Physics 19

Health and PE Domain
Year 10 Health and Physical Education 20
Year 10 Sports Science 21
Year 10 Team Sports 22

Humanities Domain
Year 10 Humanities 23

Languages Domain
Languages at Nossal 24
Year 10 French 25
Year 10 Japanese 26

Arts Domain
Year 10 Art and Photography 27
Year 10 Dance 28
Year 10 Design 29
Year 10 Foundation Music 30
Year 10 Theatre Studies 31

Technology Domain
Year 10 Food Technology 32
Year 10 Digital Technology 33

Cross-curricular
Extended investigation 34
English Domain

In English there are three strands of learning – language, literature and literacy. Each of these strands contributes to the development of students’ knowledge, understanding and skills in listening, reading, viewing, speaking and writing.

- **Language**: knowing about the English language
- **Literature**: understanding, appreciating, responding to, analysing and creating literature
- **Literacy**: expanding the repertoire of English usage

Strands are made up of the following sub-strands:

<table>
<thead>
<tr>
<th>Language</th>
<th>Literature</th>
<th>Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language variation and change</td>
<td>Literature and context</td>
<td>Texts in context</td>
</tr>
<tr>
<td>Language for interaction</td>
<td>Responding to literature</td>
<td>Interacting with others</td>
</tr>
<tr>
<td>Text structure and organisation</td>
<td>Examining literature</td>
<td>Interpreting, analysing and evaluating</td>
</tr>
<tr>
<td>Expressing and developing ideas</td>
<td>Creating literature</td>
<td>Creating texts</td>
</tr>
<tr>
<td>Sound and letter knowledge</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Year 10 English - Elective Structure

In 2017, students will have the opportunity to develop their skills in two different semester long English electives, with subjects undertaken in Semester Two challenging students to develop the skills established in Semester One. While the different subjects will cover different content and texts, all subjects will support the development of the skills required of students for all VCE English subjects. All English subjects will involve reading, writing, speaking and listening.

Every Year 10 student must choose at least two semesters of English from the list below; some students will be recommended for Foundation English, by their Year 9 English teachers, and certain students will be invited to select three English electives, as part of an enhancement programme:

- Novel Study
- Shakespeare Study
- Foundation English
- Just the Classics
- From Page to Screen
- Persuasion and Deception
Year 10 Novel Study
This mainstream English course aims to develop key skills and a broad understanding of what is required for VCE English. Suitable for most students, this course will offer students the chance to study a novel and practise writing text response essays, to compare and contrast different resources/texts within a given context, and to analyse the use of language to persuade.

Topic 1 – Text Response: *The Secret River*
Topic 2 – Comparative Study: *Growing Up Asian in Australia*
Topic 3 – Using Language to Persuade

**Teachers to see for advice regarding this subject:** Ms Geyer or your Year 9 English teacher

Year 10 Shakespeare Study
This mainstream English course takes a Shakespearean tragedy as the focus of its text study, as well as offering students the opportunity to analyse persuasive articles. The course will also consider and compare different resources, including a film text, within a particular context.

Topic 1 – Text Response: *Macbeth*
Topic 2 – Comparative Study: film text
Topic 3 – Using Language to Persuade

**Teachers to see for advice regarding this subject:** Ms Geyer or your Year 9 English teacher

Year 10 Foundation English
Want to improve your proficiency in the basic skills needed for VCE English? Perhaps you find the abstract concepts discussed in English difficult to grasp? If so, this might be the subject for you. In ‘Foundation English’ you will build on your skills in planning and structuring essays, identifying persuasive techniques and using formal language effectively. This subject is most suitable for students wishing to build confidence in their practical skills in English.

While students may put themselves forward for ‘Foundation English’, some may also be nominated by their Year 9 English teachers. This subject will run in Semester One.

Topic 1 – Text Response: *Of Mice and Men*
Topic 2 – Comparative Study: *Growing Up Asian in Australia*
Topic 3 – Using Language to Persuade

**Teachers to see for advice regarding this subject:** Ms Chapple or your Year 9 English teacher
**Year 10 Just the Classics**

Do you love to read, or do you want to be well read? In ‘Just the Classics’ you will read, consider and compare important texts from the literary canon, by studying representations of children and childhood in the work of George Eliot, Charles Dickens and William Golding among others. Find out whether “the classics” are as good as everyone says.

This subject would be a good choice for students who are curious about VCE Literature.

**Topic 1** - Text Response: *The gods of carnage; A Christmas Carol;* selected poetry.

**Topic 2** - Comparative Study: ‘Childhood’ in *Silas Marner and Lord of the Flies*

**Topic 3** - Using Language to Persuade: The nature (and validity) of the canon. Who decides what goes in and what stays out?

**Advice to Students**

Students considering studying VCE Literature are advised to choose this subject.

**Teachers to see for advice regarding this subject:** Ms Lee-Ack or your Year 9 English teacher

---

**Year 10 From Page to Screen**

In this semester-long course, you will explore the transformation that takes place when a novel, short story or other text is adapted for film or television. As well as exploring the films themselves, you will examine the reactions of fans, compare and contrast films within a chosen genre and analyse what makes a film an enduring classic.

The text list for ‘From Page to Screen’ will include film adaptations of popular novels and cult classics, as well as the original written versions.

**Topic 1** - Text Response: *To Kill A Mockingbird* (novel and film)

**Topic 2** – Comparative Study: Text to be confirmed

**Topic 3** - Using Language to Persuade – The process of adaptation (stakeholders, artistic aims of the director, current affairs and how these play a part)

**Teachers to see for advice regarding this subject:** Ms Crust or your Year 9 English teacher
Year 10 Persuasion and Deception

Ever wondered how seemingly simple words can change minds or even the world? ‘Persuasion and Deception’ offers you the chance to delve into the world of persuasive speaking and writing, as well as the complex jargon used in the spheres of business, politics and advertising. You’ll analyse famous persuasive texts, decipher the social codes that are euphemism and political correctness, and work out how deception threatens just about every part of our lives.

This subject would be a good choice for students who are curious about VCE English Language.

Topic 1 - Text Response: 1984

Topic 2 - Comparative Study: Language of deception (big business, politics, corporate world, institutional language, advertising)

Topic 3 - Using Language to Persuade: Understanding persuasive texts (speeches/written)

Advice to Students

Students considering studying VCE English Language are advised to choose this subject.

Teachers to see for advice regarding this subject: Ms Banaag or your Year 9 English teacher
Year 10 Maths

The Year 10 Maths course is based on the Victorian Curriculum. It aims to further enhance students’ abilities in computing and problem solving strategies, especially in recognising mathematical patterns and relationships and in applying various mathematical rules and procedures to real life situations. Students will use technology as an effective support for mathematical activities.

These skills are to be used throughout the topics of:

- Indices
- Linear Relationships
- Geometry
- Trigonometry
- Algebra
- Probability

**Assessment**

- Ongoing coursework
- Topic Tests
- Topic Assignments
- Exams (technology free and technology enabled)

**Possible Pathways**

This subject leads to Units 1 & 2 General Maths, Specialist Maths and /or Maths Methods.

**Teachers to see for advice regarding this subject:** Your Year 9 Maths teacher
Year 10 Maths (Advanced)

This course aims to further enhance students’ abilities in computing and problem solving strategies, especially in recognising mathematical patterns and relationships and in applying various mathematical rules and procedures to real life situations. Students will use technology (CAS calculators) as an effective support for mathematical activity and learning. Students undertaking this course will access enriched preparation for VCE Mathematics.

By the end of this course it is intended that students will have developed confidence in topics including:

- Statistics (Univariate and Bivariate)
- Geometry and Trigonometry in real life applications
- A variety of relations (their graphs and applications), including the hyperbola, circle and truncus, as well as polynomial, trigonometric and exponential functions
- Sequences and Series
- Probability
- Introductory Calculus

**Assessment**
- Ongoing course work
- Topic Tests
- Problem Solving / Investigative Tasks
- Exam

**Advice to Students**

This course is intended for students who have completed Intermediate Maths at an advanced level and wish to consolidate their skills before beginning VCE Mathematics.

**Teachers to see for advice regarding this subject:** Mr Witt or your Year 9 Maths teacher
Year 10 Intensive Science

Intensive Science is a year-long course designed for those students who wish to undertake Biology, Chemistry and Physics at Year 10. It will prepare students for VCE studies in all three of the aforementioned sciences. Students will study the following topics:

**Biology:** Introduction to Biochemistry, Cell Structure and Function, Mendelian Genetics and Natural Selection.

**Chemistry:** Matter, including the Periodic Table; solubility; shape, structure and properties of molecules and compounds; reactions of acids and bases; exothermic and endothermic reactions, and precipitation reactions, including mole theory.

**Physics:** Motion in One Dimension, including kinematics, dynamics, momentum and Newton’s Laws.

**Assessment**
- Ongoing coursework, including practical reports
- Topic Tests
- Exams

**Advice to students**

This subject is available to students who have achieved Very Good or above in at least 4 out of 5 areas, one of which must be Knowledge. This pathway enables students to prepare for VCE Physics, Chemistry and Biology. A student may choose to study Year 10 Intensive Science and Unit 1 & 2 Psychology.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Intensive Science</td>
<td>Unit 1 &amp; 2 Biology and/or Chemistry and/or Physics</td>
<td>Unit 3 &amp; 4 Biology and/or Chemistry and/or Physics</td>
</tr>
<tr>
<td>Option 2</td>
<td>Intensive Science and Unit 1 &amp; 2 Psychology</td>
<td>Unit 1 &amp; 2 Biology and/or Chemistry and/or Physics plus Unit 3 &amp; 4 Psychology</td>
<td>Unit 3 &amp; 4 Biology and/or Chemistry and/or Physics</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Mrs Latham, Mr LaBrooy or Ms Mackin

**For advice regarding Psychology:** Miss Soltys
**Year 10 Foundation Biology**

Foundation Biology is a semester long course designed to engage students with Biology and develop their understanding of a range of basic concepts. Students are introduced to ecosystems, evolution, natural selection and genetics. They also study biomolecules, cells, organelles and cell processes including the nature of enzymes. A highlight of this subject is BioEYES, a week-long experimental investigation into the growth and genetics of zebrafish.

**Assessment**
- Ongoing coursework, including practical work and investigation reports
- Topic tests

**Advice to students**

It is recommended that students intending to study VCE Biology study Foundation Biology at Year 10 Level.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Foundation Biology</td>
<td>Unit 1 &amp; 2 Biology</td>
<td>Unit 3 &amp; 4 Biology</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Biology</td>
<td>Unit 3 &amp; 4 Biology</td>
<td></td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Biology</td>
<td>Unit 3 &amp; 4 Biology</td>
<td>University Enhancement Studies in Biology</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Mrs Latham or Mrs Ball.
**Science Domain**

**Year 10 Foundation Chemistry**

Foundation Chemistry serves as an introductory course for VCE Chemistry. Students will explore the structure and electronic configuration of atoms, the structure of the periodic table and classes of chemical reactions. They will also be introduced to calculations in Chemistry. Students will build on knowledge gained in Year 9 Science.

**Assessment**
- Ongoing coursework, including practical reports
- Topic tests
- Multimedia presentation
- Self-designed experiment
- Semester Exam

**Advice to students**

It is recommended that students intending to study VCE Chemistry study Foundation Chemistry at Year 10 level.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Option</strong></td>
<td>Foundation Chemistry</td>
<td>Unit 1 &amp; 2 Chemistry</td>
<td>Unit 3 &amp; 4 Chemistry</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Mrs Graystone, Ms Campagna, Mrs Fankhauser or Mr Alley.
Year 10 Foundation Physics

The Year 10 Foundation Physics students will be developing their physics skills through the use of modelling which will then lead them on a journey through the theory of physics, focusing on kinematics, dynamics and will introduce magnetism and the electromagnetic spectrum if time permits. The aim is that they will have to think, they will get to do and they are engaged.

Each topic area will start off with practical work based on some fundamental physics ideas. From the practical work it then leads students to discuss and discover concepts and theories which leads to a deeper overall understanding.

**Assessment**
- Ongoing coursework, including practical work
- Topic tests
- Exam

**Advice to students**

It is recommended that students intending to study VCE Physics study Foundation Physics at Year 10 level.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Option</td>
<td>Foundation Physics</td>
<td>Unit 1 &amp; 2 Physics</td>
<td>Unit 3 &amp; 4 Physics</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Mr Fankhauser, Ms Mackin, Mr Alderton or Mrs Bonham
Year 10 Health and Physical Education

This subject has two areas of study:

Movement and Physical Activity

This dimension focuses on the important role that physical activity, sport and recreation play in the lives of Australians. The course promotes involvement in lifelong physical activity and an awareness that everyone has the right and capacity to participate in a healthy and active lifestyle. The course provides the opportunity for students to coach, facilitate and participate in a variety of sports, leisure and recreation activities, and allows for individual creativity through movement.

Health Knowledge and Promotion

In this dimension students will explore a range of positive health practices. Students will focus on first aid and the management of minor and major medical scenarios. Students will analyse a range of influences on personal and family food selection, and identify major nutritional needs for growth and activity throughout the teenage years. They will study the mental health and anxiety issues relevant to young people and explore a range of personal behaviours designed to promote mental wellbeing and confidence. Students will learn about the rights and responsibilities associated with developing greater independence, including those related to sexual matters and sexual relationships.

Advice to students

This subject has four practical classes and two theory classes per fortnight.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Year 10 Health and Physical Education</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Hamilton, Miss Veale, Mr Haverfield, Mrs Aarts or Ms Kutrolli
Year 10 Sports Science

In this subject students will explore the science of sports and how sports performance is enhanced through the application of scientific principles. The unit will expose students to many of the concepts that are studied in VCE Physical Education, including biomechanics, energy systems, human anatomy and performance enhancement strategies. This subject has an emphasis on practical exploration and application. Sports Science has a balance between theoretical and practical classes and is an ideal lead up to VCE Physical Education Units 1 and 2.

Assessment
- Practical application
- Ongoing coursework
- Laboratory/practical reports
- Assignments

Advice to students

It is recommended that students intending to study VCE Physical Education study Sports Science at Year 10 level. This subject has three practical classes and three theory classes per fortnight.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Year 10 Health and Physical Education and Sports Science</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Miss Veale or Mr Hamilton
Year 10 Team Sports

This semester long elective gives students the opportunity to take ownership over their involvement in organised sport. Students will experience a wide range of team sports as elected by the students themselves. This is an entirely practical elective and will allow students to further develop their teamwork, skill acquisition, strategies, decision making and sportsmanship within the context of training for, and competing in, a round robin competition. Students will also have the opportunity to undertake various off field roles associated with team management of organised sport, including officiating, coaching, administration and media.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Option</td>
<td>Year 10 Health and Physical Education and Team Sports</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Miss Veale, Mr Hamilton, Mr Haverfield, Mrs Aarts or Ms Kutrolli
Year 10 Humanities

Students will complete two semester-length units as part of their Year 10 Humanities course:

- Semester 1 - Modern History
- Semester 2 - Political & Legal Studies

These units are designed to expand upon the Geography and Economics units that students completed in Year 9 and to give them a fully-rounded foundation in the core Humanities subjects and in the unique skills upon which these subjects rely.

Students will examine culture, conflict and change from WWII to the present and they will learn about the foundations and functions of our international legal and political systems with a particular focus on the promotion and protection of human rights.

This two-year Humanities program will best equip all students for their future role as citizens in our democracy, as well as enhancing their literacy skills to assist their future performance in their English subjects. It will also provide a robust foundation for students wishing to pursue VCE studies in any of the Humanities subjects offered at Nossal.

If students elect to enrol in VCE Unit 1&2 History, Geography, Legal Studies, Economics or Philosophy they do not also have to enrol in Year 10 Humanities (although they can do both if they wish).

Students are also welcome to enrol in VCE Unit 1&2 Accounting or Business Management in Year 10, but they still need to enrol in Year 10 Humanities as these subjects do not count as an ‘exemption’.

Possible Pathways

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 10 Humanities</td>
<td>Unit 1 &amp; 2 History, Geography, Legal Studies, Economics, Philosophy, Accounting and/or Business Management</td>
<td>Unit 3 &amp; 4 History, Geography, Legal Studies, Economics, Philosophy, Accounting and/or Business Management</td>
</tr>
</tbody>
</table>

| Option 2 | Unit 1 & 2 History, Geography, Legal Studies, Economics, Philosophy | Unit 3 & 4 History, Geography, Legal Studies, Economics, Philosophy, Global Politics | University Enhancement and/or Unit 3 & 4 Global Politics |

| Option 3 | Year 10 Humanities and Unit 1 & 2 Accounting and/or Business Management | Unit 1 & 2 History, Geography, Legal Studies, Economics, Philosophy and Unit 3 & 4 Accounting and/or Business Management | Unit 3 & 4 History, Geography, Legal Studies, Economics, Philosophy, Global Politics |

Teachers to see for advice regarding this subject: Mr Clark, Ms Loel, Miss Wilson, Mr Allen, Mrs Engler, Ms Thompson, Ms Chapple, Ms Toth or Ms Warner
Languages at Nossal

NOTE: In order to facilitate the study of a language, students who wish to study Japanese or French at Year 10 can negotiate an individual pathway, which is outside the subject guidelines. This can be done during their course counselling appointment in Term 3.

There are two languages available in Year 10 within the school timetable: French and Japanese. Both languages are available for study through to VCE level. These studies provide a solid foundation to study Units 1 & 2 in Year 11.

There are benefits in learning a foreign language in a formal academic setting. Japanese and French at Nossal are taught in a structured, rigorous way. Language study includes both communicative, task-based learning, as well as formal grammar study, which is particularly beneficial for the development of students’ literacy and numeracy skills in English. The study of a language other than English is also encouraged by both the Victorian and Federal Governments to support global participation. Students studying languages are given priority for overseas study tours to Japan and France, which are offered biannually.

The courses for languages share a common approach to developing the four main strands of: listening, speaking, reading and writing. The focus on the purposeful use of the language means that all students’ learning situations and assessment tasks resemble, as far as possible, real life situations where students are exposed to, and produce authentic text.

Language is a full year course.

Distance Education Languages through Victorian School of Languages (VSL)

Students wishing to study another language through VSL Distance Education should discuss this at course counselling. Not all languages are available at all levels via Distance Education.

At Nossal, we recognise the value and cognitive benefits of acquiring languages, and encourage students to continue the academic study of languages through Years 10, 11 and 12.

Nossal provides a dedicated staff member to assist in the facilitation of the VSL programs - Mr. Rohan Bramley. The Coordinator role may involve enrolling students, emailing VSL tutors and staff on behalf of the students, supporting study groups, providing study time and space for assessments and reminding students of key dates and information.

All VSL SACs are completed in a dedicated study space with a teacher who follows all VCAA supervision requirements. In addition, upon request there is a list of competent Nossal staff target language speakers to assist VSL students with book work, general conversation and in Year 12, the Detailed Study. All materials returned from the VSL are passed onto the respective students via their Tutorial Group.

Students may wish to email Mr. Bramley fortnightly in order to make a room and phone booking for the call to their VSL Supervisor.

Teacher to see for advice regarding VSL: Mr Bramley
Year 10 French

Students at Year 10 study a range of topics such as: food and cooking; health; travel and holidays; work, money and the future. By the end of Year 10, students should be able to communicate in not only the present tense, but also the past tense and two future tenses. Students have the opportunity to participate in a 'food and film' excursion as part of their studies.

Required Prior Knowledge

Students are required to have studied Year 9 French at either Beginner or Intermediate level.

Assessments

A range of writing tasks, for example: diary entry, letter, and article
Oral assessments, including role-plays and interviews
Listening comprehension and reading comprehension tests
End of semester exams

Possible Pathways

<table>
<thead>
<tr>
<th>Option</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>French</td>
<td>Unit 1 &amp; 2 French</td>
<td>Unit 3 &amp; 4 French</td>
</tr>
<tr>
<td>Option 2</td>
<td>French</td>
<td>Unit 1 &amp; 2 French</td>
<td>Unit 3 &amp; 4 French and University Enhancement Studies in French</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 French</td>
<td>Unit 3 &amp; 4 French</td>
<td>University Enhancement Studies in French</td>
</tr>
<tr>
<td>With permission*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*NOTE: Students who have completed an accelerated Year 9 course and covered the Year 10 program must take an oral, aural and written admission exam at the end of Year 9. The results must be to the satisfaction of the French staff for entry into the VCE program.

Teachers to see for advice regarding this subject: Mrs Sly or Ms Wakeman
Year 10 Japanese

Students undertaking the study of Japanese at Year 10 will follow a course of study that meets the requirements of the Victorian Curriculum. The course prepares students for the transition into VCE Japanese Units 1 through 4. Additionally, the course is designed to enable students to confidently and effectively communicate in Japanese about a wide range of relevant and current topics. Excursions, incursions, hosting, tours and exchanges, along with a variety of language immersion opportunities, are offered to support student learning.

Required Prior Knowledge

Students are required to have studied Year 9 Japanese at Beginner or Intermediate level (or equivalent).

Assessments

Students are assessed in a range of communicative, linguistic and cultural competencies. Their communication skills and their understanding of the language and culture will be developed throughout the year. Script, vocabulary and sentence structures are also regularly assessed. The different level of students’ prior knowledge of the languages is also taken into account in the design of different assessment tasks. Students develop skills in the use of ICT in Japanese, written and oral presentation and listening or reading Japanese and responding appropriately.

Possible Pathways

<table>
<thead>
<tr>
<th>Option</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Japanese</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese</td>
</tr>
<tr>
<td>Option 2</td>
<td>Japanese</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese and University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Enhancement studies in Japanese</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese</td>
<td>University Enhancement studies in Japanese</td>
</tr>
<tr>
<td>With permission*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*NOTE: Students who have completed an accelerated Year 9 course and covered the Year 10 program must take an oral, aural and written admission exam at the end of Year 9. The results must be to the satisfaction of the Japanese staff for entry into the VCE program.

Teachers to see for advice regarding this subject: Mr Bramley or Ms Warner
Year 10 Art and Photography

In this semester length course students will have the opportunity to experiment with a range of drawing, painting, collage and print making techniques to produce original artworks. They will use the compositional elements and principles of design to enhance their projects and learn about the Analytical Frameworks which guide VCE students to assess and analyse the work of other artists.

Students will also have the opportunity to use the digital SLR cameras to produce stitched panoramas, tell a photographic story, create a short animation or photomation and experiment with a range of photographic techniques and tricks. They will use computer software programs to edit, manipulate and improve their photographs and learn about photojournalism and the ethics associated with photography, digital manipulation and the use of the internet as a source of images for their own class work.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Year 10 Art &amp; Photography</td>
<td>Unit 1 &amp; 2 Visual Communication Design</td>
<td>Unit 3 &amp; 4 Visual Communication Design</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Visual Communication Design</td>
<td>Unit 3 &amp; 4 Visual Communication Design</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Cilia
Year 10 Dance

Dance will suit students who are interested in movement, aesthetics and anatomy. In Dance, students develop their physical skills, personal movement vocabulary, and application of choreographic and analytical principles. Students create and perform their own dance works as well as studying the dance works of others through performance and analysis. Students are required to undertake a range of dance training to build physical skills and develop their ability to execute safely, a diverse range of expressive body actions. Students perform choreographed or learnt solo and group dance works using different dance-making processes.

Aims

This study enables students to:

• develop safe dance practice and physical skills
• develop an anatomically aware use of the body
• develop skills associated with a variety of approaches to dancing and dance-making
• respond creatively and kinesthetically to ideas and emotions
• observe, experience and write about dance in an analytical, a critical and a reflective manner

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Year 10 Dance</td>
<td>Unit 1 &amp; 2 Dance</td>
<td>Unit 3 &amp; 4 Dance</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Dance</td>
<td>Unit 3 &amp; 4 Dance</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Aarts
**Year 10 Design**

In this semester length course students will be introduced to the basic skills needed for further studies in VCE Unit 1 - 4 Visual Communication Design.

This course will interest students who would like a career in:

- Environmental Design: Architecture, Interior Architecture and Landscape Architecture
- Industrial Design: Engineering and Industrial Design
- Graphic Design: Posters, package development and infographic design.

**The students will:**

- learn about observational, visualisation and presentation drawing techniques to develop their ideas
- use the elements and principles of design to produce highly effective posters and infographics
- interpret and analyse the work of professional designers in the fields of Industrial, Architectural and Environmental Design
- develop their use of freehand, instrumental and computer generated drawing methods using industry based software programs Adobe Illustrator and Photoshop
- produce a folio of drawings to meet the needs of a design brief

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Design</td>
<td>Unit 1 &amp; 2 Visual Communication Design</td>
<td>Unit 3 &amp; 4 Visual Communication Design</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Visual Communication Design</td>
<td>Unit 3 &amp; 4 Visual Communication Design</td>
<td></td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Mrs Cilia
Year 10 Foundation Music

Foundation Music would suit students who have prior instrumental music experience and will cover foundation skills such as performance in both a solo and group setting, as well as develop creativity, analytical skills and an understanding of musical structures across historical genres and social contexts. The course will broadly cover material which leads to the study of VCE Solo Performance and VCE Music Investigation.

Students will develop understanding and experience in the following areas:

• Structures of music and music analysis
• Music performance – solo and group
• Music composition
• Aural training and theory of music
• Developments in digital music and the science of acoustics

Advice to students

Acceleration to VCE in this subject is available at Year 10 by negotiation with the Director of Music only, and dependent upon performance and theoretical experience.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Year 10 Foundation Music</td>
<td>Unit 1 &amp; 2 VCE Music Performance</td>
</tr>
<tr>
<td>Option 2 (by negotiation)</td>
<td>Unit 1 &amp; 2 VCE Music Performance (at least Grade 5 AMEB standard required)</td>
<td>Unit 3 &amp; 4 VCE Music Performance</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Ms Stoppa
Year 10 Theatre Studies

Theatre Studies would suit students who want to develop their reading and text analysis skills as well as their presentation skills. In this subject students interpret dramatic texts and produce theatre. Students will gain an insight into the history and rich possibilities of playscript-based theatrical production through studying ancient and modern play texts. Students will develop an understanding and appreciation of the role and place of the actor, director, scriptwriter and designers in theatre.

Aims

This study enables students to:

• acquire knowledge of theatre
• interpret playscripts
• develop an appreciation of theatre
• participate in the theatrical life of their community

Assessment

• Ancient theatre – reading and performing (group or solo)
• Modern theatre - reading and performing (group or solo)
• Performance interpretation – review (written)

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Year 10 Theatre Studies</td>
<td>Unit 1 &amp; 2 Theatre Studies</td>
<td>Unit 3 &amp; 4 Theatre Studies</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Theatre Studies</td>
<td>Unit 3 &amp; 4 Theatre Studies</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Ms Crust
Year 10 Subjects

Technology Domain

Year 10 Food Technology

In Food Technology, students will learn a variety of cooking techniques, while making delicious and sophisticated food items, menus and dishes. Students will focus on design briefs and menu planning tasks that will further develop their knowledge and skills. This practice will build their confidence in all aspects of food preparation and cooking, as well as further developing important life skills.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Food Technology</td>
<td>Unit 1 &amp; 2 Food</td>
<td>Unit 3 &amp; 4 Food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technology</td>
<td>Technology</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Food</td>
<td>Unit 3 &amp; 4 Food</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technology</td>
<td>Technology</td>
<td></td>
</tr>
<tr>
<td>Option 3</td>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Food</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Technology</td>
</tr>
<tr>
<td>Option 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Food</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Technology</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Ansalde
**Technology Domain**

**Year 10 Digital Technology**

This semester length course will be a creative approach to Digital Technology. It will provide students, who are willing to be challenged, with an opportunity to delve deeply into the following:

- Problem solving through programming languages
- Using contemporary computer software to manipulate data and organise it into useful formats

**Advice to students**

It is recommended that students intending to study Units 3 & 4 Informatics and/or Software Development choose Digital Technology in Year 10 and have studied Units 1 & 2 Computing.

**Possible Pathways**

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Digital Technology</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Informatics and/or Unit 3 &amp; 4 Software Development</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option 2</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Informatics</td>
<td>Unit 3 &amp; 4 Software Development</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option 3</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Software Development</td>
<td>Unit 3 &amp; 4 Informatics</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Mr Chatrath
Extended investigation

Extended investigation provides an opportunity for students to develop, refine and extend knowledge and skills in independent research and carry out an investigation that focuses on a rigorous research question.

It enhances the students’ understanding of what constitutes both a good research question and an ethical, robust, disciplined and rational approach to interpreting and evaluating evidence in order to answer such questions. Within the study, issues around the ethics of research are covered.

It considers how research questions are developed and focused to enable the researcher to address the key issues proposed by the research with the limits that time and resources impose. The individual investigation question developed by each student facilitates the exploration of a range of potential research outcomes and allows students to engage more deeply with an area of interest to them.

Students conduct a relevant literature review and develop project management knowledge and skills and ways of effectively presenting and communicating results. Students are introduced to a broad classification of research methods and their comparative suitability for the investigation of particular questions.

**Assessment**

- Folio: 3 to 4 written pieces developing critical thinking
- Case studies
- Written research plan
- Written report
- Oral report

**Advice to students**

There are no prerequisites for undertaking the semester unit, Extended Investigation. Students considering undertaking the unit should be confident, independent and self-managed learners. This subject will run in Semester Two.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Extended Investigation</td>
<td>Any Unit 1 &amp; 2 Study</td>
<td>Unit 3 &amp; 4 Extended Investigation</td>
</tr>
<tr>
<td>Option 2</td>
<td></td>
<td>Unit 3 &amp; 4 Extended Investigation</td>
<td>Any University Enhancement Study</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Ms Mackin or Ms Warriner
Index - VCE Subjects

**English Domain**
- English Units 1 & 2
- English Units 3 & 4
- English Language Units 1 & 2
- English Language Units 3 & 4
- Literature Units 1 & 2
- Literature Units 3 & 4

**Humanities Domain Continued**
- Geography Units 1 & 2
- Geography Units 3 & 4 (2018)
- Global Politics Units 3 & 4
- History Units 1 & 2
- History Units 3 & 4
- Legal Studies Units 1 & 2
- Legal Studies Units 3 & 4
- Philosophy Units 1 & 2
- Philosophy Units 3 & 4

**Maths Domain**
- General Maths Units 1 & 2
- Maths Methods (CAS) Units 1 & 2
- Specialist Maths Units 1 & 2
- Further Mathematics Units 3 & 4
- Maths Methods (CAS) Units 3 & 4
- Specialist Maths Units 3 & 4
- Algorithmics

**Arts Domain**
- Dance Units 1 & 2
- Music Investigation Units 3 & 4
- Music Performance Units 1 & 2
- Music Performance Units 3 & 4
- Theatre Studies Units 1 & 2
- Theatre Studies Units 3 & 4 (2018)
- Visual Com and Design Units 1 & 2
- Visual Com and Design Units 3 & 4

**Science Domain**
- Biology Units 1 & 2
- Biology Units 3 & 4
- Chemistry Units 1 & 2
- Chemistry Units 3 & 4
- Environmental Science Units 1 & 2
- Environmental Science Units 3 & 4
- Physics Units 1 & 2
- Physics Units 3 & 4
- Psychology Units 1 & 2
- Psychology Units 3 & 4

**Technology Domain**
- Computing Units 1 & 2
- Informatics Units 3 & 4
- Software Development Units 3 & 4
- Food Technology Units 1 & 2
- Food Technology Units 3 & 4
- Systems Engineering Units 1 & 2
- Systems Engineering Units 3 & 4

**Health and PE Domain**
- Health and Human Dev Units 1 & 2
- Health and Human Dev Units 3 & 4
- Physical Education Units 1 & 2
- Physical Education Units 3 & 4

**Humanities Domain**
- Accounting Units 1 & 2
- Accounting Units 3 & 4
- Business Management Units 1 & 2
- Business Management Units 3 & 4
- Economics Units 1 & 2
- Economics Units 3 & 4

**Cross Curricular**
- Extended Investigation Units 3 & 4
Senior students at Nossal High School complete the Victorian Certificate of Education (VCE). The VCE is administered by the school in accordance with the policies and guidelines set out by the Victorian Curriculum and Assessment Authority (VCAA).

**Reporting and Assessment**

Detailed course and assessment outlines in accordance with the VCAA requirements specified in each Study Design will be distributed to students at the commencement of each unit. Each unit will require students to undertake a range of tasks that include Assessment Tasks (Unit 1 & 2), School Assessed Coursework or Tasks (SACs or SATs) (Unit 3 & 4). These are internally administered assessments that provide students with the opportunity to demonstrate the outcomes of the VCE.

**Unit 1 & 2**

a. Assessment Tasks which contribute to a VCAA assessment of Satisfactory (S) or Not Satisfactory (N)

b. End of year internal Nossal exam

**Unit 3 & 4**

a. SACs or SATs contribute to a VCAA S or N and graded assessment of A+ - Ungraded

b. VCAA exam/s, usually held at the end of the year.

For Unit 3 & 4 both (a) and (b) contribute to the calculation of the ATAR.

Prerequisites vary depending on the university of interest and from year to year. Please clarify the requirements of any proposed pathway with Ms Ryan, and ensure that you have checked the correct VICFER publications for your year regarding current prerequisite information.

---

*VCE Subjects*

---

‘Light & Waves’ 2016 Science Week Competition Entries
English Units 1 & 2

Unit 1
In this unit, students read and respond to texts analytically and creatively. They analyse arguments and the use of persuasive language in texts and create their own texts intended to position audiences.

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

Unit 2
In this unit students compare the presentation of ideas, issues and themes in texts. They analyse arguments presented and the use of persuasive language in texts and create their own texts intended to position audiences.

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

Assessment

Unit 1 Assessment Tasks:
Outcome 1 – Reading and creating texts - texts to be confirmed
Outcome 2 – Analysing and presenting texts

Unit 2 Assessment Tasks:
Outcome 1 – Reading and Comparing texts - texts to be confirmed
Outcome 2 – Analysing and presenting argument
Exam

English as an Additional Language (EAL)

This course is run in conjunction with English Units 1 & 2. Students eligible for EAL will be placed in an appropriate class during counselling.

Advice to Students

VCE English is the natural progression from the middle years English program. It is highly recommended that students intending to study Units 3 & 4 English have studied at least Unit 2 English.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English</td>
<td>Unit 3 &amp; 4 English</td>
</tr>
<tr>
<td>Option 2</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English and Unit 1 &amp; 2 Literature</td>
<td>Unit 3 &amp; 4 English and Unit 3 &amp; 4 Literature</td>
</tr>
<tr>
<td>Option 3</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English and Unit 1 &amp; 2 English Language</td>
<td>Unit 3 &amp; 4 English and Unit 3 &amp; 4 English Language</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Any English teacher
**English Units 3 & 4**

**Unit 3**
In this unit students read and respond to texts analytically and creatively. They analyse arguments and the use of persuasive language in texts.

**Unit 4**
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.

**Assessment**
Course work (SACs) need to be completed as prescribed by the VCAA. The SACs are weighted at 50% and the final examination is weighted at 50%. The SAC assessments are moderated against the end of year examination. Teachers will also set a range of tasks that students must complete in order to obtain an ‘S’in Units 3 & 4 English.

**Unit 3 SACs:**
Outcome 1 – Analytical interpretation of a selected text, and a creative response to a different selected text  
Outcome 2 – Analyse and compare the use of argument and persuasive language

**Unit 4 SACs:**
Outcome 1 – Comparative analysis of two selected texts  
Outcome 2 – Construct and present in oral form a reasoned point of view on an issue  
Exam

**English as an Additional Language (EAL)**
This course is run in conjunction with English Units 3 & 4. Students eligible for EAL will be placed in an appropriate class during course counselling.

**Assessment**
**Unit 3 SACs:**
Outcome 1 – Analytical interpretation of a selected text, and a creative response to a different selected text  
Outcome 2 – Analyse and compare the use of argument and persuasive language  
Outcome 3 – Comprehend a spoken text 

**Unit 4 SACs:**
Outcome 1 – Comparative analysis of two selected texts  
Outcome 2 – Construct and present in oral form a reasoned point of view on an issue  
Exam

**Advice to students**
It is recommended if you have completed English Units 1 & 2 then you should continue onto Units 3 & 4.

**Possible Pathways**

<table>
<thead>
<tr>
<th>Option</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English</td>
<td>Unit 3 &amp; 4 English</td>
</tr>
<tr>
<td>Option 2</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English and Unit 1 &amp; 2 Literature</td>
<td>Unit 3 &amp; 4 English and Unit 3 &amp; 4 Literature</td>
</tr>
<tr>
<td>Option 3</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English and Unit 1 &amp; 2 Language</td>
<td>Unit 3 &amp; 4 English and Unit 3 &amp; 4 English Language</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Any English teacher
**English Language Units 1 & 2**

English Language focuses on the science and history of English. In Unit 1, students learn the various functions of language, as well as how children acquire language. A key focus is analysing speaking and writing using the subsystems of language: phonology, morphology, lexicology, syntax, semantics and discourse analysis.

In Unit 2, students examine the nature of language change over time, researching the way English has developed from its roots in Old English to the present day effects of technology. Unit 2 also focuses on how English is spoken differently in various communities throughout the world, exploring these unique approaches to the language. English Language is a highly academic subject that requires research and wide reading in order to develop confidence in applying a variety of linguistic terms and concepts.

**Assessment**  
Ongoing coursework  
Topic tests  
3 x Assessment Tasks  
Exam

**Advice to students**

This subject is a more challenging option than mainstream VCE English. It is highly recommended that students studying VCE English Language are already receiving good results in English.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English Language</td>
<td>Unit 3 &amp; 4 English Language</td>
</tr>
<tr>
<td>Option 2</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English Language and Unit 1 &amp; 2 Literature</td>
<td>Unit 3 &amp; 4 English Language and Unit 3 &amp; 4 Literature</td>
</tr>
<tr>
<td>Option 3</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English Language and Unit 1 &amp; 2 English</td>
<td>Unit 3 &amp; 4 English Language and Unit 3 &amp; 4 English</td>
</tr>
</tbody>
</table>

**Teacher to see for advice regarding this subject:** Ms Banaag, Mr Mahalingam or Mr McQuaid
**English Domain**

**English Language Units 3 & 4**

English Language focuses on the science and history of English. In Unit 3, students examine the differences between formal and informal language, as well as the relationship between these registers and social context/purpose. Unit 4 focuses on language variation within Australian society and how this variation can be used to construct identity. English Language is a highly academic subject that requires research and wide reading in order to develop competence in the application of a variety of linguistic terms and concepts.

**Assessment**

- Ongoing coursework
- Topic tests
- 2-3 School Assessed Course work (SAC) tasks per unit
- Exam

**Advice to students**

It is highly recommended that students wishing to study Unit 3 & 4 English Language have successfully completed at least Unit 2 English Language.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English Language</td>
<td>Unit 3 &amp; 4 English Language</td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English Language and Unit 1 &amp; 2 Literature</td>
<td>Unit 3 &amp; 4 English Language and Unit 3 &amp; 4 Literature</td>
</tr>
<tr>
<td><strong>Option 3</strong></td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 English Language and Unit 1 &amp; 2 English</td>
<td>Unit 3 &amp; 4 English Language and Unit 3 &amp; 4 English</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Ms Banaag, Mr Mahalingam or Mr McQuaid.
Literature Units 1 & 2

Units 1 & 2 focus on the ways literary texts represent human experience and the reading practices students develop to deepen their understanding of a text. Students respond to a range of texts personally, critically and creatively. This variety of approaches to reading invites questions about the ideas and concerns of the text. While the emphasis is on students’ close engagement with language to explore texts, students also inform their understanding with knowledge of the conventions associated with different forms of text, such as poetry, prose, drama and/or non-print texts.

Assessment

Unit One: approaches to Literature - Outcomes:
Discuss how personal and critical responses to literature are developed and justify their own responses to one or more texts.
Analyse and respond to the ways in which one or more texts reflect or comment on the interests and ideas of individuals and particular groups in society.

Unit Two: context and connections - Outcomes:
Analyse and respond both critically and creatively to the ways a text from a past era and/or a different culture reflects or comments on the ideas and concerns of individuals and groups at that time.
Produce a comparative piece of interpretative writing with a particular focus; for example, ideas and concerns, form of the text, author, and time in history, social or cultural context.

Text List
To be confirmed

Advice to students

It is recommended that students intending to study Units 3 & 4 Literature study Units 1 & 2 Literature. Literature students should also consider very carefully the benefits of pairing Literature with another VCE English subject.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 Literature</td>
</tr>
<tr>
<td>Option 2</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 Literature and Unit 1 &amp; 2 English</td>
</tr>
<tr>
<td>Option 3</td>
<td>Any English elective</td>
<td>Unit 1 &amp; 2 Literature and Unit 1 &amp; 2 English</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Dr Schroor, Mr McQuaid or Ms D’Mello
Literature Units 3 & 4

Unit 3 focuses on the ways writers construct their work and how meaning is created for and by the reader. Students consider how the form of text (such as poetry, prose, drama, not-print or combinations of these) affects meaning and generates different expectations in readers, the ways texts represent views and values and comment on human experience, and the social, historical and cultural context of literary works.

Unit 4 focuses on students’ creative and critical responses to texts. Students consider the context of their responses to texts as well as the concerns, the style of the language and the point of view in their re-created work. In their responses, student develop an interpretation of the text.

Assessment

Unit 3 Outcomes
- Analyse how meaning changes when the form of a text changes.
- Respond imaginatively to a text, and comment on the connections between the text and the response.
- Analyse, interpret and evaluate the views and values of a text in terms of the ideas, social conventions and beliefs that the text appears to endorse, challenge or leave unquestioned.
- Evaluate views of a text and make comparisons with their own interpretation.

Unit 4 Outcomes
- Read and synthesize different literary perspectives to produce independent interpretations.
- Analyse critically features of a text, relating them to an interpretation of the text as a whole.
- Exam

Text List
To be confirmed

Advice to students

It is recommended that students intending to study Units 3 & 4 Literature study Units 1 & 2 Literature. Literature students should also consider very carefully the benefits of pairing Literature with another VCE English subject.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>English</td>
<td>Unit 1 &amp; 2 Literature</td>
<td>Unit 3 &amp; 4 Literature</td>
</tr>
<tr>
<td>Option 2</td>
<td>English</td>
<td>Unit 1 &amp; 2 Literature and Unit 1 &amp; 2 English</td>
<td>Unit 3 &amp; 4 Literature and Unit 3 &amp; 4 English</td>
</tr>
<tr>
<td>Option 3</td>
<td>English</td>
<td>Unit 1 &amp; 2 Literature and Unit 1 &amp; 2 English Language</td>
<td>Unit 3 &amp; 4 Literature and Unit 3 &amp; 4 English Language</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Dr Schroor, Ms D’Mello or Mr McQuaid.
General Maths Units 1 & 2

General Maths introduces students to the key skills required in Units 3 & 4 Further Maths in the following areas:

- Data Analysis – Display, summary and interpretation of univariate and bivariate data.
- Linear Graphs and Models – Sketching and interpreting linear graphs, modelling with linear equations.
- Matrices and Applications.
- Linear Programming – Graphical approaches to solving optimisation problems.
- Financial Arithmetic – Simple and compound interest, investments and loans, comparison of purchase options.

A key emphasis of these units is proficient use of a CAS calculator to solve problems.

Assessment

- Ongoing Coursework
- Topic Tests
- Application Task Reports for each topic
- Exam

Advice to students

It is recommended, but not essential, that students successfully complete Year 10 Mathematics in order to prepare themselves for this subject. Students will need to develop proficiency with the use of a CAS calculator.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maths</td>
<td>Unit 1 &amp; 2 General Maths</td>
<td>Unit 3 &amp; 4 Further Maths</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Witt, Mr Tran or Mr Jose.
Maths Methods (CAS) Units 1 & 2

Maths Methods (CAS) Units 1 & 2 are designed as preparation for Maths Methods (CAS) Units 3 & 4. The areas of study for Units 1 and 2 are Functions and Graphs, Algebra, Calculus and Probability and Statistics. In Unit 2, students focus on the study of simple transcendental functions and the calculus of simple algebraic functions.

Students will be assessed in three outcomes:

**Outcome 1:** Ability to solve problems based on skills and practise

**Outcome 2:** Ability to solve analytical problems

**Outcome 3:** Ability to use appropriate technology to obtain solutions

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, as applicable. Students should be familiar with relevant mental and by hand approaches in simple cases. Computer algebra system (CAS) technology is used in teaching, learning and technology enabled assessment throughout this course. Familiarity with determining the equation of a straight line from a combination of sufficient information about points on the line or the gradient of the line and familiarity with Pythagoras’ theorem and its application to finding the distance between two points is assumed. Students should also be familiar with quadratic and exponential functions, algebra and graphs, basic concepts of probability and statistics.

**Assessment**

- Ongoing coursework
- Topic Tests (tech free and tech able)
- Assignments
- Exams (tech free and tech able)

**Advice to students**

Many university courses have Maths Methods as a pre-requisite and it contains challenging mathematical concepts.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>Maths or Maths Advanced</td>
<td>Unit 1 &amp; 2 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Maths Methods (CAS)</td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>Unit 1 &amp; 2 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Maths Methods (CAS)</td>
<td>University Enhancement Studies in Maths</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** All Maths staff, however, if more specialised advice is required you will be directed to a staff member who can assist you.
Specialist Maths Units 1 & 2

Specialist Maths Units 1 & 2 introduces students to the key skills required in Specialist Mathematics Units 3 & 4. Topics covered include Advanced Algebra, Trigonometry, Transformations, Vectors, Complex Numbers, Kinematics, Statics, Circular Functions and Statistics. Students are expected to learn the use of a CAS calculator to solve problems and identify when the use of a calculator is suitable.

Students entering Specialist Maths Units 1 & 2 are expected to have a high level of competency in mathematics.

Assessment

- Topic Tests
- Assignments
- Exams (tech able and tech free)

Advice to students

Specialist Maths Units 1 & 2 is not available for acceleration in Year 10. Students intending to study Specialist Mathematics in Year 12 should choose Specialist Maths Units 1 & 2.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Maths or Maths Advanced</td>
<td>Unit 1 &amp; 2 Maths Methods (CAS) and Unit 1 &amp; 2 Specialist Maths</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Maths Methods (CAS) and Unit 3 &amp; 4 Specialist Maths</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Math Methods (CAS)</td>
<td>Unit 3 &amp; 4 Math Methods (CAS) and Unit 1 &amp; 2 Specialist Maths</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Specialist Maths and University Enhancement studies in Maths</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Ms Desaulniers, Ms Callahan or Mr Jelinek
Further Mathematics Units 3 & 4

Further Mathematics consists of a Core area of study and two Modules.

Core Study

*Data Analysis* includes displaying, summarising and analysing data and contains the topics: Univariate and Bivariate Data, Regression, Transformations and Time Series.

*Recursion and Financial Mathematics* involves the use of technology (CAS) to use recurrence relationships to solve problems involving interest, appreciation and depreciation, loans, annuities and perpetuities.

Modules

*Matrices* covers matrix algebra and applications, including Transition Matrices.

*Graphs and Relations* involves construction and interpretation of graphs and Linear Programming.

Technology

Students use a Computer Algebra System (CAS) calculator in all assessment tasks.

Assessment

School Assessed Coursework (SAC)
- Statistical Application Task
- Three Analysis Tasks

End of year exams
- Exam 1 – one and a half hours consisting of multiple choice questions (calculator and bound reference permitted)
- Exam 2 – one and a half hours consisting of extended response questions (calculator and bound reference permitted)

Advice to students

It is recommended that student studying Further Mathematics have studied General Maths or Year 10 Maths Advanced.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Maths or Maths Advanced</td>
<td>Unit 1 &amp; 2 General Maths</td>
<td>Unit 3 &amp; 4 Further Maths</td>
</tr>
<tr>
<td>Option 2</td>
<td>Maths or Maths Advanced</td>
<td>Unit 1 &amp; 2 Maths Methods (CAS) and Unit 1 &amp; 2 General Maths</td>
<td>Unit 3 &amp; 4 Further Maths</td>
</tr>
<tr>
<td>Option 3</td>
<td>Maths or Maths Advanced</td>
<td>Unit 1 &amp; 2 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Further Maths</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Jose or Mr Witt
Maths Methods (CAS) Units 3 & 4

Maths Methods (CAS) Units 3 & 4 consists of the following areas of study: Functions and graphs, Calculus, Algebra, Statistics and Probability. Units 3 & 4 are learnt in sequence and rely heavily on the knowledge, skills and concepts of Maths Methods (CAS) Units 1 & 2.

Students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, algebraic manipulation, equation solving, graph sketching, differentiation and integration with and without the use of technology. Students should be familiar with relevant mental and ‘by hand’ approaches in simple cases.

Computer algebra system (CAS) technology is used in teaching, learning and technology enabled assessment throughout this course. This will include the use of computer algebra technology to assist in the development of mathematical ideas and concepts, the application of specific techniques and processes to produce required results and its use as a tool for systematic analysis in investigative, problem-solving and modelling work. Other technologies such as spreadsheets, dynamic geometry systems or statistical analysis systems may also be used as appropriate for various topics from within the areas of study.

Assessment

**Unit 3:**
1 x School Assessed Coursework (SAC) task comprised of:
An extended investigation application task

**Unit 4:**
2 x School Assessed Coursework (SAC) tasks comprised of:
Two analysis tasks
End of year exams

Advice to students

Students intending to study Units 3 & 4 Maths Methods must have completed Maths Methods Units 1 & 2. A large proportion of Exam 1 covers work from Units 1 & 2.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1 Math or Maths Advanced</td>
<td>Unit 1 &amp; 2 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Maths Methods (CAS)</td>
</tr>
<tr>
<td>Option 2 Unit 1 &amp; 2 Maths Methods (CAS)</td>
<td>Units 3 &amp; 4 Maths Methods (CAS)</td>
<td>University Enhancement studies in Maths</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: All Maths staff, however, if more specialised advice is required you will be directed to a staff member who can assist you.


Specialist Maths Units 3 & 4

Specialist Maths consists of: Algebra, Calculus, Vectors, Mechanics, Functions and Graphs, Probability and Statistics.

- The topics in Algebra include: partial fractions, complex numbers and factorisation of polynomials over the complex number system.
- Calculus consists of: analytic and numeric differentiation, integration of functions including circular, exponential and logarithmic functions and solutions of differential equations.
- The topics in Vectors include: the algebra of vectors, geometric proofs, vector representation of curves in a plane and vector kinematics.
- Mechanics covers the areas of: statics and Newton’s laws with respect to constant and variable acceleration.
- The topics in Functions include: reciprocal, circular, inverse circular and modulus graphs.
- Probability and Statistics consists of: expected values, simulation, confidence intervals and null hypothesis.

Assessment  School Assessed Coursework (SAC):
Two analysis tasks
Application task
Two end of year exams.

Advice to students

Students studying Specialist Maths must also complete Maths Methods Unit 3 & 4. This can be done concurrently. Specialist Maths is a highly intensive course and students should have a high level of competence in mathematics if they wish to study it.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Unit 1 &amp; 2 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Specialist Maths and University Enhancement studies</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Specialist Maths</td>
</tr>
<tr>
<td>Option 3</td>
<td>Maths or Maths Advanced</td>
<td>Unit 1 &amp; 2 Maths Methods (CAS)</td>
<td>Unit 3 &amp; 4 Maths Methods (CAS) and Unit 3 &amp; 4 Specialist Maths</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: All Maths staff, however, if more specialised advice is required please see Mr Jelinek, Ms Callahan or Ms Desaulniers.
Algorithmics – Higher Education Scored Study

While Algorithmics does contain mathematical content, it does not officially fit within the Maths Domain and will not count towards the number of Mathematics subjects studied in any given year. Therefore, you could choose to undertake Algorithmics, as well as two additional Mathematics studies within the one year.

Algorithmics is a structured framework for solving real-world practical problems with computational methods. It is fundamental to computer science and software engineering and is essential for understanding the technical underpinnings of the information society. Algorithmics also provides a general discipline of rational thought through the methodical way it approaches problem solving across many different fields. VCE Algorithmics examines how information about the world can be systematically represented and how the processes can be made sufficiently explicit and precise so they can be implemented in a computer program. The focus is not on coding but on `algorithmic thinking.' Algorithmics covers systematic methods for analysing real-world problems and identifying salient aspects of the real world to model. It explores the design of algorithms, resulting in a powerful approach to manipulating and reasoning about structured information. Mathematical techniques are used to establish crucial properties of algorithms, such as how their performance scales with the amount of data processed.

Assessment

On-going coursework
Tests
SACs: Unit 3 7.5%
Unit 4 7.5%
SATs: Unit 3 12.5%
Unit 4 12.5%
End of year exam 60%

Advice to Students

VCE Algorithmics is a Higher Education Scored Study. It is a relatively new VCE course, with the first cohort of students undertaking the study in 2015. Nossal High School is currently investigating the possibility of offering this study on-campus if there is suitable interest. However, if there are insufficient student numbers, there is still the possibility of undertaking this study externally.

VCE Algorithmics requires a considerable amount of assumed knowledge, most of which is covered in VCE Mathematics Methods (CAS) Units 1 and 2. Therefore, students are expected to be currently enrolled in, or have successfully completed, VCE Mathematical Methods (CAS) Units 1 and 2.

Possible Pathways

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10 Maths or Maths Advanced</th>
<th>Year 11 Unit 1 &amp; 2 Maths Methods</th>
<th>Year 12 Unit 3 &amp; 4 Algorithmics and Unit 3 &amp; 4 Maths Methods and Unit 3 &amp; 4 Specialist Maths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Maths Methods</td>
<td>Unit 3 &amp; 4 Algorithmics and Unit 3 &amp; 4 Maths Methods</td>
<td>Unit 3 &amp; 4 Specialist Maths</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Maths Methods</td>
<td>Unit 3 &amp; 4 Maths Methods</td>
<td>Unit 3 &amp; 4 Algorithmics and Unit 3 &amp; 4 Specialist Maths</td>
</tr>
</tbody>
</table>

Teacher to see for advice regarding this subject: Mr Ng
Dance Units 1 & 2

On completion of Unit 1 students should be able to: describe and document the expressive and technical features of their own and other choreographers’ dance works, and discuss influences on their own dance-making; choreograph and perform a solo or group dance work and complete structured improvisations; safely and expressively perform a learnt solo or group dance work; and describe aspects of the physiology, and demonstrate the safe use and maintenance, of the dancer’s body.

Unit 2 focuses on students being able to analyse use of the elements of movement – time, space and energy – in selected dance traditions, styles and dance works. Students should be able to choreograph and perform a solo or group dance work, complete structured improvisations, and describe the dance-making processes and performance practices used in their own works, as well as expressively perform a learnt solo or group dance work and analyse the processes used.

Assessment:  Written
Oral
Multimedia
Choreograph and perform a solo or group dance work
Perform a learnt solo or group dance work

Advice to Students

Students should consider studying Year 9 or 10 Dance before enrolling in VCE Units 1 & 2 Dance, however, this is not a prerequisite. If sufficient interest, Dance Units 3 & 4 will be offered for selection in 2018.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Dance</td>
<td>Unit 1 &amp; 2 Dance</td>
<td>Unit 3 &amp; 4 Dance</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Dance</td>
<td>Unit 3 &amp; 4 Dance</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Aarts
Music Investigation Units 3 & 4

Music Investigation Units 3 and 4 involves both performance research in a Focus Area selected by the student and performance of works that are representative of that Focus Area. Students’ research of music characteristics and performance practices representative of the Focus Area underpin the Investigation, Composition/arrangement/improvisation and Performance areas of study. Aural and theoretical musicianship skills are developed across all areas of study. Students use a work they have selected from a prescribed list as a starting point, and design an investigation into a specific area of music which becomes their Focus Area. This Focus Area is the basis for study of repertoire, performance, technique and general musicianship.

Assessment:
- Research paper on genre and performance practice
- Short Composition/arrangement or improvisation
- Performance of at least two works and technical work performance
- Extended composition/arrangement or improvisation
- Performance of at least four works
- End of year performance exam

Advice to Students

Students should have completed at least Units 1 and 2 of Music Performance before enrolling in Music Investigation.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Music</td>
<td>Unit 1 &amp; 2 Music Performance</td>
<td>Unit 3 &amp; 4 Music Performance</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Music Performance</td>
<td>Unit 3 &amp; 4 Music Investigation</td>
<td>Unit 3 &amp; 4 Music Performance</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Music Performance</td>
<td>Unit 3 &amp; 4 Music Performance</td>
<td>Unit 3 &amp; 4 Music Investigation</td>
</tr>
</tbody>
</table>

Note: Music Investigation is an ideal subject for students who have already completed Music Performance Units 3 & 4 and wish to incorporate more music studies into their VCE.

Teachers to see for advice regarding this subject: Ms Stoppa
Music Performance Units 1 & 2

Students present performances of selected group and solo music works on one or more instruments, demonstrate technical work and develop skills in music theory, musicianship and analysis.

Assessment

Unit 1
Performance of three contrasting works including at least one accompanied work and one solo
Demonstration of technical work
Aural and written tests and tasks
Group music – including participation in one of the official Nossal Music Ensembles

Unit 2
Performance of at least three contrasting group or solo works - at least one accompanied work
Demonstration of technical work
Aural and written tests and tasks
Composition folio

Advice to students

Students should be proficient on an instrument (which includes voice) prior to commencement of this subject, to a minimum standard of AMEB Grade 5 or equivalent for instrumentalists, and AMEB Grade 4 or equivalent for vocalists. Students must also be receiving individual instrumental lessons, either at Nossal or privately. Some AMEB music theory would be beneficial. For clarification of 'equivalent' standards please speak to the Director of Music.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Music</td>
<td>Unit 1 &amp; 2 Music Performance</td>
<td>Unit 3 &amp; 4 Music Performance</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Music Performance</td>
<td>Unit 3 &amp; 4 Music Performance</td>
<td>Unit 3 &amp; 4 Music Investigation</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Ms Stoppa
Music Performance Units 3 & 4

Students present performances of selected group or solo music works on one instrument, demonstrate technical work and develop musicianship skills including theory, aural and analysis.

Assessment

Unit 3
- SAC 1: 15 minute performance of a selection of works from the chosen end of year exam program.
- SAC 2: Demonstration of technical work.
- SAC 3: Aural and written exam.

Unit 4
- SAC 1: Demonstration of technical work.
- Exam: Aural and written exam.
- Exam: End of year solo or group performance exam. (See VCAA website regarding the requirements for each individual instrument)

Advice to students

Students should be proficient on an instrument including voice, prior to commencement of this subject, to a minimum standard of AMEB Grade 7 or equivalent for instrumentalists, and AMEB Grade 5 or equivalent for vocalists. Students must also be receiving individual instrumental lessons, either at Nossal or privately. Completion of AMEB Grade 4 theory is strongly recommended. For clarification of equivalent standards please speak to the Director of Music.

Possible Pathways

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Music</td>
<td>Unit 1 &amp; 2 Music Performance</td>
<td>Unit 3 &amp; 4 Music Performance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option 2</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1 &amp; 2 Music Performance</td>
<td>Unit 3 &amp; 4 Music Investigation</td>
<td>Unit 3 &amp; 4 Music Performance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option 3</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1 &amp; 2 Music Performance</td>
<td>Unit 3 &amp; 4 Music Performance</td>
<td>Unit 3 &amp; 4 Music Investigation</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Ms Stoppa
**Theatre Studies Units 1 & 2**

In this subject students will interpret playscripts and produce theatre, individually and in groups. Students will gain an insight into the history and rich possibilities of playscript-based theatrical production through studying ancient and modern plays. Students will develop an understanding and appreciation of the role and place of the actor, director, scriptwriter and designers in theatre.

**Assessment**
- Group Devised Performance
- Solo Performance
- Theatre Review
- Analytical theatre form essay

**Advice to students**

It is recommended that students intending to study VCE Theatre Studies, have experience of Theatre Studies at Year 9 and/or Year 10 level. There are no prerequisites for entry to Units 1, 2 or 3. Students must undertake Unit 3 prior to undertaking Unit 4.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>Theatre Studies</td>
<td>Unit 1 &amp; 2 Theatre Studies</td>
<td>Unit 3 &amp; 4 Theatre Studies</td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>Unit 1 &amp; 2 Theatre Studies</td>
<td>Unit 3 &amp; 4 Theatre Studies</td>
<td></td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Ms Crust
Theatre Studies Units 3 & 4 (2018)

In this subject students will interpret playscripts and produce theatre, both individually and in groups. Students will gain an insight into the history and rich possibilities of playscript-based theatrical production through studying ancient and modern plays. Students will develop an understanding and appreciation of the role and place of the actor, director, scriptwriter and designers in theatre.

Assessment
- Ancient Theatre: Group devised performance and research task
- Modern Theatre: Solo performance and research task
- Interpreting playscripts: written explanation and design or performance task
- Analysis of play in performance: written essay
- Examination

Possible Pathways

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theatre Studies</td>
<td>Theatre Studies</td>
<td>Unit 1 &amp; 2 Theatre</td>
<td>Unit 3 &amp; 4 Theatre</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Studies</td>
<td>Studies</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Theatre Studies</td>
<td>Unit 3 &amp; 4 Theatre Studies</td>
<td></td>
</tr>
</tbody>
</table>

Note: This subject is on offer for 2018. It is shown in this handbook to illustrate the pathway options provided in VCE Theatre Studies.

Teachers to see for advice regarding this subject: Ms Crust
Visual Communication and Design Units 1 & 2

Unit 1: Drawing as a means of communication

This area of study introduces the skill set that underpins the design process stages of generating ideas, developing concepts and refining drawings. Through observational drawing, students consider reasons for the choices designers make regarding the aesthetics, appearance and function of objects/structures. Students investigate ways of representing form and surface textures, and apply different materials and media to enhance their drawings. Students use drawing methods such as axonometric and perspective to create three-dimensional freehand drawings that maintain proportion.

Unit 2: Applications of visual communication design

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. Students develop an understanding of the design process as a means of organising their thinking about approaches to solving design problems and presenting ideas. In response to a design brief, students will undertake research, generate ideas and develop concepts to create their own design work.

Assessment
Unit 1: 3 x Assessment Tasks
Unit 2: 3 x Assessment Tasks
Exam

Advice to students

It is recommended that students intending to study VCE Visual Communication and Design have completed Design at Year 10 level, but this is not compulsory.

If any students are interested in accelerating in Visual Communication and Design (VCD) it is recommended that they move up from the end of Year 9 into Unit 1 & 2 VCD, rather than from the end of Year 10 into Unit 3 & 4 VCD (without the benefit of having done Unit 1 & 2). This gives students a better understanding of the subject and allows them to develop advanced freehand and computer based drawing techniques, which will enhance their final folios in both Year 11 and Year 12.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Design</td>
<td>Unit 1 &amp; 2 Visual Communication and Design</td>
<td>Unit 3 &amp; 4 Visual Communication and Design</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Visual Communication and Design</td>
<td>Unit 3 &amp; 4 Visual Communication and Design</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Cilia
Visual Communication and Design Units 3 & 4

Unit 3: Design thinking and practice

In this unit students gain an understanding of the process designers employ to communicate their ideas with clients, target audiences and other designers and specialists. Students investigate and experiment with the use of manual and digital methods, media and materials to make informed decisions when developing their own design ideas and concepts. Students use their research and analysis of professional visual communication designers to support the development of their own work. They establish a brief and apply design thinking skills through the design process. They identify and describe a client, two distinctly different needs of that client, and the purpose, target audience, context and constraints relevant to each need.

Unit 4: Design development and presentation

The focus of this unit is the development of design concepts and two final presentations of visual communications to meet the requirements of the brief from Unit 3. 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.

Assessment

Unit 3: 3 x School Assessed Tasks (SATs)
Unit 4: 3 x School Assessed Tasks (SATs)
Exam

Advice to students

It is recommended that students studying VCE Visual Communication and Design Units 3 & 4 have already studied Units 1 & 2 of Visual Communication and Design, but this is not compulsory. Acceleration at this late stage would only be considered after consultation with the Visual Communication Design teacher.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>Design</td>
<td>Unit 1 &amp; 2 Visual Communication and Design</td>
<td>Unit 3 &amp; 4 Visual Communication and Design</td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>Unit 1 &amp; 2 Visual Communication and Design</td>
<td>Unit 3 &amp; 4 Visual Communication and Design</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Cilia
Health and Human Development Units 1 & 2

VCE Health and Human Development provides students with the skills and knowledge to make informed decisions about their own health and to recognise the importance of health in society. In undertaking this study, they will be able to actively participate in making appropriate choices that allow for good health and be able to seek appropriate advice. These units help young people to understand themselves and others, how the human body develops, and the science behind achieving optimal physical, social and mental health throughout the lifespan.

Unit 1
In this unit students are introduced to the concepts of health and individual human development. The unit focuses on Australia’s youth and the issues that have an impact on the health and individual human development of Australia’s teenagers; including mental health, weight issues, injury, tobacco smoking, alcohol use, illicit substance use and STIs. Students investigate one health issue in detail and analyse personal, community and government strategies or programs that affect youth health and individual human development.

Unit 2
During Unit 2 students identify and investigate issues that affect the health and individual human development of Australia’s adults, mothers, children and babies. These include cardiovascular disease, spina bifida, foetal alcohol syndrome, cancer and type 2 diabetes.

Assessment
Ongoing course work and hurdle requirements
Topic Tests
Assessment Tasks, including individual and group work
Exam

Advice to students
There are no prerequisites for this subject. The HHD units of study are written by VCAA as stand-alone units, therefore, students are able to complete Units 3 & 4 without having completed Units 1 & 2.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Unit 1 &amp; 2 Health and Human Development</td>
<td>Unit 3 &amp; 4 Health and Human Development</td>
<td></td>
</tr>
<tr>
<td>Option 2</td>
<td></td>
<td>Unit 1 &amp; 2 Health and Human Development</td>
<td>Unit 3 &amp; 4 Health and Human Development</td>
</tr>
<tr>
<td>Option 3</td>
<td></td>
<td>Unit 3 &amp; 4 Health and Human Development</td>
<td></td>
</tr>
<tr>
<td>Option 4</td>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Health and Human Development</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Haverfield or Mr Hamilton
Health and Human Development Units 3 & 4

Australians generally enjoy good health and are among the healthiest people in the world. Despite Australia’s good health status, there is still potential for improvement, so what can we do? What is our approach to better health for all? How can health be achieved on a global scale? Units 3 and 4 HHD takes students on a global journey as nations work together to achieve sustainable improvements in health and human development across the world.

Unit 3
This unit focuses on the health and development of Australians, comparing our status with the health status of other nations. It also examines health promotion strategies and systems used by governments and communities. Students use key health measures to compare health in Australia and analyse how determinants of health, including the biological, behavioural, physical and social environment, contribute to variations in health status. Students examine the role of the Australian government and non-government organisations in providing health care through the funding of initiatives such as Medicare.

Unit 4
This unit takes on a global perspective where students will explore how nations attempt to achieve sustainable improvements in health and human development. Students investigate the United Nations human development work which is encapsulated in the Sustainable Development Goals, where the world’s countries have resolved to end poverty and hunger; to promote health and wellbeing; to combat inequalities within and among countries; to build peaceful, just and inclusive societies; to protect human rights; and promote gender equity and the empowerment of women and girls. Students will also explore the role of the Department of Foreign Affairs and Trade (DFAT) and the Australian Government’s overseas aid program including its contribution to organisations such as Oxfam, World Vision and Red Cross.

Assessment
- Ongoing coursework and hurdle requirements
- Topic test
- School Assessed Coursework (SAC) tasks
- Exam

Advice to students
Units 3 & 4 must be taken as a sequence in one year. The units of study are written by VCAA as stand alone units, therefore, students are able to complete Units 3 & 4 without having completed Units 1 & 2.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Unit 1 &amp; 2 Health and Human Development</td>
<td>Unit 3 &amp; 4 Health and Human Development</td>
<td></td>
</tr>
<tr>
<td>Option 2</td>
<td></td>
<td>Unit 1 &amp; 2 Health and Human Development</td>
<td>Unit 3 &amp; 4 Health and Human Development</td>
</tr>
<tr>
<td>Option 3</td>
<td></td>
<td>Unit 3 &amp; 4 Health and Human Development</td>
<td></td>
</tr>
<tr>
<td>Option 4</td>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Health and Human Development</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Haverfield or Mr Hamilton
Health and Physical Education Domain

**Physical Education Units 1 & 2**

This study equips students with the appropriate knowledge and skills to plan, develop and maintain their involvement in physical activity, sport and exercise across their lifespan and to understand the physical, social, emotional and cognitive health benefits associated with being active.

**Unit 1**

This unit explores how the musculoskeletal and cardiorespiratory systems work together to produce movement. Through practical activities students explore the relationships between the body systems and physical activity, sport and exercise, and how the systems adapt and adjust to the demands of the activity. Students investigate the role and function of the main structures in each system and how they respond to physical activity, sport and exercise. Students may have the opportunity to attend a Surf Camp in Phillip Island and apply their learning to practical scenarios. Students will evaluate the social, cultural and environmental influences on movement. They consider the implications of the use of legal and illegal practices to improve the performance of the musculoskeletal and cardiorespiratory systems, evaluating perceived benefits and describing potential harms.

**Unit 2**

This unit introduces students to the types of physical activity and the role participation in physical activity and sedentary behaviour plays in their own health and wellbeing as well as in other people’s lives in different population groups. Students will create and participate in an activity plan that utilises the Nossal Fitness Centre and meets the physical activity and sedentary behaviour guidelines relevant to the particular population group being studied.

**Assessment**

- Ongoing coursework and hurdle requirements
- Topic Tests
- Assessment Tasks, including individual and group work
- Exam

**Advice to students**

It is recommended that students studying VCE Physical Education have successfully completed Physical Education at Year 10 level. Completing the Sports Science elective would also be an advantage. This subject has two practical classes and five theory classes per fortnight.

**Possible Pathways**

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Education and Sports Science</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td></td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
</tr>
<tr>
<td>Option 4</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td></td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject**: Mr Hamilton, Miss Veale, Ms Kutrolli
Physical Education Units 3 & 4

How do the best athletes and coaches aim to continually improve? How do the energy systems in the body fuel performance? What nutritional, physiological and psychological strategies and training methods do they use to gain advantage over the competition?

Unit 3
This unit introduces students to an understanding of physical activity and sedentary behaviour from a participatory and physiological perspective. Students apply various methods to assess physical activity and sedentary levels, and analyse the data in relation to adherence to Australia’s Physical Activity and Sedentary Behaviour 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.

Unit 4
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 will undertake an activity analysis of a particular sport and use the results to investigate the required fitness components and participate in a training program designed to improve or maintain selected components. Students will investigate the nutritional, physiological and psychological strategies athletes and coaches use to gain an 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 including blood doping, caffeine and steroids.

Assessment

<table>
<thead>
<tr>
<th>Ongoing coursework and hurdle requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic test</td>
</tr>
<tr>
<td>School Assessed Coursework (SAC)</td>
</tr>
<tr>
<td>Exam</td>
</tr>
</tbody>
</table>

Advice to students
It is recommended that students studying Unit 3 Physical Education have studied Unit 1 and/or Unit 2 Physical Education. It is recommended that students studying VCE Physical Education have completed Physical Education at Year 10 level. Please note this subject has one practical class and six theory classes per fortnight.

Possible Pathways

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Education and Sports Science</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td></td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td></td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Physical Education</td>
<td>Unit 3 &amp; 4 Physical Education</td>
<td></td>
</tr>
<tr>
<td>Option 4</td>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Physical Education</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Hamilton or Miss Veale
Accounting Units 1 & 2

Unit 1: Establishing and Operating a Service Business

This unit focuses on the basic skills and knowledge required to commence a small business of choice. Students distinguish between different ownership structures and types of businesses. Unit 1 Accounting teaches students how to produce and analyse financial information. Students develop skills in recording, reporting, analysing and interpreting financial data and information which can then be communicated to internal and external users of the information. These skills play an important role in the successful operation and management of a small business.

Students apply their knowledge of recording and reporting to a variety of case study scenarios and develop skills of explanation and discussion in interpreting financial information related to their small business venture.

Unit 2: Accounting for a trading business

This unit extends the accounting process from a service business to a trading business. Students are introduced to the processes of recording and reporting stock and credit transactions through a range of practical activities. 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 for improving 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.

Assessment

- Ongoing coursework
- ICT – Case Study
- ICT – Creative business assignment
- Topic tests
- Exam

Advice to students

It is recommended that students studying Unit 3 & 4 Accounting have studied Unit 1 & 2 Accounting.

Possible Pathways

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Accounting</td>
<td>Unit 3 &amp; 4 Accounting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option 2</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Humanities &amp; Unit 1 &amp; 2 Accounting</td>
<td>Unit 3 &amp; 4 Accounting</td>
<td>University Enhancement studies in Accounting</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Engler or Ms Toth
Accounting Units 3 & 4

Unit 3: Recording and reporting for a trading business

Unit 3 Accounting further develops students’ understanding of accounting for trading businesses. 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 extend on their understanding of recording and reporting stock and credit transactions. On completion of this unit students should be able to record and report financial information for a single activity, sole trader using the double entry system and accrual methods of accounting. Students also apply this knowledge to the interpretation of accounting reports and discussion of the functions of the accounting system.

Unit 4: Control and analysis of business performance

This unit provides an extension of the recording and reporting processes from Unit 3 and the use of financial and non-financial information in assisting management in the decision-making process. This 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.

On completion of this unit students should be able to record and report financial information using an accrual-based system and discuss the function of various aspects of this accounting system. They will also be required to prepare budgets and variance reports, evaluate the performance of a business using financial and non-financial information and discuss strategies to improve the profitability and liquidity of the business.

Assessment

Ongoing coursework
ICT Practical case study
Topic tests
4 x School Assessed Coursework (SAC) tasks per unit
Exam

Advice to students

It is recommended that students studying Unit 3 & 4 Accounting have studied Unit 1 & 2 Accounting.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Accounting</td>
<td>Unit 3 &amp; 4 Accounting</td>
</tr>
<tr>
<td>Option 2</td>
<td>Humanities &amp;</td>
<td>Unit 3 &amp; 4 Accounting</td>
<td>University Enhancement</td>
</tr>
<tr>
<td></td>
<td>Unit 1 &amp; 2</td>
<td></td>
<td>studies in Accounting</td>
</tr>
<tr>
<td></td>
<td>Accounting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Engler or Ms Toth
**Business Management Units 1 & 2**

Students investigate how business ideas are created and how conditions can be fostered for new business ideas to emerge. Students develop their knowledge of the impact of changing customer needs, along with emerging technologies, and how they can affect business decisions.

Students will develop their understanding of the different phases of a business’ life. The unit focuses on staffing requirements and an understanding of the financial planning demands on businesses in order to better appreciate the challenges faced by businesses when making decisions.

**Assessment**
- Ongoing coursework
- Topic tests
- Case studies
- Business simulation exercises
- End of year examination

**Advice to students**

There are no prerequisites for entry into Unit 1 Business Management, although students are encouraged to complete Unit 1 before entering Unit 2. Students who have excelled in Year 9 Humanities can consider doing Unit 1 & 2 Business Management in Year 10.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Business Management</td>
<td>Unit 3 &amp; 4 Business Management</td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>Humanities &amp; Unit 1 &amp; 2 Business Management</td>
<td>Unit 3 &amp; 4 Business Management</td>
<td>University Enhancement studies in Business Management</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Ms Toth
**Business Management Units 3 & 4**

Unit 3 introduces students to the key processes and issues related to managing a business. Students will examine the different types of businesses and their objectives. They will give close consideration of issues related to corporate culture, management styles and skills and the relationship between them. Finally, students will investigate strategies used to manage staff and business operations.

Unit 4 focuses on the use of key performance indicators to review the performance of businesses. The management of change and strategies used to successfully change are examined, along with an investigation into the importance of leadership at a time of change. A business case study will be used to assist students to develop their understanding of change.

**Assessment**

- Ongoing coursework
- School Assessed Coursework (SAC)
- End of Year Exam

**Advice to students**

There are no prerequisites for entry into Unit 3 Business Management, although students are encouraged to complete Units 1 & 2 before entering Unit 3.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Business Management</td>
<td>Unit 3 &amp; 4 Business Management</td>
</tr>
<tr>
<td>Option 2</td>
<td>Humanities &amp; Unit 1 &amp; 2 Business Management</td>
<td>Unit 3 &amp; 4 Business Management</td>
<td>University Enhancement studies in Business Management</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Ms Loel
Economics Units 1 & 2

Unit 1: Economics: choices and consequences
In this unit, students come to understand how the decisions made by individuals, firms, governments and other relevant groups affect what is produced, how it is produced and who receives the goods and services that are produced. Through an examination of market structure, students gain an appreciation of the importance of competition and how market power may affect the allocation of resources and the welfare and living standards of the general population. Students also examine other important economic issues that are currently affecting the Australian and world economies.

Unit 2: Economic Change: issues and challenges
Through a detailed examination of the factors that influence demographic makeup and change students gain an appreciation of the potential challenges facing businesses wishing to expand, government budgeting and future living standards. Students will analyse the impacts of high unemployment on both society and the individual. They evaluate the effectiveness of government policies aimed at reducing unemployment and potential skills shortages, and the impact that these may have on future living standards.

Assessment
- Case study analysis
- Folio of annotated media commentaries
- Report
- Exam

Advice to students
It is recommended that students complete Units 1 & 2 prior to the commencement of Units 3 & 4.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Economics</td>
<td>Unit 3 &amp; 4 Economics or Unit 3 &amp; 4 Business Management</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Economics</td>
<td>Unit 3 &amp; 4 Economics</td>
<td>University Enhancement studies in Economics</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Economics</td>
<td>Unit 3 &amp; 4 Economics</td>
<td>Unit 3 &amp; 4 Business Management</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Allen
Economics Units 3 & 4

Unit 3: Economic Activity

In this unit, students examine the factors that influence the price and quantity traded in individual markets. Students investigate the importance of competition and analyse the degree of market power in different industries and how this affects the efficiency of resource allocation. Students also come to appreciate that markets will not always lead to the most efficient allocation of resources. Through an investigation of market failure, students are able to explain situations where the market does not operate freely and discuss the role of government in such occasions. Students examine the five key economic goals which may vary in importance from time to time and which are emphasised for economic, political and social reasons. Students examine the role of trade within households, businesses, governments and other groups, and the importance of international movement of capital for Australia's living standards.

Unit 4: Economic Management

Students learn how changes in interest rates will influence inflation, the rate of unemployment and the rate of economic growth. Students also develop an understanding of how the federal government alters the composition and magnitude of its receipts and expenditure to influence (directly and indirectly) the components of aggregate demand. Students investigate how the government has utilised fiscal policy to influence aggregate supply directly in the economy.

Assessment

- Case study analysis
- Folio of annotated media commentaries
- Report of an investigation
- Exam

Advice to students

It is recommended that students complete Units 1 & 2 prior to the commencement of Units 3 & 4.

Possible Pathways

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Economics</td>
<td>Unit 3 &amp; 4 Economics or Unit 3 &amp; 4 Business Management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option 2</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1 &amp; 2 Economics</td>
<td>Unit 3 &amp; 4 Economics</td>
<td>University Enhancement studies in Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option 3</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1 &amp; 2 Economics</td>
<td>Unit 3 &amp; 4 Economics</td>
<td>Unit 3 &amp; 4 Business Management</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Allen
Humanities Domain

Geography Units 1 & 2

Unit 1: Hazards and disasters
In this unit students undertake an overview of hazards before investigating two contrasting types of hazards and the responses to them by people. This unit investigates how people have responded to specific types of hazards, including attempts to reduce vulnerability to, and the impact of, hazard events.

Unit 2: Tourism
In this unit students investigate the characteristics of tourism, with particular emphasis on where it has developed, its various forms, how it has changed and continues to change and its impacts on people, places and environments.

Assessment
- Case studies
- Reports
- Fieldwork report (1500–2000 words)
- Folios of geographic exercises

Advice to students
There are no prerequisites for entry into Unit 1 Geography, although students are encouraged to complete Unit 1 before entering Unit 2.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Geography</td>
<td>Unit 3 &amp; 4 Geography</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Geography</td>
<td>Unit 3 &amp; 4 Geography</td>
<td>University Enhancement studies in Geography</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Ms Thompson
Geography Units 3 & 4 (2018)

Unit 3: Changing the land
This unit focuses on two investigations of geographical change: change to land cover and change to land use. Students investigate three major processes that are changing land cover in many regions of the world: deforestation, desertification and melting glaciers and ice sheets.

Unit 4: Human population – trends and issues
In this unit, students study population dynamics before undertaking an investigation into two significant population trends arising in different parts of the world. They examine the dynamics of populations and their economic, social, political and environmental impacts on people and places.

Assessment
- Structured questions
- Topic tests
- Analysis of geographic data
- Fieldwork report

External assessment
The level of achievement for Units 3 and 4 is also assessed by an end-of-year examination, which will contribute 50 per cent.

Advice to Students
There are no prerequisites for entry into Unit 3 Geography, although students are encouraged to complete Unit 1 & 2 before entering Unit 3. Students who have excelled in Year 9 Humanities can consider doing Unit 1 & 2 Geography in Year 10. Similarly, Year 10 students with strong cross curricular skills can consider doing Unit 3 & 4 Geography in Year 11.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Geography</td>
<td>Unit 3 &amp; 4 Geography</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Geography</td>
<td>Unit 3 &amp; 4 Geography</td>
<td>University Enhancement studies in Geography</td>
</tr>
</tbody>
</table>

Note: This subject is on offer for 2018. It is shown in this handbook to illustrate the pathway options provided in VCE Geography.

Teachers to see for advice regarding this subject: Ms Thompson
Global Politics Units 3 & 4

Global Politics explores contemporary international issues, and key global factors in international politics. Students will examine the nature of conflict in the post-Cold War world, including analysis of concepts such as ‘superpower’, ‘terror’ and ‘terrorism’ in the post-September 11 world.

Unit 3

This unit investigates the role of key global actors in international politics, including the United Nations, the International Monetary Fund and non-state actors such as environmental groups and organised religions. Students also examine the foreign policy of one state in the Asia-Pacific region.

Unit 4

This unit focuses on the ethical considerations in regards to international issues such as refugees, weapons proliferation and global economic development. Students also examine international crises and the way in which the international community responds to them.

A detailed knowledge of the forces that shape our world is vital for getting a head-start in many fields of study such as Law, Finance, Engineering, Journalism and, of course, Politics.

Assessment

Ongoing coursework
3 x School Assessed Coursework (SAC) tasks
Exam

Advice to students

There are no prerequisites for entry into Unit 3 & 4 Global Politics. Students are able to study Units 3 & 4 Global Politics in Year 11 or Year 12.

Possible Pathways

Students may wish to study Global Politics at either Year 11 or Year 12. Students in Year 11 who wish to attempt a Unit 3 & 4 subject may find Global Politics an attractive option, while students in Year 12 who have already completed some Unit 3 & 4 subjects may wish to expand their options, improve their general knowledge and pursue the prospect of a better result in this subject.

Teachers to see for advice regarding this subject: Mr Clark
History Units 1 & 2 – Twentieth Century History

Unit 1: 1918 – 1939
In Unit 1, students explore the nature of political, social and cultural change in the period between the world wars.

Ideology and conflict
In this area of study students explore the events, ideologies and movements of the period after World War One; the emergence of conflict; and the causes of World War Two. They investigate the impact of the treaties which ended WWI and which redrew the map of Europe and broke up the former empires of the defeated nations. They consider the aims, achievements and limitations of the League of Nations.

Social and cultural change
In this area of study students focus on the social life and cultural expression in the 1920s and 1930s and their relation to the technological, political and economic changes of the period. Students explore particular forms of cultural expression from the period in one or more of the following contexts: Italy, Germany, Japan, USSR and/or USA.

Unit 2: 1945 – 2000
In Unit 2, students explore the nature and impact of the Cold War and challenges and changes to existing political, economic and social arrangements in the second half of the twentieth century.

Competing ideologies
In this area of study students focus on causes and consequences of the Cold War; the competing ideologies that underpinned events, the effects on people, groups and nations, and the reasons for the end of this sustained period of ideological conflict.

Challenge and change
In this area of study students focus on the ways in which traditional ideas, values and political systems were challenged and changed by individuals and groups in a range of contexts during the period 1945 to 2000. Students explore the causes of significant political and social events and movements, and their consequences for nations and people.

Assessment
Ongoing coursework
2 x Assessment Tasks per unit
End of year exam

Advice to students
There are no prerequisites for entry into Unit 3 History, although it is strongly recommended that students complete Unit 1 & 2 History before entering Unit 3.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 History – Twentieth Century</td>
<td>Unit 3 &amp; 4 History – Revolutions</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 History – Twentieth Century</td>
<td>Unit 3 &amp; 4 History – Revolutions</td>
<td>University Enhancement studies in History</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Morgan, Ms Chapple or Mr Clark
Humanities Domain

History Units 3 & 4 – History of Revolutions

In Units 3 and 4 Revolutions students investigate the significant historical causes and consequences of political revolution. Revolutions represent great ruptures in time and are a major turning point which brings about the collapse and destruction of an existing political order resulting in a pervasive change to society. Their consequences have a profound effect on the political and social structures of the post-revolutionary society as they are often threatened internally by civil war and externally by foreign threats. In this course the following revolutions will be studied: The Russian Revolution of October 1917 (Unit 3) & The Chinese Revolution of 1949 (Unit 4)

AREA OF STUDY 1: Causes of revolution

What were the significant causes of revolution?
How did the actions of popular movements and particular individuals contribute to triggering a revolution?
To what extent did social tensions and ideological conflicts contribute to the outbreak of revolution?
In this area of study students analyse the long-term causes and short-term triggers of revolution. They evaluate how revolutionary outbreaks are caused by the interplay of significant events, ideas, individuals and popular movements and assess how these were directly or indirectly influenced by the social, political, economic and cultural conditions.

AREA OF STUDY 2: Consequences of revolution

How did the consequences of revolution shape the new order?
How did the new regime consolidate its power?
How did the revolution affect the experiences of those who lived through it?
To what extent was society changed and revolutionary ideas achieved?
In this area of study students analyse the consequences of the revolution and evaluate the extent to which it brought change to society. The success of the revolution was not inevitable; therefore, students analyse the significant challenges that confronted the new regime after the initial outbreak of revolution. Furthermore, they evaluate the success of the new regime’s responses to these challenges and the extent to which the consequences of revolution resulted in dramatic and wide-reaching social, political, economic and cultural change, progress or decline.

Assessment

Ongoing coursework
4 x School Assessed Coursework (SAC) tasks
Historical Inquiry
Essay

Analysis of primary sources
Evaluation of historical interpretations
Exam

Advice to students

There are no prerequisites for entry into Unit 3 History, although it is strongly recommended that students complete Unit 1 & 2 History before entering Unit 3.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 History – Twentieth Century</td>
<td>Unit 3 &amp; 4 History – Revolutions</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 History – Twentieth Century</td>
<td>Unit 3 &amp; 4 History – Revolutions</td>
<td>University Enhancement studies in History</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Morgan, Ms Chapple or Mr Clark
Legal Studies Units 1 & 2

Unit 1
Students examine the need for laws in society. They investigate the key features of criminal law, how it is enforced and adjudicated and possible outcomes and impacts of crime. Through a consideration of contemporary cases and issues, students learn about different types of crimes and explore rights and responsibilities under criminal law. Students also consider the role of parliament and subordinate authorities in law-making, as well as the impact of the Victorian Charter of Rights and Responsibilities on law enforcement and adjudication in Victoria.

Students investigate the processes and procedures followed by courts in hearing and resolving criminal cases. They explore the main features and operations of criminal courts and consider the effectiveness of the criminal justice system in achieving justice.

Unit 2
Students examine the rights that are protected by civil law, as well as obligations that laws impose. They investigate types of civil laws and related cases and issues and develop an appreciation of the role of civil law in society and how it affects them as individuals. The unit also focuses on the resolution of civil disputes through judicial determination and alternative methods in courts, tribunals and independent bodies. Students examine these methods of dispute resolution and evaluate their effectiveness.

Individuals can influence a change in the law by taking a case to court. Students focus on cases that have had a broader impact on the legal system and on the rights of individuals. Students develop an appreciation of the role played by such cases and undertake an analysis of relevant legal issues.

Assessment
- Ongoing coursework
- ICT presentation
- Criminal law article and case analysis
- Topic tests
- 4 x formal assessments tasks
- Exam

Advice to students
It is recommended that students studying Unit 3 & 4 Legal Studies have studied Unit 1 & 2 Legal Studies.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Legal Studies</td>
<td>Unit 3 &amp; 4 Legal Studies</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Legal Studies</td>
<td>Unit 3 &amp; 4 Legal Studies</td>
<td>University Enhancement studies in Criminology</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Miss Wilson or Ms Loel
Legal Studies Units 3 & 4

Unit 3
This unit focuses on the institutions that determine our laws, and their law-making powers and processes. Students will consider the role of parliament, the constitution and the courts.

Unit 4
This unit focuses on ways by which legal disputes of both a criminal and a civil nature can be resolved through the courts and alternative dispute resolution methods. Students also investigate the processes and procedures followed in courtrooms and develop an understanding of the adversary system that operates in the Victorian legal system.

Throughout both units students investigate current legal cases.

Assessment
- Ongoing coursework
- Topic tests
- 7 x School Assessed Coursework (SAC) tasks
- Exam

Advice to students
There are no prerequisites for entry into Unit 3 Legal Studies, although students are encouraged to complete Unit 1 & 2 before entering Unit 3 & 4.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Legal Studies</td>
<td>Unit 3 &amp; 4 Legal Studies</td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>Unit 1 &amp; 2 Legal Studies</td>
<td>Unit 3 &amp; 4 Legal Studies</td>
<td>University Enhancement studies in Criminology</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Miss Wilson or Ms Loel
Philosophy Units 1 & 2

Unit 1
This unit focuses on three branches of Philosophy: Existence, Knowledge and Reasoning. The course covers such topics as Philosophy of Mind, the question of Free Will, Philosophy of Time and various theories regarding our capacity for knowledge.

Unit 2
This unit focuses on: Ethics, Political Philosophy and Metaphysics. The course covers ethical topics such as Utilitarianism, Deontology, Justice, Virtue, Animal Rights and the Ethics of War. Students will also examine political questions about the rights of the individual, the role of the state and the purpose of government.

Assessment
- Ongoing coursework
- 3 x Assessment Tasks
- Exam

Advice to students
There are no prerequisites for entry into Unit 1 Philosophy. Students are encouraged to complete Unit 1 before entering Unit 2.

Possible Pathways

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Philosophy</td>
<td>Unit 3 &amp; 4 Philosophy</td>
<td>University Enhancement studies in Philosophy</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Clark
Philosophy Units 3 & 4

Unit 3
This unit revisits the issues associated with Philosophy of Mind in greater detail, with studies of the work of Descartes, Armstrong and Plato on the subject. Students are introduced to the problem of ‘self ’ and identity through the works of Locke, Hume and a range of Buddhist texts. Students will not only analyse the ideas of these philosophers in depth, but will also be called upon to apply their teachings to contemporary issues.

Unit 4
This unit focuses on what it means to live a ‘good life’. Through the works of Plato, Aristotle, Nietzsche and Singer, students will be asked to consider the role that happiness, self-discipline, morality and altruism can play in leading a rich and full life. As well as critically analysing the work of these philosophers, students will be required to apply their ideas to our contemporary society.

Assessment
- Ongoing coursework
- 3 x School Assessed Coursework (SAC) tasks
- Exam

Advice to students
There are no prerequisites for entry into Unit 3 Philosophy, although it is strongly recommended that students complete Unit 1 & 2 Philosophy before entering Unit 3.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Humanities</td>
<td>Unit 1 &amp; 2 Philosophy</td>
<td>Unit 3 &amp; 4 Philosophy</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Philosophy</td>
<td>Unit 3 &amp; 4 Philosophy</td>
<td>University Enhancement studies in Philosophy</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Clark
**French Units 1 & 2**

In Units 1 & 2 French, students begin to study more sophisticated topics related to the real-world and current issues, such as: work and the future, the arts, and youth unemployment. Students are introduced to increasingly complex authentic French written and spoken texts, and compare and contrast the lifestyles, past, present and future, of France and other French-speaking countries and communities with those of Australia. Students complete one oral assessment task per semester and one written assessment task. Students also complete one listening and one reading comprehension assessment task per semester. In Unit 1, they complete notes or a table based on the texts, and in Unit 2 they re-organise the information into a different text type, in French. Students have the opportunity to take part in an intensive workshop at the Alliance Française, and to complete a mock-oral with an external examiner.

**Assessment**
- 4 x formal Assessment Tasks per semester (writing, speaking, listening and reading comprehension)
- Ongoing coursework
- A written and an oral exam each semester

**Advice to students**

It is recommended that students studying VCE French have studied French at Year 10 level. It is also recommended that students studying Units 3 & 4 French have studied Units 1 & 2 French.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>French</td>
<td>Unit 1 &amp; 2 French</td>
<td>Unit 3 &amp; 4 French</td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>French</td>
<td>Unit 1 &amp; 2 French</td>
<td>Unit 3 &amp; 4 French and University Enhancement studies in French</td>
</tr>
<tr>
<td><strong>Option 3</strong></td>
<td>Unit 1 &amp; 2 French</td>
<td>Unit 3 &amp; 4 French</td>
<td>University Enhancement studies in French</td>
</tr>
<tr>
<td>With permission*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*NOTE: Students who have completed an accelerated Year 9 course and covered the Year 10 program must take an oral, aural and written admission exam at the end of Year 9. The results must be to the satisfaction of the French staff for entry into the VCE program.

**Teachers to see for advice regarding this subject:** Ms Wakeman or Mrs Sly
French Units 3 & 4

In Units 3 & 4 French, students continue to study themes and issues related to French-speaking countries and communities. Topics include: the Environment, Immigration and French History. They use increasingly complex grammatical structures, and are able to express themselves orally and in writing with greater clarity and sophistication. In Unit 3, students do a listening comprehension task and write a 250 word personal or imaginative written piece, as well as taking part in a role-play focusing of exchanging information and resolving an issue. In Unit 4, students complete a reading comprehension SAC, as well as spoken and written SACs based on their detailed study. In Unit 4, at least 15 hours of class time and SAC 2 (parts A & B) will be focused on the detailed study, on a topic to be negotiated with the students.

Assessment

Unit 3
- 250-300 word personal or imaginative written piece
- Listening comprehension
- 3-4 minute role-play

Unit 4
- Reading comprehension
- Part A - 250-300 word informative, evaluative or persuasive written piece
- Part B - 3-4 minute interview
- Ongoing coursework
- Written Exam
- Oral exam

Advice to students

It is recommended that students studying Units 3 & 4 French have studied Units 1 & 2 French.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>French</td>
<td>Unit 1 &amp; 2 French</td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>French</td>
<td>Unit 1 &amp; 2 French</td>
</tr>
<tr>
<td><strong>Option 3</strong></td>
<td>Unit 1 &amp; 2 French</td>
<td>Unit 3 &amp; 4 French</td>
</tr>
</tbody>
</table>

*NOTE: Students who have completed an accelerated Year 9 course and covered the Year 10 program must take an oral, aural and written admission exam at the end of Year 9. The results must be to the satisfaction of the French staff for entry into the VCE program.

**Teachers to see for advice regarding this subject:** Ms Wakeman or Mrs Sly
Japanese Units 1 & 2

In Units 1 & 2 Japanese, students are introduced to increasingly complex authentic Japanese written and spoken texts through a wide range of topics in the following themes:

- The Individual
- Japanese Speaking Communities and;
- The Changing World

Students develop their use of the language through skill based learning and exploration. Students compare and contrast the lifestyles of Japan and other Japanese-speaking countries and communities with those of Australia. In addition to on-going communication in the language, students complete formal assessments at the end of each topic. Students complete one oral assessment task per semester and one written assessment task. Students also complete one listening and one reading comprehension assessment per semester. In Unit 1 they complete notes or a table based on the texts and in Unit 2 they re-organise the information into a different text-type, in Japanese.

Assessment

- 4 x formal Assessment Tasks per semester
  - (writing, speaking, listening and responding and reading and responding)
  - Ongoing coursework
  - A written and an oral exam each semester

Advice to students

It is recommended that students studying VCE Unit 1 & 2 Japanese have studied Japanese at Year 10 level or satisfied the criteria for entry into the VCE program as outlined in the Year 10 Japanese descriptor. It is a prerequisite that students studying Units 3 & 4 Japanese have studied Units 1 & 2 Japanese.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Japanese</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese</td>
</tr>
<tr>
<td>Option 2</td>
<td>Japanese</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese and University Enhancement studies in Japanese</td>
</tr>
<tr>
<td>Option 3 With permission*</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese</td>
<td>University Enhancement studies in Japanese</td>
</tr>
</tbody>
</table>

*NOTE: Students who have completed an accelerated Year 9 course and covered the Year 10 program must take an oral, aural and written admission exam at the end of Year 9. The results must be to the satisfaction of the Japanese staff for entry into the VCE program.

Teachers to see for advice regarding this subject: Mr Bramley or Ms Warner
Japanese Units 3 & 4

In Unit 3, students produce a 500 ‘ji’ (character) personal or imaginative written piece, analyse and use information from spoken texts, and complete a 3-4 minute role-play, focusing on the resolution of an issue. In Unit 4, students analyse and use information from written texts, write a 600 ‘ji’ informative, persuasive or evaluative written response, and complete a 3-4 minute interview on an issue related to texts studied.

Assessment
- 500 “ji” personal or imaginative written piece
- Role play
- Informative written piece
- Oral Exam
- Exam

Note: a “ji” is one character in the Japanese script.

Advice to students

It is recommended that students studying VCE Japanese have studied Japanese at Year 10 level. It is also recommended that students studying Units 3 & 4 Japanese have studied Units 1 & 2 Japanese.

Possible Pathways

<table>
<thead>
<tr>
<th>Option</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Japanese</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese</td>
</tr>
<tr>
<td>Option 2</td>
<td>Japanese</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese and University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Enhancement studies in Japanese</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Japanese</td>
<td>Unit 3 &amp; 4 Japanese</td>
<td>University Enhancement studies in Japanese</td>
</tr>
<tr>
<td>With permission*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*NOTE: Students who have completed an accelerated Year 9 course and covered the Year 10 program must take an oral, aural and written admission exam at the end of Year 9. The results must be to the satisfaction of the Japanese staff for entry into the VCE program.

Teachers to see for advice regarding this subject: Mr Bramley or Ms Warner
Biology Units 1 & 2

In Units 1 & 2 Biology, students examine the cell as the structural and functional unit of life. They analyse types of adaptations that enhance the organism’s survival in a particular environment and consider the role homeostatic mechanisms play in maintaining the internal environment. The classification of biodiversity and population growth are also investigated. Students will also focus on cell reproduction and the transmission of information from generation to generation. The role of stem cells in the differentiation, growth, repair and replacement of cells in humans is examined and their potential use in medical therapies is considered.

Assessment
3 x Assessment Tasks per semester, including topic tests, practical investigations, fieldwork and research tasks.

There will be a Unit 1 & 2 examination at the end of the year.

Advice to students

It is recommended that students intending to study VCE Biology study Foundation Biology at Year 10 level. It is also recommended that students intending to study Unit 3 & 4 Biology have studied at least Unit 1 Biology.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Foundation Biology</td>
<td>Unit 1 &amp; 2 Biology</td>
<td>Unit 3 &amp; 4 Biology</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Biology</td>
<td>Unit 3 &amp; 4 Biology</td>
<td>University Enhancement studies in Biology</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Latham, Mr LaBrooy or Mrs Ball.
Biology Units 3 & 4

In Units 3 & 4 Biology, students investigate the workings of the cell from several perspectives including the function of the plasma membrane, enzymes and signalling molecules. Students consider the molecules and biochemical processes that are the indicators of life, in particular the synthesis and applications of DNA and proteins. Students observe how cells communicate and respond to stimuli in the context of the immune system. Students examine the structural and cognitive trends in the human fossil record and the interrelationships between human biological and cultural evolution. The biological consequences, and social and ethical implications, of manipulating the DNA molecule and applying biotechnologies is explored for both the individual and the species.

Assessment

Topic Tests

School Assessed Coursework:

Unit 3: 16%
Unit 4: 24%

External end of year examination: 60%

Advice to students

It is recommended that students intending to study Biology study Foundation Biology at Year 10 level. It is also recommended that students intending to study Unit 3 & 4 Biology have studied at least Unit 1 Biology.

Possible Pathways

<table>
<thead>
<tr>
<th>Option</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Foundation Biology</td>
<td>Unit 1 &amp; 2 Biology</td>
<td>Unit 3 &amp; 4 Biology</td>
</tr>
<tr>
<td>Option 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unit 1 &amp; 2 Biology</td>
<td>Unit 3 &amp; 4 Biology</td>
<td>University Enhancement studies in Biology</td>
</tr>
<tr>
<td>Option 2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Latham or Mr LaBrooy
Chemistry Units 1 & 2

Chemistry is a key science in explaining the workings of our universe through an understanding of the properties and interaction of substances that make up matter.

Unit 1 Chemistry explores the relationships between properties, structure and bonding forces within and between particles. Students use knowledge of elements to explain the properties of matter and explain the versatility of non-metals. They will also complete a research investigation related to the development, use and/or modification of a material or chemical.

In Unit 2 Chemistry students explore the physical and chemical properties of water, the reactions that occur in water and methods of water analysis. Students will investigate how substances react with water and how substances in water are measured and analysed. They will also design and undertake a quantitative laboratory investigation related to water quality.

Assessment
- Ongoing coursework
- Topic tests
- Research investigation
- Laboratory investigation
- End of year exam

Advice to students

It is recommended that students intending to study VCE Chemistry choose Foundation Chemistry at Year 10 level. It is recommended that students intending to study Unit 3 & 4 Chemistry have studied Unit 1 & 2 Chemistry.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation Chemistry</td>
<td>Unit 1 &amp; 2 Chemistry</td>
<td>Unit 3 &amp; 4 Chemistry Possibility of University Enhancement in Chemistry</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Alley, Ms Warriner, Mrs Graystone, Ms Campagna or Mrs Fankhauser.
Science Domain

Chemistry Units 3 & 4

Chemistry is a key science in explaining the workings of our universe through an understanding of the properties and interaction of substances that make up matter. Units 3 & 4 Chemistry builds upon the knowledge acquired in Units 1 & 2 Chemistry, and students increasingly apply their understanding to real world situations.

Unit 3 Chemistry involves a comparison and evaluation of different energy resources. It includes the design and operation of galvanic, fuel and electrolytic cells. Analysis of reaction rates and extent of reaction, including Le Chatelier's principle, is used to predict and explain efficiency and yield of chemical processes.

Unit 4 Chemistry focuses on processing data from instrumental analyses to confirm or deduce organic structures, and perform volumetric analyses to determine the concentrations of organic chemicals in mixtures. Students predict the products of reaction pathways and design pathways to produce particular compounds from given starting materials. Students investigate key food molecules including carbohydrates, proteins, lipids and vitamins and use calorimetry to determine the energy released in the combustion of food.

Assessment

Ongoing coursework
School Assessed Coursework:

Unit 3: 16%
Unit 4: 24%

External end of year examination: 60%

Advice to students

It is strongly recommended that students studying Units 3 & 4 Chemistry have studied Units 1 & 2 Chemistry.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
</table>
| Foundation Chemistry | Unit 1 & 2 Chemistry | Unit 3 & 4 Chemistry
|                  |                  | Possibility of University Enhancement in Chemistry |

Teachers to see for advice regarding this subject: Mr Alley, Ms Warriner, Mrs Graystone, Ms Campagna or Mrs Fankhauser.
Environmental Science Units 1 & 2

In Unit 1, students examine Earth as a set of four interacting systems: the atmosphere, biosphere, hydrosphere and lithosphere. Students consider the effects of natural and human-induced changes in ecosystems. They investigate the physical environment and its components, the function of local ecosystems and the interactions that occur in and between ecological components over different time scales. Students consider how the biotic and abiotic components of local ecosystems can be monitored and measured.

In Unit 2, students explore the concept of pollution and associated impacts on Earth’s four systems through global, national and local perspectives. They analyse the effects of pollutants on the health of humans and the environment over time. They explore the significance of technology, government initiatives, communities and individuals in redressing the effects of pollutants, and consider how values, beliefs and evidence affect environmental decision making. Students compare three pollutants of national and/or global significance with reference to their effects in the atmosphere, biosphere, hydrosphere and lithosphere, and discuss management options.

Assessment
- Research investigation
- Case Study
- Practical work
- Data analysis
- Class tests
- Exam

Advice to students

Environmental Science is recommended for students who have a broad interest in science and environmental issues.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Unit 1 &amp; 2 Environmental Science</td>
<td>Unit 3 &amp; 4 Environmental Science</td>
<td></td>
</tr>
<tr>
<td>Option 2</td>
<td></td>
<td>Unit 3 &amp; 4 Environmental Science</td>
<td></td>
</tr>
<tr>
<td>Option 3</td>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Environmental Science</td>
</tr>
<tr>
<td>Option 4</td>
<td>Foundation Chemistry and/or Foundation Biology</td>
<td>Unit 1 &amp; 2 Environmental Science</td>
<td>Unit 3 &amp; 4 Environmental Science</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Latham or Mrs Ball
**Environmental Science Units 3 & 4**

In Unit 3, students focus on environmental management through the examination and application of sustainability principles. They explore the value and management of the biosphere by examining the concept of biodiversity. They analyse the processes that threaten biodiversity and apply scientific principles in evaluating biodiversity management strategies for a selected threatened endemic species. Students use a selected environmental science case study with reference to the principles of sustainability and environmental management to explore management at an Earth systems scale, including impact on the atmosphere, biosphere, hydrosphere and lithosphere.

In Unit 4, students analyse the social and environmental impacts of energy production and use on society and the environment. They explore the complexities of interacting systems of water, air, land and living organisms that influence climate, focusing on both local and global scales, and consider long-term consequences of energy production and use. Students distinguish between natural and enhanced greenhouse effects and discuss their impacts on living things and the environment, including climate change. Students develop skills in data interpretation, extrapolation and interpolation, test predictions, and recognise the limitations of provisional and incomplete data. They learn to differentiate between relationships that are correlative and those that are cause-and-effect, and make judgments about accuracy, validity and reliability of evidence.

**Assessment**

- Ongoing coursework
- School Assessed Coursework:
  - Unit 3: 20%
  - Unit 4: 30%
- External end of year examination: 50%

**Advice to students**

Environmental Science is recommended for students who have a broad interest in science and environmental issues.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>Unit 1 &amp; 2 Environmental Science</td>
<td>Unit 3 &amp; 4 Environmental Science</td>
<td></td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td></td>
<td>Unit 3 &amp; 4 Environmental Science</td>
<td></td>
</tr>
<tr>
<td><strong>Option 3</strong></td>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Environmental Science</td>
</tr>
<tr>
<td><strong>Option 4</strong></td>
<td>Foundation Chemistry and/or Foundation Biology</td>
<td>Unit 1 &amp; 2 Environmental Science</td>
<td>Unit 3 &amp; 4 Environmental Science</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Mrs Latham or Mrs Ball
Physics Units 1 & 2

Units 1 & 2 focus on the development of key scientific skills, including experimental skills.

In Unit 1, students begin with an introduction to thermodynamics, focusing on thermodynamic principles, its link to climate science, and issues relating to efficiency and effectiveness of heating and cooling. The second core area of study is centred on electricity. Students explore concepts used to model electricity, electric circuits, how electrical energy is used and electrical safety. The final area of study is on the nature of matter and its formation. Students explore the origins of atoms, particles in the nucleus, and how energy is obtained from the atom.

In Unit 2, students begin with investigating how motion is described and explained. They will explore concepts used to model motion, relationship with forces and motion, and the relationship between energy and motion. The second area of study in Unit 2 is the study of sound with applications to instruments and music. Students will explore concepts used to model sound, the production of sound, and the detection of sound. The students complete Unit 2 with a systematic experiment which they design and undertake themselves.

Assessment

Ongoing course work, including:
- Practical work
- Topic tests
- An assignment
- Data analysis tasks

End of Year Examination covering both Units 1 & 2

Advice to students

It is recommended that students intending to study VCE Physics choose Foundation Physics at Year 10 level. It is also recommended that students studying Units 3 & 4 Physics have studied at least Unit 2 Physics. Students choosing this option should also seek the advice of a Physics teacher about essential material covered in Unit 1 Physics that they will need to catch up on if they wish to have the best chance of success in Units 3 & 4.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Option</td>
<td>Foundation Physics</td>
<td>Unit 1 &amp; 2 Physics</td>
<td>Unit 3 &amp; 4 Physics</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Fankhauser, Ms Mackin or Mr Alderton
Physics Units 3 & 4

In Unit 3, students explore the importance of energy in explaining and describing the physical world. They examine the production of electricity and its delivery to homes. Students consider the field model as a construct that has enabled an understanding of why objects move when they are not apparently in contact with other objects. Applications of concepts related to fields include the transmission of electricity over large distances and the design and operation of particle accelerators. They explore the interactions, effects and applications of gravitational, electric and magnetic fields. Students use Newton's laws to investigate motion in one and two dimensions, and are introduced to Einstein's theories to explain the motion of very fast objects. They consider how developing technologies can challenge existing explanations of the physical world, requiring a review of conceptual models and theories. Students design and undertake investigations involving at least two continuous independent variables.

In Unit 4, students explore the use of wave and particle theories to model the properties of light and matter. They examine how the concept of the wave is used to explain the nature of light and explore its limitations in describing light behaviour. Students further investigate light by using a particle model to explain its behaviour. A wave model is also used to explain the behaviour of matter which enables students to consider the relationship between light and matter. Students learn to think beyond the concepts experienced in everyday life to study the physical world from a new perspective. Students design and undertake investigations involving at least two continuous independent variables. A student-designed practical investigation related to waves, fields or motion is undertaken either in Unit 3 or Unit 4, or across both Unit 3 and Unit 4, and is assessed in Unit 4, Outcome 3. The findings of the investigation are presented in a scientific poster format.

Assessment

Unit 3 & 4
School Assessed Coursework (SAC), including:
Practical Reports
Topic tests
Data analysis tasks

Unit 4 only
Scientific Poster

Advice to students

It is recommended that students intending to study VCE Physics choose Foundation Physics at Year 10 level. It is also recommended that students studying Units 3 & 4 Physics have studied at least Unit 2 Physics. Students choosing this option should also seek the advice of a Physics teacher about essential material covered in Unit 1 Physics that they will need to catch up on if they wish to have the best chance of success in Units 3 & 4.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Option</td>
<td>Foundation Physics</td>
<td>Unit 1 &amp; 2 Physics</td>
<td>Unit 3 &amp; 4 Physics</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Fankhauser, Ms Mackin or Mr Alderton
Psychology Units 1 & 2

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. VCE Psychology enables students to explore how people think, feel and behave through the use of a biopsychosocial approach. The study explores the connection between the brain and behaviour by focusing on several key interrelated aspects of the discipline: the interplay between genetics and environment, individual differences and group dynamics, sensory perception and awareness, memory and learning, and mental health.

Unit 1: How are behaviour and mental processes shaped?

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.
- explore brain plasticity and the influence that brain damage may have on a person’s psychological functioning.
- consider the complex nature of psychological development, including situations where psychological development may not occur as expected.
- 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.

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

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.
- evaluate the role social cognition plays in a person’s attitudes, perception of themselves and relationships with others.
- explore a variety of factors and contexts that can influence the behaviour of an individual and groups.
- 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.

Assessment: Ongoing coursework and Assessment Tasks, which may include Tests, Research investigations, Media responses, Evaluations of research, Data analysis, Visual presentations, Annotated folio of practical activities and an Examination.

Advice to students

It is strongly recommended that students who study Unit 3 & 4 Psychology have studied at least Unit 2 Psychology.

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Unit 1 &amp; 2 Psychology</td>
<td>Unit 3 &amp; 4 Psychology</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Psychology</td>
<td>Unit 3 &amp; 4 Psychology</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Miss Soltys or Miss Wilson
Psychology Units 3 & 4

Psychology is the scientific study of mental processes and behaviour in humans. It provides students with a framework for understanding complex interactions between biological, behavioural, cognitive and socio-cultural factors that influence thought, emotions and behaviour.

Students will:
- Use research methods to collect and analyse data and make evaluations;
- Illustrate the application of statistical procedures in the development of models and theories of psychology;
- Study the role of the functioning brain and nervous system in relation to interaction with the external world and the impact of stress on nervous system functioning;
- Investigate the retention of experiences and memory and the factors that affect retention and recall of information including factors that affect memory;
- Explore the characteristics of learning as a process that plays a part in determining behaviour;
- Focus on the different types of learning and behaviour that is not dependent on learning; and
- Study how biological, psychological and socio-cultural factors interact to contribute to the development of an individual’s mental functioning and mental health.

Assessment

Ongoing coursework
6 x School Assessed Coursework (SAC) tasks, which may include:
- Tests
- Structured scientific poster
- Research investigations
- Media responses
- Data analysis
- Annotated folio/reflective journal of practical activities

Examination

Advice to students

It is strongly recommended that students studying Unit 3 & 4 Psychology have studied at least Unit 2 Psychology.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Unit 1 &amp; 2 Psychology</td>
<td>Unit 3 &amp; 4 Psychology</td>
<td></td>
</tr>
<tr>
<td>Option 2</td>
<td></td>
<td>Unit 1 &amp; 2 Psychology</td>
<td>Unit 3 &amp; 4 Psychology</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Miss Soltys & Miss Wilson
Computing Units 1 & 2

In Unit 1, students focus on how data, information and networked digital systems can be used to meet a range of users' current and future needs. Students collect primary data to investigate an issue, practice or event and create a digital solution that graphically presents the findings of the investigation. Students examine the technical underpinnings of wireless and mobile networks, and security controls to protect stored and transmitted data, and use this information to design a network solution that meets an identified need or opportunity. They predict the impact on users if the network solution were implemented. Students acquire and apply their knowledge of information architecture and user interfaces, together with web authoring skills, to create a website presenting different viewpoints on a contemporary issue.

In Unit 2, students focus on data and how the application of computational, design and systems thinking skills support the creation of solutions that automate the processing of data. They develop their computational thinking skills using a programming or scripting language to create solutions. They engage in the design and development stages of the problem-solving methodology. 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. 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.

Assessment
- Ongoing class work
- Assignments
- Projects
- Tests
- End of year Exam

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Digital Technology</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Informatics and/or Unit 3 &amp; 4 Software Development</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Informatics</td>
<td>Unit 3 &amp; 4 Software Development</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Software Development</td>
<td>Unit 3 &amp; 4 Informatics</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Chatrath
Informatics Units 3 & 4

Units 3 and 4 Informatics focuses on data, information and information systems.

In Unit 3, students consider data and how it is acquired, managed, manipulated and interpreted to meet a range of needs. They investigate how organisations acquire data using interactive online solutions, such as websites and applications (apps), and consider how users interact with these solutions. They examine how relational database management systems (RDBMS) store and manipulate data. Students use software to create user flow diagrams that depict how users interact with online solutions, and acquire and apply knowledge and skills in the use of an RDBMS to create a solution. Students develop an understanding of the power and risks of using complex data as a basis for decision making. Students will complete the first part of a project, which is completed in Unit 4. They frame a hypothesis and then select, acquire and organise data from multiple data sets to confirm or refute this hypothesis.

In Unit 4, students focus on strategies and techniques for manipulating, managing and securing data and information to meet a range of needs. Students draw on the analysis and conclusion of their hypothesis determined in Unit 3, and then design, develop and evaluate a multimodal, online solution that effectively communicates the conclusion and findings. Students also explore how different organisations manage the storage and disposal of data and information to minimise threats to the integrity and security of data and information and to optimise the handling of information.

Assessment

- School Assessed Coursework (SAC) tasks
- End of year Exam

Possible Pathways

<table>
<thead>
<tr>
<th>Option</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Digital Technology</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Informatics and/or Unit 3 &amp; 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Software Development</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Informatics</td>
<td>Unit 3 &amp; 4 Software Development</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Software Development</td>
<td>Unit 3 &amp; 4 Informatics</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Chattrath
Software Development Units 3 & 4

In Units 3 and 4 students focus on the application of a problem-solving methodology and underlying skills to create purpose-designed solutions using a programming language. In Unit 3, 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. They respond to given software designs and develop a set of working modules through the use of a programming language. Students analyse a need or opportunity, plan and design a solution and develop computational, design and systems thinking skills. This forms the first part of a project that is completed in Unit 4.

In Unit 4, 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. 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. They 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.

Assessment

School Assessed Coursework (SAC) tasks
End of year Exam

Possible Pathways

<table>
<thead>
<tr>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Digital Technology</td>
<td>Unit 1 &amp; 2 Computing</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Informatics</td>
</tr>
<tr>
<td>Option 3</td>
<td>Unit 1 &amp; 2 Computing</td>
<td>Unit 3 &amp; 4 Software Development</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Chatrath
Food Technology Units 1 & 2

VCE Food 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. Students need to consider food preparation practices suitable for use in a small-scale food operation. 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.

Assessment

- Ongoing coursework
- Topic tests
- 2 x Assessment Tasks for Unit 1
- 2 x Assessment Tasks for Unit 2

Advice to students

It is recommended that students studying VCE Food Technology have previously studied at least one Year 9 or Year 10 Food Technology elective.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Food Technology</td>
<td>Unit 1 &amp; 2 Food Technology</td>
<td>Unit 3 &amp; 4 Food Technology</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Food</td>
<td>Unit 3 &amp; 4 Food Technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Ansalde
Food Technology Units 3 & 4

Food Technology Unit 3 focuses on food preparation and food controls. Students will develop an understanding of food safety in Australia and the relevant national, state and local authorities and their regulations. Unit 4 focuses on food product development and emerging trends. Students will create a folio showcasing particular productions following a written design brief.

Assessment
- Ongoing coursework
- Topic tests
- 3 x School Assessed Coursework (SAC) tasks for Unit 3
- 2 x School Assessed Coursework (SAC) tasks for Unit 4
- School Assessed Task (SAT)
- Exam

Advice to students

It is recommended that students who intend to study Units 3 & 4 Food Technology have Unit 1 & 2 Food Technology, to build a comprehensive knowledge of all key foods and practical skills required for this subject.

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Food Technology</td>
<td>Unit 1 &amp; 2 Food Technology</td>
<td>Unit 3 &amp; 4 Food Technology</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Food Technology</td>
<td>Unit 3 &amp; 4 Food Technology</td>
<td></td>
</tr>
<tr>
<td>Option 3</td>
<td></td>
<td>Unit 3 &amp; 4 Food Technology</td>
<td></td>
</tr>
<tr>
<td>Option 4</td>
<td></td>
<td></td>
<td>Unit 3 &amp; 4 Food Technology</td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mrs Ansalde
Systems Engineering (Mechatronics) Units 1 & 2

Unit 1: Introduction to mechanical systems

In this unit, students are introduced to the Systems Engineering Process. They are introduced to 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.

On completion of this unit the student should be able to make, test and evaluate a mechanical or an electro-mechanical system using selected relevant aspects of the Systems Engineering Process.

Unit 2: Introduction to electrotechnology systems

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.

On completion of this unit the student should be able to make, test and evaluate an electrotechnology system, using selected relevant aspects of the Systems Engineering Process.

Assessment

- Ongoing work and topic tests for Unit 1 and 2
- School Assessed Task (SAT) in the form of Production Folio
- End of year Exam

Advice to students

It is recommended that students intending to study Units 3 & 4 Systems Engineering choose Robotics in Year 9, Digital Technology in Year 10 and have studied Units 1 & 2 Systems Engineering (Mechatronics).

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Digital Technology</td>
<td>Unit 1 &amp; 2 Systems Engineering (Mechatronics)</td>
<td>Unit 3 &amp; 4 Systems Engineering</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Systems Engineering (Mechatronics)</td>
<td>Unit 3 &amp; 4 Systems Engineering</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Chatrath
Systems Engineering Units 3 & 4

Unit 3: Integrated Systems Engineering and Energy

In this unit, student will investigate, analyse and use advanced mechanical-electrotechnology integrated and control systems concepts, principles and components and, using selected relevant aspects of the Systems Engineering Process, design, plan and commence construction of an integrated and controlled system.

They will discuss the advantages and disadvantages of renewable and non-renewable energy sources, and analyse and evaluate the technology used to harness, generate and store non-renewable and renewable energy.

Unit 4: Systems control and new and emerging technologies

In Unit 4, students will produce, test and diagnose an advanced mechanical-electrotechnology integrated and controlled system using selected relevant aspects of the Systems Engineering Process, and manage, document and evaluate the system and processes.

They will describe and evaluate a range of new or emerging technologies and analyse the likely impacts of a selected innovation.

Assessment

School Assessed Coursework (SAC) for Unit 3
School Assessed Coursework (SAC) for Unit 4
2 x School Assessed Tasks (SAT) in the form of Production Folio
End of year Exam

Advice to students

It is recommended that students intending to study Units 3 & 4 Systems Engineering, choose Robotics in Year 9, Digital Technology in Year 10 and have studied Units 1 & 2 Systems Engineering (Mechatronics).

Possible Pathways

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Digital Technology</td>
<td>Unit 1 &amp; 2 Systems Engineering (Mechatronics)</td>
<td>Unit 3 &amp; 4 Systems Engineering</td>
</tr>
<tr>
<td>Option 2</td>
<td>Unit 1 &amp; 2 Systems Engineering (Mechatronics)</td>
<td>Unit 3 &amp; 4 Systems Engineering</td>
<td></td>
</tr>
</tbody>
</table>

Teachers to see for advice regarding this subject: Mr Chatrath
Cross Curricular

**Extended Investigation Units 3 & 4**

Extended Investigation enables students to develop, refine and extend knowledge and skills in independent research and carry out an investigation that focuses on a rigorous research question.

The investigation may be an extension of an area of curriculum already undertaken by the student or it may be completely independent of any other study in the student’s VCE program.

Through this study, students develop their capacity to explore, justify and defend their research findings in both oral and written forms to a general, or non-specialist audience.

**Assessment**

- Design and justify a research problem
- Write a research plan
- Oral report on the research plan
- Critical Thinking test (externally assessed)
- Oral report on findings from the research problem (externally assessed)
- Written report on findings from the research problem (externally assessed)

**Advice to Students**

There are no prerequisites for Extended Investigation, however, students considering undertaking the subject should be confident, independent and self-managed learners.

**Possible Pathways**

<table>
<thead>
<tr>
<th></th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Extended Investigation</td>
<td>Any Unit 1 &amp; 2 Study</td>
<td>Unit 3 &amp; 4 Extended Investigation</td>
</tr>
<tr>
<td>Option 2</td>
<td></td>
<td>Unit 3 &amp; 4 Extended Investigation</td>
<td>Any University Enhancement Study</td>
</tr>
</tbody>
</table>

**Teachers to see for advice regarding this subject:** Ms Mackin or Ms Warriner
The VCE (Baccalaureate) is an additional form of recognition for those students who choose to undertake the demands of studying both a higher level mathematics and a language in their VCE program of study.

To be eligible to receive the VCE (Baccalaureate), the student must satisfactorily complete the VCE and receive a study score for each prescribed study component.

The VCE program of study must include:

- a Unit 3 – 4 sequence in English, Literature or English Language with a study score of 30 or above; or a Unit 3 – 4 sequence in EAL with a study score of 33 or above
- a unit 3 – 4 sequence in either Mathematics or Specialist Mathematics
- a unit 3 – 4 sequence in any VCE Language
- at least two other Unit 3 – 4 sequences.

Upon satisfactory completion of the VCE (Baccalaureate) program of study, the student will receive a statement on their VCE certificate.

At this stage, the VCE (Baccalaureate) has no impact on university offers.

**Teacher to see for advice regarding this award:** Ms Warriner
Publications for Assistance

Publications that may assist with choices

- CHOICE! Published by Victorian Tertiary Admissions Centre (VTAC)
- Newspaper insert: 2018 Tertiary Planner
- University booklets for Year 10 students
- VCE study-specific handbooks. Online at VCAA. These provide details of the Assessment Task deadlines for each study. These publications are essential references which must be read thoroughly and consulted regularly.
- VICTER 2018, 2019, 2020 – Available through VTAC (copy on NEO in the careers section).

Outside Agencies and Internet Sites

Victorian Curriculum and Assessment Authority  www.vCAA.vic.edu.au

VTAC  www.vtac.edu.au

My Future Careers Site  www.myfuture.edu.au

Youth Central  www.youthcentral.vic.gov.au


Quality Indicators of Learning and Teaching  www.qilt.edu.au

The Good Universities Guide  www.gooduniversitiesguide.com.au
Dispute Resolution

If a dispute of assessment occurs in the senior school, Nossal High School will follow the dispute resolution process as recommended by VCAA in the 2017 VCE and VELS Administrative Handbook. Students will be supported in this process by the Director of VCE and Assistant Principal. Parents/guardians will be kept fully informed throughout the process in writing. Throughout the resolution process students are able to represent themselves, but they are encouraged to have a support person (teacher/guardian/parent/education support staff) who attends any meeting or interviews that may occur. They will be informed in writing of the final consideration by the Principal.

Assessment Dispute
(authenticity/accurate assessment/late submission)

→ Interview with Teacher

→ Interview with Director of VCE & Principal

→ Parents/Guardians informed in writing and invited for meeting

→ Final Decision by Principal

→ Parents/Guardians/Student informed in writing

→ VCE/VASS data entered by VASS Coordinator
Course Selection Principles

Students in Year 10 and 11 study six subjects per semester and students in Year 12 study five subjects per semester.

Students in Year 10: Select two English units, Mathematics (year long) and Humanities (year long), plus six other semester long units – a VCE subject or Language will account for two of these units. Use the guidelines for Year 10 Academic Progression (page 6) to ensure you fulfil the selection requirements.

Students in Year 11: Select an English plus five other subjects. Please note that it is Nossal Policy that only two Mathematics subjects may be studied within any given year.

Students in Year 12: Select an English plus four other subjects. Please note that it is Nossal Policy that only two Mathematics subjects may be studied within any given year. Students who accelerated in two Unit 3 & 4 subjects must still select five subjects. When results are released, they may choose to negotiate a different pathway.

Note: Students who will be selecting their course according to an individual learning programme may need their course entered manually at school. We will be in contact with students in this category.

Students who have difficulty should contact Mrs Graystone or Ms Geyer.

Process:

1. Make an appointment for you and a parent to attend course confirmation on the day appropriate for your year level. Information will be sent out with Term 2 reports.

2. Read this booklet and other resources carefully and have discussions at home and with others about your course and career pathways. Consult resources such as the VICTER guide for the year appropriate to you.
   - 2017 Year 12s consult the 2018 VICTER
   - 2018 Year 12s consult the 2019 VICTER
   - 2019 Year 12s consult the 2020 VICTER

   Have ideas and/or questions about preferred courses you wish to discuss ready for the confirmation session. Course information can be found on NEO in the careers section.

   Make sure you are planning a course that you are interested in and have aptitude for. Do not be unduly influenced by the aspirations others have for you. Stay true to your dreams, aspirations and capabilities. Always have a PLAN B.

3. Year 9 and 10 students, whilst attending the Careers Expo you need to complete the Course Planning Passport found at the back of the Handbook and have this ready to discuss at your course counselling session.

4. In pencil, fill out the course planning table at the back of this booklet. You should also have this ready to discuss at your course counselling session.

5. Attend the counselling session.

6. Make a decision about your course for 2017. You must be decisive. Major school decisions, like staffing and curriculum offerings, are riding on what you select. It is not possible for us to plan effectively for 2017 if students and families make repeated changes to choices.

7. Log on and complete the course selections as per the guidelines below by the due date Thursday August 11, 2016.

8. Follow the timeline outlined on the back of the booklet. We stand firm on our decision not to discuss courses in the interim periods between specified dates. We need this time to make decisions and work on planning for the coming year.
You will make your selections for your subjects online. Please follow these instructions:

1. Before you begin, make sure that you have access to a printer from the computer on which you are making your selections, as you will need to print out your approval form.

2. The closing date and time for selections is midnight on Thursday August 11, 2016.

3. Please do not leave it until the last moment to make your selections. If you have a problem you may not get access in time.

4. All subject selections will be downloaded after the closing date. Selections submitted by the deadline have equal priority.

Step 1. You will receive an email with a 5 digit web code and a link to the following website. Open https://web.edval.com.au/. This will be available from Thursday July 21, 2016.

Step 2. You are now at the Edval Webchoice login page.

Step 3. Enter your 5 digit Login code into the Login code box and then click the Login button.

Step 4. Read the instruction at the top and on the right hand side. Choose one subject from as many of the drop down boxes as you need to.

Step 5. Press the Submit button. If there are no problems with your selections you will be taken to a new page confirming your choices. You will need to print this page.

Note: If you do not complete the form correctly, you will receive a message, and you will need to make a change. Make your change and click on submit again. You may get another message if something else is not correct. Please continue following the instructions until you have submitted successfully.

Note: If your individual pathway falls outside our subject selection guidelines your entry will need to be made manually. This will be identified at Course Confirmation.

Step 6. Ask a parent/carer to sign your printed sheet on the bottom half of the page, and bring this to school and hand it into the post boxes by Friday August 12, 2016.

Step 7. You may login again and make changes to your preferences at any time until midnight on Thursday August 11, 2016. If you change your selection after bringing your printout to school, you will need to bring a new signed printout to the post boxes by Friday August 12, 2016.

Step 8. If you have difficulty logging-in, check you have entered the correct webcode. If you have difficulty in making your selections, re-read the instructions. If you continue to have difficulty, send an email to Ms Geyer at emma.geyer@nossalhs.vic.edu.au
Follow YOUR dreams!
To ensure you are thoroughly prepared for your Course Confirmation Appointment, please speak with a member of each Domain at the Careers Expo to discuss:

- the various subjects offered;
- subject pathways from Years 10 to 12;
- and your own personal preferences, strengths and areas for improvement to establish which subjects may best suit you.

These discussions should help guide your decision-making process when it comes to selecting subjects for the following years. Please bring the Senior School Handbook, with this page filled out, to your Course Confirmation Appointment.

In the past, students have often relied on 'word of mouth' from other students to inform their choices and haven't sought advice from those in the best position to give it: the teachers. As a result, many students often end up applying for subject changes due to the fact that the subjects they selected weren't what they thought they would be or didn't match their interests. To avoid this, it's important to discuss your options with the teachers who teach your subjects.

Please note that the timetable is built after the final submission of student courses on August 12. As such, any changes to your course plan must be made by August 12, two weeks after the date of the Careers Expo. Failure to make any changes after this date may result in you being unable to complete your course requirements.

### Course Planning Passport

<table>
<thead>
<tr>
<th>Domain Area</th>
<th>Subjects of Interest</th>
<th>Staff Signature</th>
<th>Subjects Suggested by Teacher</th>
<th>Pre-requisite Subjects for a Course (if known)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and PE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Course Planning Table

<table>
<thead>
<tr>
<th>Year 10 (Year ____)</th>
<th>Year 11 (Year ____)</th>
<th>Year 12 (Year ____)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **What are the pre-requisites for this?**
- **What do you intend to do after school?**
- **What are the pre-requisites for Year 11 and 12?**

If you are in Year 10 or 11 and forward map your courses into Year 11 and 12. This will help you ensure you meet the pre-requisite requirements of your post-secondary pathway and you meet the requirements of the VCE.

Planning tool for 2017 and beyond. Use this table to help you plan your course.

Website to log on for course selection:

Follow YOUR dreams!

Notes
# Course Selection Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Expected Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career/Pathways Information Night</td>
<td>Thursday July 21, 5.00pm to 8.00pm</td>
</tr>
<tr>
<td>Senior Course Confirmation Year 9, 10 and 11</td>
<td>Wednesday July 27, 8.00am – 8.00pm by appointment on Compass (no classes this day).</td>
</tr>
<tr>
<td></td>
<td>All Year 9 course confirmation should be completed on this day.</td>
</tr>
<tr>
<td>Senior Course Confirmation</td>
<td>Tuesday August 2 (Year 9 only), Thursday August 4 and Thursday August 11 from 9.00am – 4.00pm by appointment on Compass (normal classes this day).</td>
</tr>
<tr>
<td></td>
<td>Students will come out of classes to meet their parents for course confirmation appointments and then returned to class.</td>
</tr>
<tr>
<td>Online course selection completed by midnight</td>
<td>Friday August 12 – All printed and signed forms placed in the Nossal post boxes.</td>
</tr>
<tr>
<td>Thursday August 11</td>
<td>No communication about courses will be entered into after this point until the week of Monday September 5, when only students with course difficulties will be contacted.</td>
</tr>
<tr>
<td>Students with course problems notified and</td>
<td>Monday September 5 through to Friday September 16. No communication about courses will be entered into after this point until Friday November 11.</td>
</tr>
<tr>
<td>counselled to reselect</td>
<td></td>
</tr>
<tr>
<td>Students notified of 2017 courses</td>
<td>Friday November 11</td>
</tr>
<tr>
<td></td>
<td>No communication about courses will be entered into after this point until the week of Monday November 21.</td>
</tr>
<tr>
<td>Commencement of 2017 courses</td>
<td>Monday November 21 – Wednesday November 23</td>
</tr>
<tr>
<td>Unit 3 &amp; 4 VCE results released</td>
<td>Monday December 12</td>
</tr>
<tr>
<td>Final adjustments to 2017 courses by written</td>
<td>Monday November 21 and Tuesday December 6</td>
</tr>
<tr>
<td>application</td>
<td></td>
</tr>
</tbody>
</table>