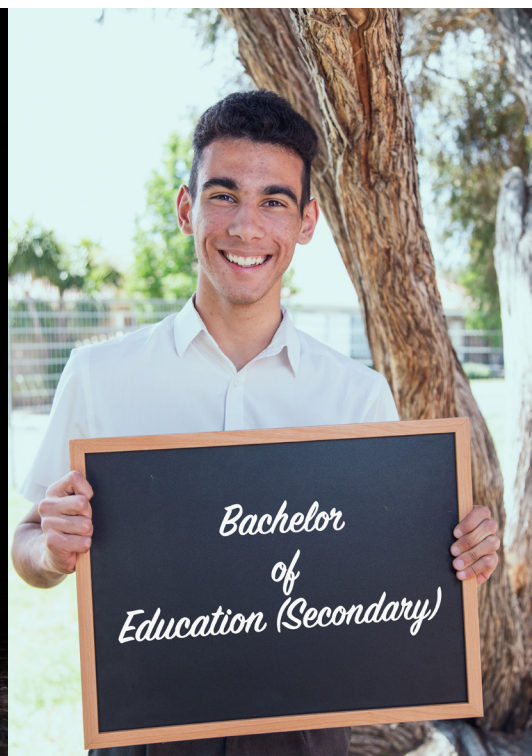




# Subject Descriptions

VCE, VET & VCAL offering for 2021



# CONTENTS

INTRODUCTION.....	4
THE VCE BACCALAUREATE .....	4
VICTORIAN CERTIFICATE OF APPLIED LEARNING (VCAL) .....	5
VET GENERAL INFORMATION .....	8
What is the Commitment? .....	8
How do VET fees work? .....	8
What is the Fee for SBT (School Based Traineeship)? (VCAL Students only) .....	9
VET Creative and Digital Media.....	10
VET Music Industry .....	11
VET Sport and Recreation.....	12
VET Furnishing.....	12
VET Applied Language (Chinese) .....	13
THE ARTS .....	14
Drama .....	14
Studio Arts.....	17
Visual Communication and Design .....	18
COMMERCE .....	20
Accounting .....	20
Economics.....	20
Legal Studies.....	21
ENGLISH .....	23
English .....	23
Literature .....	24
English Language.....	25
English as an Additional Language (EAL).....	26
VCAL Literacy .....	28
HEALTH & PHYSICAL EDUCATION.....	29

Health and Human Development.....	29
Physical Education .....	30
Latin .....	33
<b>HUMANITIES .....</b>	<b>35</b>
Geography .....	35
History .....	36
Texts and Traditions .....	37
<b>MATHEMATICS .....</b>	<b>38</b>
Foundation Mathematics (VCE and VCAL).....	38
General Mathematics / Further Mathematics .....	39
Specialist Mathematics .....	41
<b>SCIENCE .....</b>	<b>42</b>
Biology .....	42
Chemistry .....	43
Physics.....	44
Psychology.....	46
<b>TECHNOLOGY .....</b>	<b>47</b>
Computing.....	47
Food and Technology.....	48
Systems Engineering.....	51

## INTRODUCTION

---

At Heathdale Christian College we seek to provide a wide range of options to enable all of our students to complete a course of studies that allows them to explore their strengths and interests. The VCE subjects outlined in this booklet give detail into the various academic pathways that students can pursue and the VET and VCAL subjects offer a pathway directed more towards vocational interests. We encourage you as a family to read through the options outlined below and discuss the ones that best fit.

As you and your son or daughter discuss their subject options for their VCE/VCAL program, we would suggest that you bear in mind the following points:

- Students tend to gain the most from an educational program that is focused on their interests - they are already committed to and engaged with that pathway.
- Employers and Universities look at skill sets at least as much as vocational subjects. Therefore, rather than asking “What sort of job will subject X get you?” it can be helpful to ask “What skills will I gain from this subject?”
- If your child has an idea of the tertiary study they wish to pursue after Year 12, they need to make sure that they consider any pre-requisites that are required.
- If your child is unsure about what they wish to do after Year 12 (and most students are), choosing subjects that cover a range of interests and pathways is a good idea.

Finally, a word on Scaling, the process by which some subjects have their study scores modified up or down at the end of the year. This reflects the difficulty of the subject. If a subject is ‘scaled up’ then it is because it is harder to achieve a good result in, when compared to other subjects. To quote the Victorian Tertiary Admissions Centre guidebook,

*“Scaling ensures that all studies are treated equally in the ATAR calculation, so that students are not advantaged or disadvantaged by the studies they undertake.”*

Choosing a subject because of how it is scaled is not a guarantee, or even a help, to success. Instead, your child is far better advised to choose subjects that reflect their academic strengths and interests.

## THE VCE BACCALAUREATE

---

The VCE Baccalaureate is an award given to VCE students in recognition of 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. It is not a separate course of study and students do not need to be specially enrolled in anyway. Confirmation of the award is given after the students have received their final moderated study scores. To be eligible, they need to have taken one of the two higher Maths, a Language and achieved a score of 30 or above in English. They don't need to have achieved a certain score, or ranking, except for the fact that they must get at least 30 in English.

To be eligible for the Baccalaureate award, a student's VCE program of study must include:

- Units 3 and 4 sequence in English or Literature or English Language with a study score of 30 or above; or a Units 3 and 4 sequence in EAL with a study score of 33 or above
- a Units 3 and 4 sequence in either Mathematics Methods (CAS) or Specialist Mathematics
- a Units 3 and 4 sequence in a VCE Language
- at least two other Units 3 and 4 sequences.

# VICTORIAN CERTIFICATE OF APPLIED LEARNING (VCAL)

---

## Introduction

VCAL is an alternative pathway through Year 11 & 12. It is a hands-on, dynamic and student-centred style of learning for students aren't considering direct entry into university when they finish Year 12. While you might do a few VCE subjects of interest, you will most likely end up heading out on work placement rather than sitting examinations.

## Why choose VCAL?

The VCE is a good option for students who would like to go on to further education at university. However, you might feel that this is not the right option for you. Just like the VCE, the VCAL is an accredited senior secondary school qualification undertaken in Years 11 and 12. The VCAL is based on hands-on learning, also known as 'applied learning'. If you choose to do the VCAL, you will gain practical experience and 'employability' skills, as well as the skills need if you were to go onto further training in the workplace or at a TAFE.

## What do I get if I do VCAL?

If you successfully complete your learning program you will receive a VCAL Certificate for either Foundation, Intermediate or Senior level, depending on the VCAL level you chose to attempt. You will also get a Statement of Results, listing all VCE (if VCE units were successfully completed as part of your VCAL course), and VCAL units, and a Statement of Attainment for VET or Further Education courses. These will list all units and modules you have successfully completed as part of your VCAL program.

*Over the page has a visual representation of the pathways available to Year 11 and 12 students at Heathdale Christian College.*

## Further Resources

For **more information** please go to:

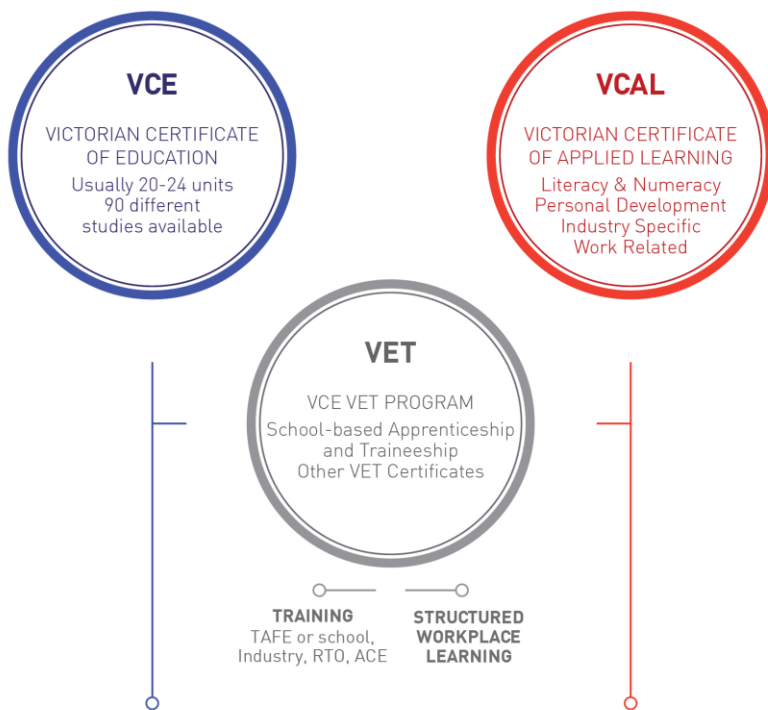
<http://www.vcaa.vic.edu.au/Pages/vcal/students/studentfaq.aspx>

If you would like lots of detailed and quality information, case studies, course overviews, links to professional organisations and more then you can download this guide called **VCAL First** from the Victorian Applied Learning Association from <http://vala.asn.au/vcal-first-2/>





# LEARNING PATHWAYS



## COMPLETION OF VCE

## COMPLETION OF VCAL



*Train up a child in the way he should go; even when he is old he will not depart from it.*  
- Proverbs 22:6

## **What will I study if I do VCAL?**

### **Numeracy and Literacy**

Your VCAL program *must* include literacy and numeracy subjects. These should be selected from VCAL Literacy Skills and VCAL Numeracy skills units which are more hands on and integrated with your school projects. If you would like to do VCE English and Mathematics units, then this would be at the discretion of the VCAL Coordinator.

### **Industry Specific Skills**

Your VCAL program at the Intermediate and Senior levels must include components of nationally recognised VET qualifications. The range of VET options is extensive. See the handbook section on VET for more specific information on what is offered at Heathdale Christian College.

### **Work Related Skills**

In order to develop employability skills, VCAL gives you the choice of undertaking a structured work placement, a part-time apprenticeship/traineeship, or part-time work. You can also study units and modules that will help prepare you for work, for example occupational health and safety or job interview skills.

### **Personal Development Skills**

As part of your VCAL program you will participate in projects and activities in your community or school that will help develop your teamwork skills, self-confidence and other skills important for life and work. For example, your school may work with national and international charities by raising funds through school initiatives. The learning you gain from being involved in such a project can be counted towards the VCAL.

### **Example Pathways**

#### **Student A: Year 11**

Most students who engage VCAL in **Year 11** will undertake the **VCAL Intermediate Certificate**.

This Year 11 student is interested in exploring a career in Hospitality. The components of an Intermediate level program could include:

- VCAL Intermediate units – Personal Development and Work Related Skills
- VCE Foundation Maths (Unit 1&2)
- A selection of VCE Units 1&2 subjects such as Food Technology and History
- VET Certificate II in Hospitality

## **Student B: Year 12**

Most students who engage VCAL in **Year 12** will undertake the **VCAL Senior Certificate**.

This Year 12 student is interested in exploring a career in Nursing. The components of a senior level program could include:

- VCAL Senior units – Personal Development and Work Related Skills
- VCAL Senior Literacy and VCAL Senior Numeracy
- A selection of VCE Units 3&4 subjects such as Health and Human Development and Biology.
- VET Certificate III in Allied Health Services

If you have any questions or would like to know more information about the VCAL program please speak to Mrs. Carolyn Thomas via e-mail at [cthomas@heathdale.vic.edu.au](mailto:cthomas@heathdale.vic.edu.au).

## **VET GENERAL INFORMATION**

---

VET in the VCE or VCAL program allows students to include vocational studies within their senior secondary certificate. Students undertake nationally recognised training programs from either accredited state curriculum or national training packages, which may contribute to their VCE and/or VCAL.

### **What is a VET subject?**

VET stands for Vocational Education and Training. Most of the time this kind of training is available through TAFEs or other RTOs. A VET or VCE-VET subject done at school enables a student to complete part of their schoolwork or VCE certificate while at the same time achieving a recognised industry certification. A Year 12 VCE-VET subject also contributes towards your ATAR.

### **What is the Commitment?**

VET subjects require the same commitment as any other subject to class work and homework. VET subjects are a commitment for at least one year and often two years to complete the Certificate qualification.

Some Certificates are also taught off campus by other tertiary institutions, so travel time and costs and out of hours training need to be considered. Speak with the VET coordinator or VET teachers for detailed information.

### **What happens if I don't complete the two years?**

If you are undertaking a VCE-VET subject, then you will still receive the VCE credit for the units you have completed. You will also receive a Statement of Attainment for the units you have completed during this time. However you will not receive any training certification that requires you to have completed the full two years.

### **How do VET fees work?**

An indicative VET Fee will be charged for the full year to your account in March. This indicative figure is calculated by offsetting the cost of the course provided from the RTO, against the



estimated Government subsidy amount received. The subsidised amount can vary depending of the funding received from the Government. As we are not a State Government School our funding may be less than other local Government Schools. The amount of the subsidy is not known to the College until September. Once this is received, the College will then calculate a balancing adjustment, which will either be charged or credited back to your account, depending on how accurate the estimate was at the beginning of the year.

**Please note that these charges will be debited to parent’s accounts early in Term 1 as there are costs associated with running each of these programs. This charge is only an estimate. Once we receive our government funding later in the year, we’ll then compare this to our estimate and then charge or credit families the difference.** Please budget for this charge if your child is thinking about completing a VET subject. Refund of costs such as the purchasing of text books associated with the VET course will not be applied.

A deposit of \$200 is required to secure a place in the VET course offered. In many cases this deposit will be the full cost of the course. This deposit is non- refundable in order to cover administration costs incurred.

### **What is the Fee for SBT (School Based Traineeship)? (VCAL Students only)**

SBT fees will vary depending on the RTO and the course chosen. A contract will be entered into by yourself and the RTO conducting the SBT. Fees will be charged directly to the parents. If your child is completing a SBT you would have already had a meeting with the relevant RTO and fees for your child’s VET Certificate would have been discussed and agreed upon.

### **VET FEE Structure**

<b>Certificate Type</b>	<b>Indicative Fee</b>	<b>Other Requirements</b>	<b>Fee</b>
Certificate II in Hospitality Kitchen Operation Unit 1 and 2	\$2,350 per student	Equipment and Uniform	and
Certificate II in Hospitality Kitchen Operation Unit 3 and 4	\$2,080 per student	Equipment and Uniform	and
Certificate III in Sport and Recreation Year 10	\$92 per student	Unit 1 and 2 extra for First Aid Course.	
Certificate III in Sport and Recreation Year 11	\$86 per student		
Certificate III in Screen and Media	\$249 per student depending on enrolment numbers.	NIL	
Certificate II in Applied Languages (Chinese)	\$73 per student	NIL	
Certificate III in Applied Languages (Chinese)	\$157 per student	NIL	
Certificate II in Furniture Making	\$445 per student depending on enrolment numbers.	NIL	
Certificate II in Engineering Studies	\$310 per student depending on enrolment numbers.	NIL	
Certificate III in Music Industry (Performance)	\$89 per student depending on enrolment numbers.	NIL	

If you have any questions or would like to know more information about VET programs please speak to Mrs. Bronwyn Graham via email: [bgraham@heathdale.vic.edu.au](mailto:bgraham@heathdale.vic.edu.au).

## **VET Creative and Digital Media**

### **CUA31015 - CERTIFICATE III IN SCREEN AND MEDIA**

#### **Course Description**

The Certificate III in Screen and Media - Specialising in multimedia/design is structured to introduce students to the many career opportunities available for artists, animators and designers. This course gives student an understanding of the creative potential of the computer design software used in most creative industries such as: *advertising, design, film and interactive design; graphic design; digital imaging; drawing and rendering; product design; design production; 2D and 3D animation; gaming.*

This qualification will provide you with the practical skills and knowledge to perform a range of tasks in the creative industry sector. You will learn to develop and apply creative arts industry knowledge and apply critical thinking techniques. You will learn skills in various digital software packages as well as techniques for presenting and generating ideas. You will plan and produce work with concept art, drawings, storyboards, brainstorming and animating your designs throughout the production process as well as edit sound and music into a final product. The Certificate III includes units wherein you will be working on producing 3D models whilst animating and incorporating into a gaming platform.

**Units 1 and 2** include units of competencies such as: participating in occupational health and safety processes, developing and applying creative arts industry knowledge, working with others and applying critical thinking techniques. The VCE units 1 & 2 serves as a valuable bridge to complete a Certificate III in Media, which then leads to a Certificate IV and further studies at university level. Graduates leave with a portfolio of work, knowledge and skills useful in many other multimedia and design areas.

**Units 3 and 4** include units of competence such as: 2D digital animations, writing content for a range of media, authoring interactive sequences and creating visual design components. For students currently studying in year 11 or 12, this course may be counted towards their ATAR or VCE.

Students wishing to receive an ATAR contribution for the Units 3 and 4 sequence of Certificate III in Screen and Media must undertake scored assessment for the purpose of achieving a study score. This study score can contribute directly to the ATAR, either as one of the student's best four studies (the primary four) or as a fifth or sixth study. Students who undertake additional training from Certificate III and achieve a further 3 and 4 sequence may be eligible for an increment towards their ATAR (10% of the average of the primary four scaled studies).

**Note: increments for unscored VCE VET programs are calculated using 10% of the lowest study score of the primary four.**

## **VET Music Industry**

### **CUA30915 - CERTIFICATE III IN MUSIC INDUSTRY**

During units 1-4 of Music Industry Skills (MIS), students rehearse and perform in bands developing their ability to play and perform their chosen instruments. They work in teams to record a collection of music using a Digital Audio Workstation in the school's recording studio as a songwriter, performer, producer, recording engineer and a mixing engineer. Students learn about employment opportunities in the Australian music industry and the variety of roles that exist within the production industry. They are also given a variety of live sound experiences through events run within the school community throughout the year.

This program is competency-based which means there's an emphasis on the practical application of the coursework. All set work must be completed throughout the year to achieve a satisfactory result. There is also an end-of-year examination for Units 3 and 4 which is part of the scored assessment that contributes to the ATAR for VCE students.

**Year 11: Units 1 and 2** include units of competencies such as:

- Contribute to health and safety of self and others,
- Implement copyright arrangements,
- Work effectively in the music industry,
- Apply knowledge of style and genre to music industry practice,
- Develop ensemble skills for playing or singing music, and
- Make a music demo.

**Year 12: Units 3 and 4** include units of competencies such as: Develop improvisation skills, Develop and maintain stagecraft skills, Perform music as part of a group, Perform music as a soloist, Develop technical skills in performance, Prepare for performances

Students wishing to receive an ATAR contribution for a certificate III Music Performance or Sound Production specialisation must undertake scored assessment for the purpose of achieving a study score. This study score can contribute directly to the ATAR, either as one of the student's best four studies (the primary four) or as a fifth or sixth study. Students who undertake additional training from certificate III and achieve a further Units 3 and 4 sequence may be eligible for an increment towards their ATAR (10% of the average of the primary four scaled studies).

**Note: increments for unscored VCE VET programs are calculated using 10% of the lowest study score of the primary four.**

## **VET Sport and Recreation**

### **SIS30115 - CERTIFICATE III IN SPORT AND RECREATION**

***PLEASE NOTE: Students commence this program at Heathdale in Year 10.***

The VCE VET Sport and Recreation program aims to provide students with the knowledge and skills to enhance their employment prospects in a range of sectors including, but not limited to, the sport and recreation industry. This subject requires students to complete four semesters of study. The program commences in Year 10 and all units will be completed by the end of Year 11.

**Year 10: Units 1 and 2** include units of competency on topics such as: Level 2 First Aid, using social media responsibly, providing quality customer service, and preparing and delivering sport and recreation sessions for participants (Junior or Middle School Sport). Students will take part in Surfing and MTB riding activities as part of this subject.

**Year 11: Units 3 and 4** include units of competencies on topics such as: Workplace Health and Safety, conflict resolution, risk management, planning, conducting and evaluating sport and recreation sessions for population groups. Students will take part in snorkelling activities as part of this subject.

Students will be assessed using a number of different assessment tools. There will be written assignments, theory tests and practical tests. Assessment is competency based, so all set work must be completed throughout the year to achieve a satisfactory result. There is also an end of year examination for Units 3 and 4, which is part of the scored assessment that contributes to the student's VCE ATAR.

Students wishing to receive an ATAR contribution for the Units 3 and 4 sequence must undertake scored assessment for the purposes of achieving a study score. This study score can contribute directly to the ATAR, either as one of the student's best four studies (the primary four) or as a fifth or sixth study.

## **VET Furnishing**

### **MSF20516 CERTIFICATE II IN FURNITURE MAKING.**

This Certificate is state accredited curriculum which offers students prevocational training in the cabinet making industry. This course aims to provide participants with the knowledge and skills to achieve competencies that will enhance their employment prospects in the furniture or furniture-related industries, such as: read and interpret drawings, construct furniture using the leg and rail method, apply surface coatings, assemble furniture components and prepare for cabinet installation. The course will also enable participants to gain a recognised credential and to make an informed choice of vocation or career path. Please note that Units 1 and 2 are prerequisites for Units 3 and 4.

MSF20516 Certificate II in Furniture Making Pathways: includes units such as sustainability and furnishing industry careers, upholstery, making timber joints, basic design, hand and power tools, furniture assembly and a furniture making project.

**Year 11: Units 1 and 2** include three compulsory units of competency and a minimum of three elective units of competency. These units include: safe practices at work, joining materials used in furnishing, environmentally sustainable work practices, making simple timber joints, preparing surfaces and selecting and applying hardware

**Year 12: Units 3 and 4** include five compulsory units of competency. These units include assembling furniture components, using hand and power tools, working as a team, making measurements and calculations and constructing furniture using the leg and rail method.

Students wishing to receive an ATAR contribution for the Units 3 and 4 sequence of VCE VET Furnishing must undertake scored assessment for the purpose of achieving a study score. This study score can contribute directly to the ATAR, either as one of the student's best four studies (the primary four) or as a fifth or sixth study.

### **VET Applied Language (Chinese)**

**10297NAT CERTIFICATE II IN APPLIED LANGUAGE (CHINESE) completed in Years 9 &10**  
**1066NAT CERTIFICATE III IN APPLIED LANGUAGE (CHINESE) completed in Year 11 & 12**

Students learn language structures and vocabulary items to enable them to speak, read and write in Chinese in simple social and work settings. In addition, they will gain a knowledge and appreciation of Chinese culture.

Career Opportunities: Knowledge of a language other than English and relevant cultural skills can enhance employment prospects in a wide range of areas, including the hospitality and tourism industries, government departments, community services, and health, business, finance, mining, and construction industries.

**10297NAT Certificate II in Applied Language (Chinese) is completed in years9 &10**

**1066NAT Certificate III in Applied Language is completed in Year 11 and Year 12**

Both are nationally accredited certificates that offer students the opportunity to develop basic oral and written communication in the language in a range of standard social and workplace situations.

Students who receive a Units 3 and 4 sequence for Program 2 of VCE VET Applied Language will be eligible for an increment towards their ATAR (10 per cent of the lowest study score of the primary four studies).

**Note: increments for unscored VCE VET programs are calculated using 10% of the lowest study score of the primary four.**

**\*\*Please note that that the completion of Certificate II in Applied Language is a Prerequisite for Certificate III in Applied Language.**

***NOTE: ALL of the above VET descriptions need to be read in conjunction with the general VET information regarding fees, timetable and Work Placement.***

# THE ARTS

---

## Drama

VCE Drama is a mostly practical subject that gives students an opportunity to draw on their own creativity and imagination. Through a solid foundation in exploring a variety of performance styles and drawing on contemporary practice, students devise their own narratives and characters based on stimulus material and research. Students develop and refine their ability to draw on performance styles, conventions and dramatic elements to create engaging and thoughtful ensemble and solo work. Students need to be committed to developing their performance abilities as this subject involves out of class rehearsals, performance evenings as well as excursions to theatre productions.

Through studying VCE Drama students develop a wide range of employable skills that relate further than the Theatre/Performance Industry to all employment contexts. Some of these important transferable skills are: initiative and enterprise, planning and organisation, self-management, problem solving, critical thinking, team work and communication. Through Drama students learn more about themselves and the world they live in and are able to become creative and empathetic individuals.

### **Unit 1: Introducing Performance Styles**

In this unit students study three or more performance styles and devise performances that go beyond re-creation and/or representation of real life as it is lived. They develop their skills in creating, presenting and analysing a devised performance that includes real or imagined characters and is based on stimulus material that reflects, personal, cultural and/or community experience and stories. This unit also involves analysis of student's own performance work and a work by professional drama performers. Students apply play-making techniques to shape and give meaning to their performance. They manipulate expressive skills in the creation and presentation of characters. They develop awareness and understanding of how characters are portrayed in a range of performance styles. They document the processes they use as they explore a range of stimulus material, and experiment with production areas, dramatic elements, conventions and performance styles.

In this unit students are required to attend a professional theatre performance. The assessment tasks for this unit are: Folio, Ensemble Performance, Ensemble Performance Analysis, Theatre Analysis and an end of semester written exam.

### **Unit 2: Australian Identity**

In this unit students study aspects of Australian identity and explore the work of selected drama practitioners and associated performance styles. Students document the processes involved in constructing their own solo performance based on a person, event, issue, place, artwork, text and/or icon from a contemporary or historical Australian context. For their own work, students select performance styles and explore associated conventions. They also further develop their knowledge of transformation of character, time and place, the application of symbol, and how these conventions may be manipulated to create meaning in the performance and use of dramatic elements and production areas. Students analyse their own work as well as undertaking an analysis of a performance of an Australian work.

The assessment tasks for this unit are: a folio, solo performance, solo performance analysis, theatre analysis and an end of semester written exam.

### **Unit 3: Devised Ensemble Performance**

In this unit students explore the work of drama practitioners and draw on contemporary practice as they devise ensemble work. They work collaboratively to devise, develop and present an

ensemble performance that reflects a specific performance style or one that is eclectic in nature. They use play making techniques to extract dramatic potential from stimulus material, then apply and manipulate conventions, dramatic elements, expressive skills, performance skills and production areas. Throughout development of the work they experiment with transformation of character, time and place, and application of symbol. Students devise and shape their work to communicate meaning or to have a specific impact on their audience. Students also document and evaluate stages involved in the creation, development and presentation of their work. Students analyse and evaluate a professional performance selected from the prescribed VCE Unit 3 Drama playlist.

The assessment tasks for this unit are: an ensemble performance, ensemble performance analysis and a non-naturalistic theatre analysis.

#### **Unit 4: Devised Solo Performance**

This unit focuses on the development and presentation of non-naturalistic devised solo performance. Students explore contemporary practice and works that are eclectic in nature. Students develop skills in extracting dramatic potential from stimulus material and use play-making techniques to develop and present a short solo performance. They experiment with application of symbol and transformation of character, time and place. They apply conventions, dramatic elements, expressive skills, performance skills and performance styles to shape and give meaning to their work. Students further develop and refine their skills as they create a main solo piece in response to a prescribed structure. They consider the use of production areas to enhance their performance and the application of symbol and transformations. Students documents and evaluate the stages involved in the creation, development and presentation of their solo performance. Students are encouraged to attend performances that incorporate a range of performance styles to support their work in this unit.

The school assessment tasks for this unit are: a mini solo and solo performance analysis.

#### **External Assessment**

The level of achievement for Unit 3 and 4 is also assessed by two end-of-year examinations: one performance-based and one written.

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

School-assessed Coursework: 40%

End-of-year Performance examination: 35%

End-of-year Aural and Written examination 25%



## **Music Performance**

Music Performance Units 1 to 4 aims to broaden and enrich students' musical experience and involves synthesis of knowledge of the musical work/s being performed including their structure, style, context and expressive qualities. Performers use musicianship skills along with instrumental techniques to present musically engaging performances. Through research and analysis of performances by leading practitioners, students become aware of ways that performance conventions, musical nuance and effective communication between performers and audience can facilitate engaging, exciting and meaningful performances. Information about selecting instruments and works for study is provided in the Study Design.

### **Entry**

There are no prerequisites for entry to Units 1, 2 and 3. Students must undertake Unit 3 prior to undertaking Unit 4. All VCE studies are benchmarked against comparable national and international curriculum. At least four to five years' experience in learning an instrument/s is recommended before commencing VCE Music Performance.

### **Unit 1**

This unit focuses on building students' performance and musicianship skills to present performances of selected group and solo music works using one or more instruments. They study the work of other performers and explore strategies to optimise their own approach to performance work to address technical, expressive and stylistic challenges relevant to works they are preparing for performance. Students also develop their listening, aural, theoretical and analytical musicianship skills.

### **Unit 2**

This unit focuses on building performance and musicianship skills. Students present performances of selected group and solo music works using one or more instruments and take opportunities to perform in familiar and unfamiliar venues and spaces. They study the work of other performers and refine selected strategies to optimise their own approach to performance. They continue to develop their listening, aural, theoretical and analytical musicianship skills and apply this knowledge when preparing and presenting performances.

### **Unit 3**

In this unit, students build and refine their performance and musicianship skills. Students focus on either group or solo performance and begin preparation of a performance program they will present in the end-of-year examination. As part of their preparation, students will take opportunities to perform in familiar and unfamiliar venues and spaces. They study the work of other performers and refine selected strategies to optimise their own approach to performance. Students develop, refine and focus their listening, aural, theoretical and analytical musicianship skills and apply this knowledge when preparing and presenting performances.

### **Unit 4**

In this unit, students focus on further development and refinement of performance and musicianship and continue preparation of a performance program they will present in the end-of-year examination. Through analyses of other performers' interpretations and feedback on their own performances, students refine their interpretations and optimise their approach to

performance. Students continue to address challenges relevant to works they are preparing for performance and to strengthen their listening, aural, theoretical and analytical musicianship skills.

## **Assessment**

### **Satisfactory completion**

The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the set of outcomes specified for the unit. This decision will be based on the teacher's assessment of the student's performance on assessment tasks designated for the unit.

### **Levels of achievement**

#### **Units 3 and 4**

The Victorian Curriculum and Assessment Authority will supervise the assessment of all students undertaking Units 3 and 4. In the study of Music Performance students' level of achievement will be determined by School-assessed coursework, a Performance examination and an Aural and Written examination.

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

- School-assessed Coursework
  - Unit 3: 20%
  - Unit 4: 10%
- End-of-year Performance examination: 50%
- End-of-year Aural and Written examination 20%

## **Studio Arts**

*"Just as our eyes need light in order to see, our minds need ideas in order to create."*  
- Nicole Malebranche

The aim for Studio Arts is to introduce students to the role and practice of artists in society. Students will develop an understanding of the way artists work in a range of cultures and periods of time, the artist's perception, beliefs and actions and how their artwork provokes relationship with the viewer.

### **Students will do this through studying:**

- how to express themselves creatively through art making,
- how to support and sustain their art practice,
- how to develop an individual studio practice through the use of selected media: analogue and digital drawing and painting media to create still and animated finals; 3D media (sculpture and site specific installation); photography (analogue and digital); textiles; printmaking; music and video art; mixed media,
- drawing inspiration from the ways in which artists apply studio processes in the production of their individual artworks, and learning how to analyse these works and processes,
- the historical and cultural contexts in the production of artworks,
- skills of visual analysis in relation to their own art practice and the artists they are researching,

- professional art practices and the role of the artist in the presentation of their artwork in a range of different galleries and to different audiences as well as art conservation.

There are no prerequisites for entry into Units 1, 2 and 3. Students must undertake Unit 3 prior to Unit 4.

### **Unit 1: Studio inspiration and techniques**

In this unit students focus on developing an understanding of their personal studio practice and learn how to explore, develop, refine and resolve their ideas into final artworks. Through exploring sources of inspiration, students research artistic influences and develop a range of individual ideas through a variety of materials and techniques to visualise their concepts. Visual Diary documentation of the studio practice from initial idea to final artworks is a vital component for this unit and includes interpretation of art ideas and the use of materials and techniques in their studio practice as well as those of other artists.

### **Unit 2: Studio exploration and concepts**

In this unit students are required to develop ideas through an individual studio process based on visual research and inquiry. Students will learn to explore ideas, sources of inspiration, materials and techniques through selected art forms, documenting this process in an individual exploration proposal. Students will generate a selection of potential directions that will inform the studio practice of final artworks. Visual Diary documentation of the studio practice from initial idea to final artworks is a vital component for this unit and includes interpretation of art ideas and the use of materials and techniques in their studio practice

### **Unit 3: Studio practices and processes**

In this unit students focus on their individual studio process leading to the production of a range of potential directions to be refined and produced into final artworks in Unit 4. An exploration proposal is developed by students based on their inspiration and ideas and around the media and materials they want to explore before they begin material exploration. The exploration proposal remains the reference point for Unit 4 finals. Documentation of studio inspiration, research and practice forms 60% of the overall folio production. Students will also research and refer to selected artists and artworks in different historical and cultural contexts in both folio work and coursework that will be reflected in the end of year exam.

### **Unit 4: Studio practice and art industry contexts**

In this unit students focus on planning, producing and evaluating their final artworks. They will visually present a cohesive link between their exploration proposals from Unit 3 with their final artworks. The development of these artworks should reflect refinement and skilful application of their chosen materials and techniques, and the resolution of ideas and aesthetic qualities explored. Completed artworks will be accompanied with detailed annotation and descriptions of the production and refinement process. Students will be analysing artworks and the requirements and conditions of the environments where they are displayed. They will discuss how exhibitions are prepared, presented and promoted in regards to different types of galleries as well as specific artworks.

## **Visual Communication and Design**

### **Unit 1: Introduction to visual communication design**

This unit focuses on using visual language to communicate messages, ideas and concepts. This involves acquiring and applying design thinking skills as well as drawing skills to make messages, ideas and concepts visible and tangible.

Through experimentation and exploration of the relationship between design elements and principles, students develop an understanding of how these can affect the visual message and the way information and ideas are read and perceived. Students review the contextual background of visual communication through an investigation of design styles and are introduced to three stages of the design process.

### **Unit 2: Applications of visual communication design**

This unit focuses on the application of visual communication design knowledge, design thinking skills and drawing methods to create visual communications to meet specific purposes in designated design fields. They investigate how typography and imagery are used in visual communication design. In response to a brief, students engage in the stages of research, generation of ideas and development of concepts to create visual communications.

### **Unit 3: Design thinking and practice**

In this unit students gain an understanding of the process designers employ to structure their thinking and communicate ideas with clients, target audiences, other designers and specialists. Through practical investigation and analysis of existing visual communications, students gain insight into how the selection of methods, media, materials and the application of design elements and principles can create effective visual communication.

Students use their research and analysis of visual communication designers and design from a variety of historical and contemporary design fields to support the development of their own work. They establish a brief and apply design thinking skills through the design process.

### **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. Having completed their brief and generated ideas in Unit 3, students continue the design process by developing and refining concepts for each need stated in the brief. They investigate how the application of design elements and principles creates different communication messages for their target audience.

Students refine and present two visual communications within the parameters of the brief. They devise a pitch to communicate their design thinking and decision making to the client.

# COMMERCE

---

## Accounting

*If you have an interest in business, Accounting will give you the basic financial background to make a successful start to your business career.*

It is not a pre-requisite for Business Degrees at Universities but it is highly recommendable because history has proven that a large number of students who have no Accounting background struggle with it at University level, where it is an integral part of most business degrees.

### **So, why study Accounting?**

*It gives students an awareness of what business is all about and how financial decisions impact on profitability.* If you are interested in business and more specifically financial management, then Accounting is probably the Commerce subject that gives you the best background for the future.

### **What will I be studying?**

#### **Unit 1: Role of accounting in business**

The role of accounting

Recording financial data and reporting accounting information for a service business

#### **Unit 2: Accounting and decision-making for a trading business**

Accounting for inventory

Accounting for and managing accounts receivable and accounts payable

Accounting for and managing non-current assets

#### **Unit 3: Financial accounting for a trading business**

#### ***There is open entry to Unit 3 Accounting. (No prerequisites.)***

Recording and analysing financial data

Preparing and interpreting accounting reports

#### **Unit 4: Recording, reporting, budgeting and decision-making**

Extension of recording and reporting – manual and ICT

Budgeting and decision-making

There will be an end-of-year examination that contributes 50% of the study score. Internal assessment contributes 25% for unit 3 and 25% for unit 4.

## Economics

### **What is Economics?**

Economics is about the world around us; it's current; it's about the modern world; it's about how we behave, how businesses behave and how the government behaves.

***The ARB changes the Interest Rates*** - why and how is it expected to influence the economy? If you study Economics you will learn why they do it.

***Getting the budget back to surplus?*** Is it important? If you are interested in current economic affairs, then you should study Economics.

### **Why would I study Economics?**

"Our experience at the Productivity Commission is that an economics degree is a strong launching pad for an interesting and fulfilling career. Young graduates develop skills that hold them in good stead wherever they choose to work – in the public or private sectors, in Australia or overseas. Well-trained young economists have the world at their feet!" - Gary Banks, Chairman of the Productivity Commission.

### **What will I be studying?**

#### **Unit 1: The Behaviour of consumers and businesses**

- Thinking like an Economist
- Decision making in markets
- Assessment tasks may include case studies, structured questions, media analysis, tests, essays, reports in written or multimedia format (60%) and an end-of-semester examination (40%).

#### **Unit 2: Contemporary economic issues**

- Economic growth, long-term economic prosperity and environmental sustainability
- Economic efficiency and equity
- Global economic issues
- Assessment tasks may include case studies, structured questions, media analysis, tests, essays, reports in written or multimedia format (60%) and an end-of-year examination (40%).

#### **Unit 3: Australia's economic prosperity**

There is **Open Entry** to Unit 3 Economics, **no prerequisites**.

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

#### **Unit 4: Managing the economy**

- Aggregate demand policies and domestic economic stability
- Aggregate supply policies
- Assessment tasks may include case studies, structured questions, media analysis, tests, essays, reports in written or multimedia format (50%) and an end-of-year examination (50%).

## **Legal Studies**

### **Unit 1: Guilt and liability**

Students examine the fundamentals of the Australian legal system by exploring the concepts of guilt and liability. They grapple with the foundational concepts of the *rule of law* and *standard and burden of proof*. In this unit students develop an understanding of legal foundations, such as the different types and sources of law and the existence of a court hierarchy in Victoria. Students investigate key concepts of criminal law and civil law and apply these to actual and/or hypothetical scenarios to determine whether an accused may be found guilty of a crime, or liable in a civil dispute.

## **Unit 2: Sanctions, remedies and rights**

Students extend their understanding of criminal and civil law in Unit 2. This unit focuses on the enforcement of criminal law and civil law, the methods and institutions that may be used to determine a criminal case or resolve a civil dispute, and the purposes and types of sanctions and remedies and their effectiveness. Students examine criminal cases and civil cases and research the protection of rights in Australia.

## **Unit 3: Rights and justice**

The Victorian justice system, which includes the criminal and civil justice systems, aims to protect the rights of individuals and uphold the principles of justice: fairness, equality and access. In this unit students examine the methods and institutions in the justice system and consider their appropriateness in determining criminal cases and resolving civil disputes. Students consider the Magistrates' Court, County Court and Supreme Court within the Victorian court hierarchy, as well as other Victorian legal institutions and bodies available to assist with cases. Throughout this unit, students apply legal reasoning and information to actual and/or hypothetical scenarios.

## **Unit 4: The people and the law**

The study of Australia's laws and legal system involves an understanding of institutions that make and reform our laws, and the relationship between the Australian people, the Australian Constitution and law-making bodies. In this unit, students explore how the Australian Constitution establishes the law-making powers of the Commonwealth and state parliaments, and protects the Australian people through structures that act as a check on parliament in law-making. Throughout this unit, students apply legal reasoning and information to actual scenarios.



# ENGLISH

---

*English is a compulsory subject in the VCE and all students must satisfactorily complete three units from the English group, with at least one unit at Unit 3 and 4 level, in order to obtain their VCE Certificate.*

*All subjects in the English group will be offered for Units 1-4 in 2019 - 2020: English, English as an Additional Language, Literature and English Language.*

## English

The study of English develops not only the skills of literacy, but also enhances students' critical and creative thinking, aesthetic appreciation and creativity. Students engage with texts from the canon of literature as well as contemporary texts and those belonging to a wide variety of cultures.

New Study Design – Accredited Period 2016 – 2020

### English Unit 1

#### **Area of Study 1 - Reading and Creating Texts**

In this area of study, through analysis and discussion, students examine how writers create meaning. They study how characters and themes are developed in a literary text and explore the effect of audience and purpose on authorial choices. They also consider the writer's world as well as the reader's experience and how these may influence the meaning of a text. Using this knowledge, students respond in written analyses and develop their own creative responses to the texts studied.

#### **Area of Study 2 – Analysing and Presenting Argument**

In this area of study, students focus on the analysis and construction of argument. They read a range of texts and identify the verbal and non-verbal language used to position readers and viewers. Students practise written analysis of the presentation of argument and also craft and present their own reasoned, structured and supported arguments.

### English Unit 2

#### **Area of Study 1, Reading and Comparing**

In this Area of Study, students study a pair of literary texts, in order to explore common themes, issues and ideas. In this way, students' understanding of the texts is broadened and deepened by the process of comparing them. Students also develop an appreciation of the choices open to writers. They identify and discuss important similarities and differences in the texts studied and produce a written comparison.

#### **Area of Study 2, Analysing and Presenting Argument**

In this area of study students explore texts that attempt to convince an audience to share a point of view. They identify and discuss the impact of argument and persuasive language used to influence an audience. Using their knowledge and understanding of the construction of argument, students also present their own reasoned written point of view on a contemporary social issue.

### English Unit 3

#### **Area of Study 1 - Reading and Creating Texts**

In this area of study students examine how writers create meaning through clearly expressed and implied ideas and values in texts. They develop and justify their own detailed interpretations and analyses of texts. Students also prepare creative responses, showing their understanding of the themes, ideas and issues in selected texts. They develop an effective voice and style

using the chosen features of the selected text, for example characters, narrative or dialogue, to offer an interpretation of the selected text.

### **Area of Study 2, Analysing and Presenting Argument**

Students analyse, compare and debate recent media texts of a variety of forms, including print, non-print and multimodal texts, and develop their understanding of how language and argument work together to persuade the reader. In doing this, students develop written and spoken critical analyses of how different writers use argument and language, reasoning and textual features to persuade their readers.

## **English Unit 4**

### **Area of Study 1 - Reading and Comparing Texts**

In this area of study students analyse and compare two texts for the ways ideas, issues and themes are developed and conveyed through character and setting, voice and structure. By comparing the texts, they gain a deeper understanding of ideas, issues and themes that reflect the world and human experiences.

### **Area of Study 2, Presenting Argument**

In this area of study, students use their knowledge of argument and persuasive language as a basis for the development of their own persuasive texts on a recent topical issue. They use discussion and writing to clarify their thinking and develop a viewpoint on an issue, to plan and prepare an argument and its supporting evidence, and to develop and prepare any materials to support an oral presentation. Students also identify ways of using language to engage and persuade their audience.

## **Literature**

The study of literature focuses on the enjoyment and appreciation of reading that arises from discussion, debate and close examination of the meanings of literary texts. Students explore the relationship between the text, the context in which it was produced and the experience of life and literature the reader brings to the texts. They reflect on their own interpretations and the interpretations of others. The study encompasses texts that vary in form, culture and context. Students learn to understand that texts are constructions, to consider the complexity of language and to recognise the influence of contexts and form. The study of literature encourages independent and critical thinking in students' analytical and creative responses to texts, which will assist students in the workforce and in future academic study.

### **Unit 1**

On completion of this unit students will be able to discuss how personal responses to literary texts are developed. They will also be able to discuss how texts comment on the interests and ideas of individuals and groups within society and discuss how different interpretations of a text are shaped by the form of their presentation. Students will also develop their skills in close analysis and written expression.

### **Unit 2**

On completion of this unit students will have developed their ability to offer a critical and creative response to literary texts. They will also be able to discuss how a text addresses its own cultural and historical context and be able to sustain a comparison between similar aspects of different literary texts. Students will continue to develop their skills in the areas of close analysis, discussion and written expression.

### **Unit 3: Form and Transformation**

On completion of this unit students will be able to discuss how writers construct their work and how meaning is interpreted by the reader. They will also be able to discuss how the meaning of a text changes when its form does, and will respond creatively to the form, style and ideas of one of the texts studied.

### **Unit 4: Interpreting Texts**

On completion of this unit students will focus on their own and others' responses to literary texts. They will examine how readers' interpretations of texts are influenced by their own background, context and worldview. Students will also develop their skills in sustaining a detailed close analysis of a text and writing with clear written expression.

## **English Language**

The study of English Language offers students an opportunity to investigate the structures, features and purposes of human language through an analysis of written texts and spoken communication. Students learn to deconstruct the English language into its organizational subsystems such as speech sounds, words, sentences, meaning particles, speech elements and the rules that govern both writing conventions and conversation.

VCE English Language builds on students' previous learning about the conventions and codes used by speakers and writers of English. Informed by the discipline of linguistics, it provides students with metalinguistic tools to understand and analyse language use, variation and change. Students studying English Language understand that uses and interpretations of language are nuanced and complex, rather than a series of fixed conventions. Students explore how people use spoken and written English to communicate, to think and innovate, to construct identities, to build and interrogate attitudes and assumptions, and to create and disrupt social cohesion.

### **Unit 1: Language and Communication**

In this unit, students consider the way language is organised and explore the various functions of language and the nature of language as an elaborate system of signs. The relationship between speech and writing as the dominant modes of language and the impact of situational and cultural contexts on language choices are also considered. Students investigate children's ability to acquire language, and the stages of language acquisition across a range of subsystems.

### **Unit 2: Language Change**

In this unit, students consider factors contributing to change over time in the English language and factors contributing to the spread of English. They explore texts from the past and from the present, considering how all subsystems of the language system are affected. Students also consider how the global spread of English has led to a diversification of the language and to English now being used by more people as an additional language.

### **Unit 3: Language Variation and Social Purpose**

In this unit, students investigate English language in contemporary Australian social settings, along a continuum of informal and formal registers.

Students examine the stylistic features of formal and informal language in both spoken and written modes. Students learn how to describe the interrelationship between words, sentences and text as a means of exploring how texts construct meaning.

Students consider how texts are influenced by the situational and cultural contexts in which they occur. They learn how language can be indicative of power relationships, and how linguistic structures can be used to achieve a variety of purposes such as the inclusion of some and exclusion of others.

**Outcomes:**

- Identify and analyse distinctive features of informal language in written and spoken texts.
- Identify and analyse distinctive features of formal language in written and spoken texts.

**Unit 4: Language Variation and Identity**

In this unit, students focus on the role of language in establishing and challenging different identities. Students examine both print and digital texts to consider the ways different identities are constructed.

Students explore how our sense of identity evolves in response to situations and experiences and influences how we see ourselves and how others see us. Through our language we express ourselves as individuals and signal our membership of particular groups. Students explore how language can distinguish between 'us' and 'them', creating solidarity and reinforcing social distance.

**Outcomes:**

- Investigate and analyse varieties of Australian English and attitudes towards them.
- Analyse how people's choice of language reflects and constructs their identities.
- 2-hour end-of-year examination

**English as an Additional Language (EAL)**

*The study of EAL is specific to students who have been studying English for less than 7 years and for whom English is not their first language.*

This subject aims to develop literate individuals capable of critical and creative thinking. This study also develops students' ability to appreciate, create, analyse and interpret various written and spoken texts. Students engage with texts from the contemporary world and from the past, and use texts from Australia and from other cultures. Students studying EAL become confident, articulate and critically aware communicators who develop a sense of themselves, their world and their place within it. EAL helps equip students for participation in Australian society and the global community.

This study will build on prior learning in the key discipline concepts of language, literature and literacy, and the language modes of listening, speaking, reading, viewing and writing.

**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.

**Outcome 1: Reading and creating texts**

Students produce an analytical and a creative response to texts

**Outcome 2: Analysing and presenting argument**

- a. Students analyse how argument and persuasive language can be used to position audiences in written and spoken texts
- b. Students create a persuasive oral or multimodal presentation intended to position an audience.

**Mid-year examination**

## Unit 2

In this unit students compare the presentation of ideas, issues and themes in two texts. They also analyse arguments and the use of persuasive language in texts and present their own point of view intended to position audiences in written form.

### **Outcome 1:** Reading and comparing texts

Students produce a comparative analytical response to texts

### **Outcome 2:** Analysing and presenting argument

- a. Students produce a written text that presents a point of view
- b. Students produce an analysis of the use of argument and persuasive language in written and spoken texts.

### **End-of-year examination.**

## Unit 3

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

### **Outcome 1:** Reading and creating texts

Students produce a written analytical interpretation of a selected text **or** a creative response in oral or written form with a written explanation

### **Outcome 2:** Analysing argument

Students demonstrate an understanding of two or three texts by analysing and comparing the use of argument and persuasive language that present a point of view on an issue currently debated in the media.

### **Outcome 3:** Listening to texts

Students comprehend spoken texts through short and long-answer questions.

## 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.

### **Outcome 1:** Reading and comparing texts

Students produce a detailed comparison which analyses how two selected **texts present ideas, issues and themes.**

### **Outcome 2:** Presenting argument

Students construct a sustained and reasoned point of view on an issue currently debated in the media, in the form of an oral presentation including a statement of intention.

### **3-hour final examination**

Students will be tested on their knowledge and understanding of one of two texts studied throughout the year, their ability to write a sustained and cohesive essay in Standard Australian English and on their ability to understand and analyse the language of argument, in an unseen persuasive article.

### **VCAL Literacy**

**VCAL stands for Victorian Certificate of Applied Learning.** This means that students who take part in the VCAL program will receive a certificate of completion. The title also implies that the program is 'hands on' and is practical to everyday life. Students who choose VCAL Literacy will be in the VCAL program. In Literacy they will develop knowledge in reading and writing a range of texts and learn literacy skills that are practical for everyday social situations. For example, students will develop skills in reading and writing for self-expression, practical purposes, debating and recognising devices of persuasion. They will also develop skills in everyday oral communication, both formal and informal.

The VCAL Literacy program is competency based and the students must meet all 12 learning outcomes at least twice to receive their VCAL Literacy certificate..

# HEALTH & PHYSICAL EDUCATION

---

## Health and Human Development

### Unit 1: Understanding health and wellbeing

In Unit 1 Health and Human Development students look at health and wellbeing as a concept with varied and evolving perspectives and definitions. It takes the view that health and wellbeing are subject to a wide range of contexts and interpretations, with different meanings for different people. As a foundation to the understanding of health, students should investigate the World Health Organization's (WHO) definition. Wellbeing is a complex combination of all dimensions of health, characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged.

For the purposes of this study, students should consider wellbeing to be an implicit element of health. In this unit students identify personal perspectives and priorities relating to health and wellbeing, and enquire into factors that influence health attitudes, beliefs and practices, including among Aboriginal and Torres Strait Islanders. Students look at multiple dimensions of health and wellbeing, the complex interplay of influences on health and wellbeing and the indicators used to measure and evaluate health status.

With a focus on youth, students consider their own health as individuals and as a cohort. They build health literacy through interpreting and using data, through investigating the role of food, and through extended inquiry into one youth health focus area such as mental health and road safety.

### Unit 2: Managing health and development

Unit 2 investigates transitions in health and wellbeing, and development, from lifespan and societal perspectives. Students look at changes and expectations that are part of the progression from youth to adulthood.

This unit promotes the application of health literacy skills through an examination of adulthood as a time of increasing independence and responsibility, involving the establishment of long-term relationships, possible considerations of parenthood and management of health-related milestones and changes. Students enquire into the Australian healthcare system and extend their capacity to access and analyse health information. They investigate the challenges and opportunities presented by digital media and health technologies, and consider issues surrounding the use of health data and access to quality health care.

### Unit 3: Australia's health in a globalised world.

This unit looks at health, wellbeing and illness as multidimensional, dynamic and subject to different interpretations and contexts. Students begin to explore health and wellbeing as a global concept and to take a broader approach to inquiry. As they consider the benefits of optimal health and wellbeing and its importance as an individual and a collective resource, their thinking extends to health as a universal right. Students look at the fundamental conditions required for health improvement, as stated by the World Health Organization (WHO). They use this knowledge as background to their analysis and evaluation of variations in the health status of Australians. Area of Study 2 focuses on health promotion and improvements in population health over time. Students look at various public health approaches and the interdependence of different models as they research health improvements and evaluate successful programs. While the emphasis is on the Australian health system, the progression of change in public health approaches should be seen within a global context.



## **Unit 4: Health and human development in a global context.**

This unit examines health and wellbeing, and human development in a global context. Students use data to investigate health status and burden of disease in different countries, exploring factors that contribute to health inequalities between and within countries, including the physical, social and economic conditions in which people live. Students build their understanding of health in a global context through examining changes in burden of disease over time and studying the key concepts of sustainability and human development. They consider the health implications of increased globalisation and worldwide trends relating to climate change, digital technologies, world trade and the mass movement of people. Area of Study 2 looks at global action to improve health and wellbeing and human development, focusing on the United Nations' (UN's) Sustainable Development Goals (SDGs) and the work of the World Health Organization (WHO). Students also investigate the role of non-government organisations and Australia's overseas aid program. Students evaluate the effectiveness of health initiatives and programs in a global context and reflect on their capacity to take action.

## **Physical Education**

### **Unit 1: The human body in motion.**

In this unit students explore how the body systems work together to produce and sustain movement. Structure (anatomy) and function (physiology) of the Skeletal, Muscular, Cardiovascular and Respiratory Systems are examined including their acute (short term) responses during physical activity. Students also examine sports injuries and strategies to enhance performance in sporting activities. We look at the effects of drugs on athletes as well as legal enhancements such as hypoxic training.

**Area of study 1:** How does the musculoskeletal system work to produce movement?

**Area of study 2:** How does the cardiovascular system function at rest and during physical activity?

Key knowledge, such as how the body systems work together to produce and maintain movement in various sporting activities, is assessed through short-answer and extended-response tests and laboratory activities. One of the labs involves a visit to a testing facility to undertake a VO<sub>2</sub>max test. There will also be a mid-year examination.

### **Unit 2: Physical activity, sport and society.**

Students are introduced to the role physical activity plays in the health and wellbeing of the population. Current trends in activity patterns within Australian populations are explored and discussed. Factors in society that influence the choices that people make in relation to being physically active are examined as well as the relative success of current State and National campaigns designed to promote physically active lifestyles.

In Outcome 2, students will research a contemporary issue that has affected the sports industry. Topics include but are not limited to: Disability, Pay gap between men and women, Competitive sport for young children and/or Womens' participation in sport. Students will research the changes that have happened over time and develop a future goal. They will present their finding to the class as part of a group project.

**Area of study 1:** What are the relationships between physical activity, sport, health and society?

**Area of study 2:** What are the contemporary issues associated with physical activity and sport?

Key knowledge and skills will be assessed through data analysis and case study tasks. There will also be an end-of-year examination

### **Unit 3: Physical Activity Participation and Physiological Performance**

In this area of study students examine the biomechanical and skill acquisition principles that can be applied when analysing and improving movement skills used in physical activity and sport. Through coaching and involvement in a variety of practical activities, students investigate and analyse sporting activities to develop an understanding of how the correct application of biomechanical and skill acquisition principles leads to greater efficiency and accuracy in movement skills.

Students will also build on their knowledge of anatomy and physiology especially energy systems and mechanisms of fatigue. This will include a visit to an exercise testing facility where some of our students will undergo laboratory-based fitness testing. Students will also participate in mountain biking at the You Yangs State Park where heart rate data will be collected and analysed to determine energy system contribution and factors that cause the body to fatigue.

A case study analysis, a lab report and a data analysis assess performance in this unit.

### **Unit 4: Enhancing Performance**

In this unit students learn how to perform a games analysis and then apply relevant training principles and methods to improve performance within that physical activity. Students analyse skill frequencies, movement patterns, heart rates and work to rest ratios to determine the requirements of an activity. Students then consider the physiological, psychological and sociological requirements of training to design and evaluate an effective training program. Students participate in a variety of training sessions designed to improve or maintain fitness and evaluate the effectiveness of different training methods. Students critique the effectiveness of the implementation of training principles and methods to meet the needs of the individual and evaluate the chronic adaptations to training from a theoretical perspective. A major component of the assessment in this unit involves planning, completing and evaluating training sessions.

A data analysis, a training diary and a written test will be used to assess this unit.

The end of year examination covers both Units 3 and 4.

# VCE LANGUAGES

---

*There are doubtless many different languages in the world, and none is without meaning.* – 1 Corinthians 14:10

Learning languages:

- Enriches students intellectually, educationally and culturally
- Enables students to communicate across cultures
- Contributes to social cohesiveness through better communication and understanding
- Further develops the existing linguistic and cultural resources in our community
- Contributes to our strategic, economic and international development
- Enhances employment and career prospects for the individual.

## French

*With languages, you are at home anywhere.* – Edward de Waal

The study of French develops students' ability to understand and use a language which is widely learned and spoken internationally, and which is an official language of many world organisations and international events. The ability to use and understand French also provides students with a direct means of access to the rich and varied culture of francophone communities around the world.

### Pourquoi would I study French?

- France is the world's fifth biggest economy and is home to many international organisations and companies
- You can immerse yourself in French culture including literature, music, cinema, sculpture and architecture
- Travel – France hosts more than 87 million visitors each year, and the ability to speak French offers so much insight to the culture and way of life
- French is spoken by over 300 million people in 88 countries on five continents
- It is one of the elements which makes up the VCE Bacculaureate and universities look very favourably upon students who have learnt another language
- For the challenge. It is very rewarding to study and learn to fluently speak another language.

### Unit 1

Through the medium of the French language, students investigate aspects of French language and culture, discussing the lifestyles of people in the French speaking world with particular reference to the family, friends, & daily routine, leisure, sport & health, and school life and education systems. In response to various spoken and written texts, students participate in an informal conversation covering aspects of their personal world. They also complete reading and listening comprehension tasks. Unit 1 will end with the semester examination.

## Unit 2

Students complete a rich variety of tasks which involve listening, reading, writing and speaking. They also provide a written response to a spoken, written, or visual texts related to travel, or festivals & traditions, or art, entertainment and culture. Unit 2 will end with the end of year examination.

## Unit 3

Through the medium of French, students participate in a 3 to 4 minute role play focussing on the resolution of an issue. Students interpret information from texts a written response to this. They also express ideas in a personal writing response.

## Unit 4

Students share information, ideas and opinions in a spoken exchange and analyse information from written, spoken and viewed texts for use in a written response in French. Their final school assessed coursework is to present information, concepts and ideas in an evaluative or persuasive writing piece on an issue in France.

Note: Unit 4 will also involve students spending 15 hours of class time plus 15 hours of homework dedicated to researching an aspect of culture and life in the French speaking world. This will then be presented by students in the form of a discussion at the oral examination.

Unit 4 will then end with the end of year examination.

## Latin

### Unit 1

In first semester, students will focus on learning the last pieces of Latin grammar by completing Book 3 of the Oxford Latin course. Their competency in the language will be further reinforced through regular practice with unseen translations and other exercises, as well as continuing study of cultural and historical background that will assist them in understanding the classical Roman writers.

### Unit 2

Students will start reading selections of Vergil's *Aeneid*, an epic poem about the founding hero of Rome. These selections have been carefully picked each year to be the most relevant to the book of the Aeneid that they will study the following year (in Unit 4). In studying the Aeneid, students will start to analyse poetry and its poetic metre and style, as well as the cultural, historical, and mythological context. Students will continue to be grounded in Latin grammar through a regular program of unseen translations and grammar exercises. The unseen translations will gradually become longer and more complex, in order to prepare them for the standard required in Units 3 and 4.

### Unit 3

The first semester of their final year of Latin at school will see students consolidate their grammatical understanding and translation skills through reading Cicero's *Pro Caelio*. Students will explore the cultural and political context as well as the style and persuasive qualities of Cicero's famously witty speech. The school-assessed coursework includes seen and unseen translation tasks, grammar analysis, and short response questions on literary style and purpose

in the set text. In addition, students will undertake a regular course of unseen translations to improve their general competency in translation skills.

#### **Unit 4**

The central study of this final unit will be a detailed study of a book of Virgil's *Aeneid*. The school-assessed coursework will take on a more literary focus, involving short answer questions about the stylistic features of the poem, and essays (in English) on the themes and ideas in the text. Unseen translations will continue. The final examination will require students to possess a comprehensive knowledge of Virgil's *Aeneid*, especially the portion they have studied, and also to demonstrate their general ability in the language by completing an unseen translation.

# HUMANITIES

---

## Geography

The study of Geography is an integral part of the education of every young Australian in the 21<sup>st</sup> century. Geography nurtures curiosity in the world's people and places and brings real world issues into the classroom. Field trips to significant Victorian locations are an important component of this subject.

### What is Geography?

Geography is the study of places – their environments, populations, economies and communities – and how and why these places are changing. The study of Geography gives students a holistic view of the world combining the natural and social sciences. Geography develops in students the skills to describe, analyse and explain spatial relationships within the world they live in.

### So, why Senior Geography?

This subject builds a sense of our national identity and of Australia's place in the world and helps us make informed decisions about the big issues affecting the quality of our lives and landscapes, moving from the local neighbourhood to the state, the nation and beyond.

The study of Geography develops competencies essential in the workplace and can lead to a wide range of careers including resource management, tourism, urban and social planning, conservation, heritage and land management, international development, disaster management, environmental education etc.

### 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.

Hazards include a wide range of situations including those within local areas, such as fast moving traffic or the likelihood of coastal erosion, to regional and global hazards such as drought and infectious disease. Students examine the processes involved with hazards and hazard events, including their causes and impacts, human responses to hazard events and interconnections between human activities and natural phenomena. 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.

The study of tourism at local, regional and global scales emphasises the interconnection within and between places. There is an interconnection between places tourists originate from and their destinations through the development of communication and transport infrastructure, employment, together with cultural preservation and acculturation. The growth of tourism at all scales requires careful management to ensure environmentally sustainable and economically viable tourism. Students undertake fieldwork in this unit and report on fieldwork using the structure provided.

### 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. Students investigate the distribution and causes of these three processes. At a local scale

students investigate land use change using appropriate fieldwork techniques and secondary sources. They investigate the scale of change, the reasons for change and the impacts of change. Students undertake fieldwork and produce a fieldwork report using the structure provided

#### **Unit 4: Human population – trends and issues**

In this unit students investigate the geography of human populations. They explore the patterns of population change, movement and distribution, and how governments, organisations and individuals have responded to those changes in different parts of the world. Population movements such as voluntary and forced movements over long or short terms add further complexity to population structures and to economic, social, political and environmental conditions.

## **History**

#### **Unit 1: The Making of Empires 1400-1775**

This unit focuses on the Early Modern Era exploring the transition from medieval feudalism to the modern, secular nation-state. At the dawn of the era, international trade was dominated by three powerful empires – the Venetian Empire, China under the Ming dynasty and the Ottoman Empire. Emerging powers included Portugal, Spain, France, Britain and the Netherlands who sought to increase their power through the development of alternate trade routes and exploration. Radical ideas in science and religion, as well as the emergence of new technologies, led to the disruption of social structures and traditional power bases. As the Feudal Era gave way to the early stages of capitalism, European powers began to race to extract profit from their new colonies. The impact of these new empires would change life dramatically across the globe.

#### **Unit 2: Empires at work 1400-1775**

This unit looks at colonisation across the globe and the profits and challenges that arose. Global trade resulted in technologies, plants, animals, culture and diseases beginning to travel between continents. This included the trade in human beings in the form of the slave trade across the Atlantic by almost all major empires. Colonies also faced challenges as Indigenous peoples resisted colonisation, settler societies were unpredictable and colonies were a drain on resources. Rival powers jostled for advantage, alliances and resources. The many wars waged between Early Modern empires culminated in all-out global warfare in the Seven Years' War (1754–63) and paved the way for revolution!

#### **Units 3 and 4: Revolutions**

The study of revolutions provides us with the opportunity to look at the motives behind and effects of social change. The study of how ideas, individuals and other factors have shaped the world in which we live is both rewarding and necessary. As the French and American revolutions were pivotal in shaping global events through to this time, they are the focuses of our study in History: Revolutions.

We examine the role of ideas, leaders, movements and events in the development of the revolution- both in how they start and how they shaped their respective societies and cultures. We look at the individuals and ideas that shaped the course of events and how they dealt with the challenges that they faced. The study of different interpretations of these characters and events is another key part of the subject. We also examine the challenges facing the emerging new order and the way in which attempts were made to create a new society, and evaluate the nature of the society created by the revolution. There are two assessment tasks for each unit, which can be in the form of: a research report, an analysis of visual and/or written documents or an essay, as well as an end-of-year examination.

## **Texts and Traditions**

The study of VCE Texts and Traditions at Heathdale equips students to come to a deeper understanding of the Bible (text) which shapes Christianity (tradition), Christians and our world.

### **Why study the Bible?**

The study of the Bible, in its original historical and social setting, provides students with a better understanding of God, ourselves and how to please God, as well as the impact of the Bible in history and the world today. Additionally, Biblical knowledge is essential to understand our culture because references to the Bible are not only found in Christianity, but also in music, art, philosophy, literature, law and many other areas. Furthermore, an accurate understanding of the Bible enables us to understand what is really true. Finally and most importantly, Biblical study is frequently used by God to transform lives.

### **Unit 1: Texts in Traditions**

In this unit, students learn about the meta-narrative of Scripture and learn to recognise and explain some of the different literary forms found in the Bible. Students will learn the basic skills required for the interpretation of the Biblical text. Students will explore the various understandings and interpretations of Genesis 1-11 and Exodus 1-20. Assessment tasks may include tests, reports, essays, exegeses and an end-of-year examination.

### **Unit 2: Texts in Society**

In this unit, students explore the teaching of the Bible in relation to a number of themes such as justice, gender, environment and ethnicity. The Biblical text is examined in its context, as well as exploring the relevance of the text for today's society. A comparison between the teaching of the Bible and other sacred texts on justice is also made. Assessment tasks may include tests, reports, essays, exegeses and an examination.

### **Unit 3: Texts and the Early Tradition**

The focus of study for Units 3 and 4 is the Gospel of Luke. Unit 3 focuses on the social, cultural and religious background to the Gospel; on the writing and themes of the Gospel and on the interpretation of the text of the Gospel. Assessment tasks may include tests, reports, essays, exegeses and an end-of-year examination.

### **Unit 4: Texts and their teachings**

Unit 4 continues to focus on the interpretation of the text of the Gospel of Luke. It also focuses on significant themes found in Luke and how they have been interpreted in the Christian tradition. Assessment tasks include tests, reports, essays, exegeses and an end-of-year examination.



# MATHEMATICS

---

*"The knowledge of Mathematics unveils not only the vistas of beauty and power unsuspected before, but also an order, symmetry and infinitude which stuns and awes the beholder...." Larry Zimmerman-Christian Educator.*

The study of Mathematics teaches a skill set distinguished by its focus on rigor, reasoning and communication. Such skills include: Critical thinking, Logical reasoning, Discipline, Learning/Applying difficult and complex concepts, Problem solving, Generating solutions, Data analysis, Pattern recognition, Identification of relevant data, Computational skills, Understanding of algorithms and processes.

Although few mathematics students will eventually have a job title of "mathematician," there are many job titles that do not immediately reveal their mathematical background.

Here is a short list of such jobs: Advertising consultant, Actuary, Bioinformatics specialist, Business analyst, Risk management, Business manager, Computer programmer, Cryptanalyst or Cryptographer, Engineer, Banker, Electrician, Financial advisor, Financial mathematics analyst / Financial engineer, High school teacher, Lawyer, Physician, Professor, Software developer, Statistician.

## Combinations of Mathematics units:

Units 1 and 2	Units 3 and 4
<ul style="list-style-type: none"><li>• Foundation Mathematics</li></ul>	<ul style="list-style-type: none"><li>• VCAL Numeracy (not VCE)</li></ul>
<ul style="list-style-type: none"><li>• General Mathematics</li></ul>	<ul style="list-style-type: none"><li>• Further Mathematics</li></ul>
<ul style="list-style-type: none"><li>• Mathematical Methods</li></ul>	<ul style="list-style-type: none"><li>• Further Mathematics</li><li>• Mathematical Methods</li><li>• both Methods and Further</li></ul>
<ul style="list-style-type: none"><li>• Mathematical Methods and General Mathematics</li></ul>	<ul style="list-style-type: none"><li>• Further Mathematics</li><li>• Mathematical Methods</li><li>• both Methods and Further</li></ul>
<ul style="list-style-type: none"><li>• Mathematical Methods and Specialist Mathematics</li></ul>	<ul style="list-style-type: none"><li>• Further Mathematics</li><li>• Mathematical Methods</li><li>• both Methods and Further</li><li>• both Methods and Specialist</li></ul>

## Foundation Mathematics (VCE and VCAL)

### VCE Foundation Mathematics Unit 1 and 2:

The study of Foundation Mathematics Units 1 and 2 is designed for students who do not intend to undertake Unit 3 and 4 Mathematics of any kind the following year but who may consider continuing with VCAL Numeracy. It provides for the continuing mathematical development of students with a strong emphasis on using mathematics in practical contexts relating to everyday life. The areas of study for Units 1 and 2 of Foundation Mathematics are 'Space, shape and design', 'Patterns and number', 'Data' and 'Measurement'.

Construction, travel, savings, investments and property. The use of a bank account with its structures and fees and loan repayments with interest accrued are just some of the applications within this course.

There are various assessment tasks of differing styles and lengths throughout the year and an examination mid-year and end of year.

## **General Mathematics / Further Mathematics**

### **VCE General Mathematics Unit 1 and 2**

General Mathematics Unit 1 and 2 is aimed at students who see Mathematics, not so much as their primary course of study, but rather as a support for their chosen endeavours. This course leads into Further Mathematics Units 3 and 4 in the following year.

The areas of study are 'Algebra and structure', 'Arithmetic and number', 'Discrete mathematics', 'Geometry, measurement and trigonometry', 'Graphs of linear and non-linear relations' and 'Statistics'. Students are expected to calculate with numbers and communicate symbolically as well as apply Mathematics to everyday life situations and solve problems.

Proficient use of technology is a major aspect of the course.

All assessments are technology active and include topic tests, summary notes, modelling and problem-solving tasks, investigations and examinations. Students are therefore required to have an approved CAS calculator.

### **VCE Further Mathematics Unit 3 and 4**

Further Mathematics consists of two areas of study, a compulsory Core area of study to be completed in Unit 3 and an Applications area of study to be completed in Unit 4. The Core comprises 'Data analysis' and 'Recursion and financial modelling'. The Applications comprises two modules to be completed in their entirety, from a selection of four possible modules: 'Matrices', 'Networks and decision mathematics', 'Geometry and measurement' and 'Graphs and relations'. This study is designed to enable students to develop mathematical knowledge and skills and to learn how to apply them to practical contexts and to problem solving situations.

The School Assessments Coursework for each area of study will be completed in the form of an application task and three modelling or problem-solving tasks and will be required to be completed over the course of a few days. All assessments are technology active. Students are therefore required to have an approved CAS calculator. In addition to the assessments during the year, all students are required to sit two examinations in November, covering all work throughout Unit 3 & 4. Both examinations are technology active (either an approved graphics calculator or CAS) and both examinations permit the use of one bound reference text, lecture pad or logbook with a single spine.

## **Mathematical Methods (CAS)**

### **Unit 1 and 2**

Mathematical Methods Units 1 and 2 provide an introductory study of elementary functions of a single real variable, algebra, calculus, probability and statistics and their applications in a variety of practical and interesting contexts. As such, one of the benefits is to enhance students understanding of the methods that are required to achieve successful problem solving.

This subject offers a good balance between the use of CAS technology (calculators) and by hand skills to develop students' ability to work mathematically.

Assessments throughout the semester will be both technology active and technology free include topic tests, summary notes, modelling and problem-solving tasks and investigations. Students are therefore required to have an approved CAS calculator.

All students will sit two examinations at the completion of each unit. One examination is technology free (i.e. no calculators allowed) while the second examination is technology active, permitting the students to use their CAS calculator to its fullest capacity.

### **Areas of Study:**

- Functions and Graphs (polynomials, exponential and circular functions)
- Algebra
- Calculus (differentiation and integration)
- Probability and Statistics

### **Assessment Tasks:**

- Topic tests
- End of semester exams: One exam being technology free, the other technology active.

### **Requirements:**

- Being a very sequential subject, students are required to work and practise their skills regularly and consistently and to maintain a high level of attendance in order to build on previous knowledge.
- Further to this, students are expected to be proficient and discerning in the use of their CAS calculator. It is required that a student enrolling in this subject will have access to an approved CAS calculator.

### **Unit 3 and 4**

This unit enables the student to develop Mathematical confidence, critical thinking and problem-solving skills in the areas of:

- Functions and Relations which model a plethora of phenomenon that operate in our world and the Universe
- Differential Calculus which is used to explore our changing environment and make sense of it in various applications
- Integral Calculus which further explores quantities that have area, volume and its relationship to change
- Probability and various distributions that model chance and the interpretation of data in society
- Statistical inference, including definition and distribution of sample proportions, simulations and confidence intervals.

Assessments during the year are in the form of an application task and two modelling or problem-solving tasks. The students will also sit two externally assessed Examinations at the end of the year covering work from both Unit 3 and 4. One exam is technology free and the other is technology active where students are permitted the use of a CAS calculator and one bound reference text, lecture pad or log book with a single spine. Students are therefore required to have an approved CAS calculator.

The study of Mathematical Methods is fundamental for many future courses and pathways. These include Acoustics, Engineering ( Aeronautical, Agricultural, Audio, Chemical, Laser, Civil, Electrical, Food Technology, Marine, Mechanical, Network , Software and Instrument design), Pilot, Air Traffic Controller, Games and Graphic Programmer, Scientist ( Clinical, Environmental, Exercise and Sport, Forensic, Nuclear, Research), Climatologist, Computing, Doctor, Surveyor, Geologist, Medical Physicist, Meteorologist, Oceanographer, Pharmacist, Radiographer, Secondary Teacher, Economist and Financier.

## Specialist Mathematics

### Unit 1 and 2:

Specialist Mathematics Unit 1 and 2 is aimed at students who wish to pursue an engineering degree or who enjoy and are inquisitive about Mathematics and who like to think “outside the box”. It will challenge but will also help the students to understand how Mathematics can be used to explain so many real-life applications. This can include the motion of objects, profit and loss scenarios, logic, the study of Calculus and the functions which model real life phenomena.

Specialist Mathematics Units 1 and 2 taken in conjunction with Mathematical Methods Units 1 and 2 provides a thorough and comprehensive preparation for Specialist Mathematics Units 3 and 4.

The topics that the students will engage in include:

- Real and Complex Number Systems
- Algebra and Logic
- Trigonometry
- Sequences and Series
- Vectors
- Kinematics
- Calculus which is compatible with Mathematical Methods 1 and 2.
- Linear and Non Linear relationships, including Conic Sections.
- Coordinate geometry
- Probability and Statistics.

The students will be assessed by topic tests, investigative modelling and problem solving tasks as well as 2 Examinations. These tasks often will require the use of approved technology, but this is not inclusive.

### VCE Unit 3 and 4

Specialist Mathematics Unit 3 and 4 is designed to develop mathematical knowledge, critical thinking and analysis. It focuses on the areas of study: ‘Functions and graphs’, ‘Algebra’, ‘Calculus’, ‘Vectors’, ‘Mechanics’ and ‘Probability and statistics’. Students are expected to be able to apply techniques, routines and processes within a variety of different contexts, such as complex mixing of solutions in agriculture and science, the way a body behaves in an elevator or even the amount of force required to keep a car parked on a hill.

Assessment throughout the year is in the form of an application task and two modelling or problem solving tasks. The students will also sit two externally assessed Examinations at the end of the year covering work from both Unit 3 and 4. One exam is technology free and the other is technology active where students are permitted the use of a CAS calculator and one bound reference text, lecture pad or log book with a single spine. Students are therefore required to have an approved CAS calculator.

Specialist Mathematics Units 3 and 4 assumes familiarity with the key knowledge and skills from Mathematical Methods Units 1 and 2, Specialist Mathematics Units 1 and 2 and concurrent or previous study of Mathematical Methods Units 3 and 4.

*“The essence of mathematics is not to make simple things complicated, but to make complicated things simple.”* - S. Gudde

# SCIENCE

---

## Biology

This study enables students to:

- develop knowledge and understanding of key biological models, theories and concepts, from the cell to the whole organism
- examine the interconnectedness of organisms, their relationship to their environmental context, and the consequences of biological change over time including the impact of human endeavours on the biological processes of species

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

### Unit 1: How do living things stay alive?

In this unit students are introduced to some of the challenges to an organism in sustaining life. Students examine the cell as the structural and functional unit of life, from the single celled to the multicellular organism, and the requirements for sustaining cellular processes in terms of inputs and outputs. 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. Students investigate how a diverse group of organisms form a living interconnected community that is adapted to, and utilises, the abiotic resources of its habitat. The role of a keystone species in maintaining the structure of an ecosystem is explored. Students consider how the planet's biodiversity is classified and the factors that affect the growth of a population. A student practical investigation related to the survival of an organism or species is undertaken in Area of Study 3. The investigation draws on content from Area of Study 1 and/or Area of Study 2.

### Unit 2: How is continuity of life maintained?

In this unit students focus on cell reproduction and the transmission of biological information from generation to generation. Students learn that all cells are derived from pre-existing cells through the cell cycle. They examine the process of DNA replication and compare cell division in both prokaryotic and eukaryotic organisms. Students explore the mechanisms of asexual and sexual reproductive strategies, and consider the advantages and disadvantages of these two types of reproduction. The role of stem cells in the differentiation, growth, repair and replacement of cells in humans is examined, and their potential use in medical therapies is considered. Students use chromosome theory and terminology from classical genetics to explain the inheritance of characteristics, analyse patterns of inheritance, interpret pedigree charts and predict outcomes of genetic crosses. They explore the relationship between genes, the environment and the regulation of genes in giving rise to phenotypes. They consider the role of genetic knowledge in decision making about the inheritance of autosomal dominant, autosomal recessive and sex-linked genetic conditions. In this context the uses of genetic screening and its social and ethical issues are examined. A student-directed research investigation into, and communication of, an issue related to genetics and/or reproductive science is to be undertaken in Area of Study 3. The investigation draws on content from Area of Study 1 and/or Area of Study 2.

### Unit 3: How do cells maintain Life?

This unit focuses on the cell as a complex system, cellular processes and communication. The students model the formation of DNA and proteins from their respective subunits. The expression of the information encoded in a sequence of DNA to form a protein is explored and the nature of the genetic code outlined. Students learn why the chemistry of the cell usually

takes place at relatively low, and within a narrow range of temperatures. They examine how reactions, including photosynthesis and cellular respiration, are made up of many steps that are controlled by enzymes and assisted by coenzymes. Students apply the stimulus-response model to the cell in terms of the types of signals, the position of receptors, and the transduction of the information across the cell to an effector that then initiates a response. Students examine unique molecules called antigens and how they elicit an immune response, the nature of immunity and the role of vaccinations in providing immunity. They explain how malfunctions in signalling pathways cause various disorders in the human population and how new technologies assist in managing such disorders.

Applications of molecular biology in medical diagnosis and the design of new pharmaceuticals is also considered.

Assessment tasks include school assessed coursework, in the form of laboratory work, practical reports, poster or media response and one 2.5 hour end of year examination.

#### **Unit 4: How does life change and respond to challenges over time?**

The purpose of this unit is to enable to consider the continual change and challenges to which life on Earth has been subjected. Students focus on changes to genetic material over time and the evidence of biological evolution. Students examine the impact of human culture and technological applications on biological processes. They examine the structural and cognitive trends in the human fossil record and the interrelationships between human biological and cultural evolution. Students examine how evolutionary biology and the relatedness of species is based upon the accumulation of evidence. They learn how interpretations of evidence can change in the light of new evidence as a result of technological advances, particularly in molecular biology. 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 tasks include worksheets, laboratory work, a summary report of practical activities, a response to an issue, a structured scientific poster and one 2.5 hour end of year examination.

*NOTE: The end of year examination covers Units 3 & 4.*

Possible career pathways include: Medical Practitioner, Pharmacy, Nursing, Food Processing, Laboratory Assistant, Medical Scientist, Dentist, Market Researcher, Quality Controller and Dietician.

## **Chemistry**

“Remember to give glory to the One who authored nature.”  
Robert Boyle (Founder of Modern Chemistry)

#### **Unit 1: How can the diversity of materials be explained?**

This unit begins with the historical development of, and the relationship between, the Periodic Table and atomic theory. Students investigate trends and patterns within the Periodic Table and study bonding, empirical and molecular formulas, as well as the mole concept. Students investigate bonding in metals, ionic compounds, and covalent compounds as well as organic chemistry, and nanotechnology. Assessment tasks include tests, laboratory work, a research investigation and a mid-year examination.

#### **Unit 2: What makes water such a unique chemical?**

Students explore special properties of water such as precipitation, acid-base and redox reactions, solubility, concentration, pH, and maintaining water quality. Students also learn about analytical equipment used to test for various substances and perform a detailed practical investigation. Assessment tasks include tests, laboratory work and an end of year examination.

### **Unit 3: How can chemical processes be designed to optimise efficiency?**

Students explore energy options and the chemical production of materials with reference to efficiencies, renewability and the minimisation of their impact on the environment. Assessment tasks include worksheets, laboratory work, practical reports and one 2.5 hour end of year examination.

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

Students investigate the structural features, bonding, typical reactions and uses of the major families of organic compounds including those found in food. Assessment tasks include worksheets, laboratory work, practical reports and one 2.5 hour end of year examination. Both Unit 3&4 provide students with laboratory, analytical and problem-solving skills.

Possible career pathways include: Medical Practitioner, Chemical Engineer, Pharmacy, Nursing, Food Processing, Laboratory Assistant, Medical Scientist, Forensic Scientist, Geologist, Radiographer and Dietician.

## **Physics**

*“Science without religion is lame. Religion without science is blind”  
Albert Einstein.*

VCE Physics provides students with opportunities to explore questions related to the created and constructed world. The study provides a contextual approach to exploring selected areas within the discipline including atomic physics, electricity, fields, mechanics, thermodynamics, quantum physics and waves.

### **Unit 1**

In this area of study students investigate the thermodynamic principles related to heating processes, including concepts of temperature, energy and work. Students also develop conceptual models to analyse electrical phenomena and undertake practical investigations of circuit components. Lastly the nature of matter, the origins of atoms, time and space is explored along with the currently accepted theory of what constitutes the nucleus, the forces within the nucleus and how energy is derived from the nucleus.

Assessment is by School-Assessed Coursework in all the three outcomes – thermodynamics, electricity and matter. Laboratory work is also carried out for thermodynamics and electricity, the reporting of which also forms part of the final mark. There is a mid-year examination.

### **Unit 2**

This unit focuses on motion and explores the effects of balanced and unbalanced forces on motion. An analysis using the concepts of gravity, force, momentum, power, work and energy is carried out. This is followed by an investigation into one of twelve options chosen by the student. Options are related to astrobiology, astrophysics, bioelectricity, biomechanics, electronics, flight, medical physics, nuclear energy, nuclear physics, optics, sound and sport science. Lastly students undertake a detailed investigation into an area of study from Unit Two and prepare a comprehensive report on it.

Students continue to undertake extensive and regular experimental work in the laboratory, investigating motion. The students will design and undertake more complex investigations and take increasing responsibility for the design of the investigations.

Assessment is by School-Assessed Coursework in the case of motion and by a written report for the option chosen. Laboratory work is carried out for motion, the reporting of which also forms part of the final mark. There is an end-of-year examination.

### Unit 3

This unit focuses on answering the following fascinating question: How do fields explain motion and electricity? This unit is sub-divided into three areas of study outlined below, each one having an outcome to be assessed:

- How do things move without contact? On completion of Area of Study 1, the student should be able to analyse gravitational, electric and magnetic fields, and use these to explain the operation of motors and particle accelerators and the orbits of satellites.
- How are fields used to move electrical energy? On completion of Area of Study 2, the student should be able to analyse and evaluate an electricity generation and distribution system.
- How fast can things go? On completion of Area of Study 3, the student should be able to investigate motion and related energy transformations experimentally, analyse motion using Newton's laws of motion in one and two dimensions, and explain the motion of objects moving at very large speeds using Einstein's theory of special relativity.

### Unit 4

This unit focuses on answering another fascinating question: How can two contradictory models explain both light and matter? This unit is sub-divided into three areas of study outlined below, each one having an outcome to be assessed:

- How can waves explain the behaviour of light? On completion of Area of Study 1, the student should be able to apply wave concepts to analyse, interpret and explain the behaviour of light.
- How are light and matter similar? On completion of Area of Study 2, the student should be able to provide evidence for the nature of light and matter, and analyse the data from experiments that supports this evidence.
- Practical investigation (undertaken either in Unit 3 or Unit 4, or across both units). On completion of Area of Study 3, the student should be able to design and undertake a practical investigation related to waves or fields or motion, and present methodologies, findings and conclusions in a scientific poster.

A variety of School-Assessed Coursework (SACs) are used to achieve the required outcomes in both Unit 3 and Unit 4. They include tests, practical reports, data analysis and a trial examination. The students will sit the VCE exam, externally assessed by VCAA at the end of the year covering both Unit 3 and 4.

Unit 1-4 collectively provide students with the skills to be successful in the following Career pathways: Acoustics, Astronomy, Astrophysics, Engineering (Aeronautical, Agricultural, Audio, Laser, Civil, Electrical, Marine, Mechanical, Instrument design), Pilot, Air Traffic Controller, Scientist (Clinical, Environmental, Forensic, Nuclear, Research), Climatologist, Computing, Doctor, Geologist, Medical Physicist, Meteorologist, Naval Architect, Nanotechnologist, Oceanographer, Pharmacist and Radiographer, Secondary Teacher and Lecturer...to name but a few of the possible pathways!



# Psychology

Psychology is the scientific study of the human mind and behaviour and it is inherently fascinating. We are all intrigued by the behaviour of ourselves and others and the thought processes that underlie it:

- *Why would a blind person be more attracted to a good-looking person?*
- *Why do people obey an authority who orders them to do great harm to another?*
- *Is it possible to greatly improve my ability to memorise?*
- *If most people my age will one day experience a mental illness, can I reduce my risk?*

Psychology helps you understand yourself, others and the world.

Psychology facilitates the development of a diverse range of important life skills, such as: social, intra-personal, reasoning, critical, numerical, ethical and analytical.

Psychology is beneficial for every career that involves interacting with people or which benefits from a sound understanding of one's self. Also there are many fields within Psychology (e.g. Clinical, Organisational, Developmental, Forensic etc.) as well as career pathways for Psychology graduates (e.g. Teaching, Nursing, Social Work, Advertising, Public Relations, Human Resources Management, Statistician etc.).

## **Unit 1 & 2: How are behaviour and mental processes shaped and how are they influenced by external factors?**

In Unit 1 students investigate the structure and functioning of the human brain and the role it plays in the overall functioning of the human nervous system. Students explore brain plasticity and the influence that brain damage may have on a person's psychological functioning. They consider the complex nature of psychological development, including situations where psychological development may not occur as expected.

A person's thoughts, feelings and behaviours are influenced by a variety of biological, psychological and social factors. In Unit 2 students investigate how perception of stimuli enables a person to interact with the world around them and how their perception of stimuli can be distorted. They evaluate the role social cognition plays in a person's attitudes, perception of themselves and relationships with others. Students explore a variety of factors and contexts that can influence the behaviour of an individual and groups.

Assessment tasks may include an oral report, an essay, tests and examinations.

## **Unit 3: How does experience affect behaviour and mental processes?**

The nervous system influences behaviour and the way people experience the world. In this unit students examine both macro-level and micro-level functioning of the nervous system to explain how the human nervous system enables a person to interact with the world around them. They explore how stress may affect a person's psychological functioning and consider the causes and management of stress. Students investigate how mechanisms of memory and learning lead to the acquisition of knowledge, the development of new capacities and changed behaviours. They consider the limitations and fallibility of memory and how memory can be improved.

## **Unit 4: How is wellbeing developed and maintained?**

Consciousness and mental health are two of many psychological constructs that can be explored by studying the relationship between the mind, brain and behaviour. In this unit students examine the nature of consciousness and how changes in levels of consciousness can affect mental processes and behaviour. They consider the role of sleep and the impact that sleep disturbances may have on a person's functioning. Students explore the concept of a mental health continuum and apply a biopsychosocial approach, as a scientific model, to analyse mental health and disorder. They use specific phobia to illustrate how the development and management of a mental disorder can be considered as an interaction between biological, psychological and social factors.

Assessment tasks possible options include: annotations of practical activities from a logbook, evaluation of research, a report of a student investigation, an analysis of data including generalisations and conclusions, a visual presentation, media analysis/response, a response to a set of structured questions, a reflective blog/learning journal related to selected activities or in response to an issue, a test, plus a structured scientific poster and an end-of-year examination covering Units 3 & 4.

## TECHNOLOGY

---

### Computing

VCE Computing focuses on the application of a problem-solving methodologies, strategies and techniques for managing information systems in a range of contexts in order to create digital solutions that meet specific needs. The study examines the attributes of each component of an information system including people, processes, data and digital systems (hardware, software, networks), and how their interrelationships affect the types and quality of digital solutions.

VCE Computing provides students with opportunities to acquire and apply knowledge and skills to use digital systems efficiently and effectively when creating digital solutions both individually and as part of a network. Students investigate legal requirements and ethical responsibilities that individuals and organisations have with respect to the security and integrity of data.

#### Units 1 & 2: Computing

In Unit 1 & 2, students focus on how data, information and networked digital systems can be used to meet a range of users' current and future needs. They also investigate how the application of computational, design and systems thinking skills support the creation of solutions that automate the processing of data.

- **Unit 1 Assessment:** Design and develop a graphic solution for an investigation, acquire and reference data and information from primary and secondary sources, taking into account legal and ethical considerations. Students also develop a website collaboratively using Java Script language. There is a mid-year examination.
- **Unit 2 Assessment:** Using visual studio programming to develop the modules, apply the problem solving methodology that meet a specified user's requirements. The impact of current and emerging technologies, such as automation, cyberbullying and the decline of physical human interaction and interpersonal skills are also studied, as well as the impact of database management software to find the personal benefits and risks of interacting with a database. There is also an end-of-year examination.

#### Unit 3 & 4: Software Development

In Software Development 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. Students develop a detailed understanding of the analysis, design, development and evaluation stages of the problem-solving methodology and use a programming language to create working software modules.

- **Unit 3 Assessment** is by School-Assessed Coursework and includes creating a data dictionary to represent the record or data structure of the order information, creating an algorithm which will ensure that a numerical value between 0 and 200 is entered for variable representing the length of an object required and creating an algorithm which will sort the day's orders.

- **Unit 4 Assessment** is by School-Assessed Coursework and includes analysing and explaining the dependencies between two information systems and evaluate the controls in place in one information system to protect the integrity of its source data.
- **End of Year Examination:** There is also an end- of-year external examination for the two units 3 & 4.

## Food and Technology

Why not enjoy working with food and develop some new skills in food preparation as you prepare a variety of tasty dishes? Learn about the different ingredients used in recipes and why they are used. Develop skills to become efficient and organised in the kitchen as you prepare healthy dishes and gain an understanding of eating well and staying healthy. Enjoy exploring new recipes as you prepare your selected food products. Practise your research, analytical and decision-making skills. Consider issues relating to food choices, health and well-being, and its application relating to the preparation, cooking and presentation of healthy food. Develop analytical skills as you evaluate the preparation of your food production and organisational and management skills. Look at the historical aspects of food and its origins around the world. Study Australian cuisine. Examine environmental and ethical issues relating to food selection and production. Investigate the science of food and the psychology of eating.

### Unit 1: Food Origins

#### *Area of Study 1 - Food around the World*

In this unit, students study explore the origins and cultural roles of food from early civilizations through to today's industrial and globalised world. There will be an emphasis on natural resources, climatic influences and social circumstances, through a study of cuisines and cultures. This will include the study of hunter/gatherers and early agricultural systems.

Students will demonstrate practical skills, including organisational and technical skills as they enjoy preparing, cooking and presenting food. There will be a selection of early cultural and more contemporary foods in the selection of recipes. The practical component explores the use of ingredients available today and links them to earlier cultures. There will be an emphasis on the global spread of food production and growth of trade in food commodities, such as grains, teas, coffees, chocolate, salt, spices and sugar.

#### *Area of Study 2 - Food in Australia*

In this area of study, the students will focus on historical and cultural foods in Australia, with an emphasis on indigenous foods. Students will conduct research into foods and food preparation techniques introduced by immigrants.

Production component will included the use of indigenous ingredients together with cuisines introduced by migrants and their influence on the Australian cuisine – food taste and behaviours.

There will be an emphasis on food trends and the development of Australian cuisine. Assessment tasks include food production, records of production tasks, reports and evaluations of food products. Theoretical knowledge will be tested throughout the unit and in a mid-year examination.

#### *Practical Application in Both Areas of Study, 1 & 2*

Students will apply principles of safe and hygienic food practices in a range of practical activities. They will demonstrate practical and organisational skills in relation to the preparation, cooking and presentation of food.

Students investigate various methods in the preparation, processing, cooking and presentation of foods to optimise the physical, sensory and chemical properties of food.

### Unit 2: Food Makers

In this Unit, students investigate food systems in contemporary Australia. Students gain insight into the significance of food industries to the Australian economy and investigate the capacity of industry to provide safe, high-quality food that meets the needs of consumers.

#### *Area of Study 1 - Food Industries*

This Unit will focus on commercial food production in Australia and encompasses primary production, food processing and manufacturing, and the retail and food service sectors. This includes steps in the process of developing new products, based on the design process. The influence of consumer demand on the food supply and the role of media will also be studied.

Production activities will be based on an emphasis on the design process. Students will enjoy preparing foods to meet a specific need in the community and the domestic market.

#### *Area of Study 2 - Food in the Home*

Students will study food production, focussing on domestic and small-scale environments. Consideration will be given to the effective provision and preparation of food in the home, and analysis of the benefits and challenges of developing and using practical food skills in daily life. Students will demonstrate these skills as they design new food products and adapt recipes to suit particular needs and circumstances.

Assessment for this Unit will include two outcomes based on practical food solutions, in response to needs in the community and domestic setting. Assessment tasks include food production and testing theoretical knowledge. There is an end-of-year examination.

#### *Practical Application in Both Areas of Study, 1 & 2*

Students will apply principles of safe and hygienic food practices in a range of practical activities. They will demonstrate practical and organisational skills in relation to the preparation, cooking and presentation of food.

Students will also investigate various methods in the preparation, processing, cooking and presentation of foods to optimise the physical, sensory and chemical properties of food.

### **Unit 3: Food in Daily Life**

In this Unit, students will investigate the many roles and every-day influences of food.

#### *Area of Study 1 - Science of Food*

Students will investigate the physiology of eating and appreciating food, and the micro-biology of digestion. They will investigate the functional properties of food and the changes that occur during food preparation and cooking. This includes analysis of Australian Dietary Guidelines and the Australian Guide to Healthy Eating, together with an understanding of nutrient requirements.

#### *Area of Study 2 - Food Choice, Health and Well-Being*

This area of study will focus on patterns of eating in Australia and the influences on the food we eat. Students will examine relationships between social factors and food access and choice, and its link to psychological factors.

This study will explore the role of media and advertising on the formation of food habits and beliefs, and investigates the principles of encouraging healthy food patterns in children.

#### *Practical Application in Both Areas of Study, 1 & 2*

Students will apply principles of safe and hygienic food practices in a range of practical activities, with a particular emphasis on nutritious and healthy meals for children and families. They will demonstrate practical and organisational skills in relation to the preparation, cooking and presentation of food.

Assessment and satisfactory completion of Unit 3 will be based on a variety of learning activities and assessment tasks to provide a range of opportunities for students to demonstrate a key knowledge and key skills in the outcomes.

#### **Unit 4: Food Issues, Challenges and Futures**

Students will examine debates about Australian and global food systems.

##### *Area of Study 1 - Environment and Ethics*

This Unit focuses on issues about the environment, ecology, ethics, farming practices, the development and application of technologies, and the challenges of food security, food safety, food wastage and use and management of water and land.

Students will conduct a critical inquiry and research environmental and ethical issues, relating to the selected debate on solving problems and supporting sustainable futures. Emphasis will be on primary food production and on food processing and manufacture.

Students will apply principles of research and analysis to draw conclusions on the selected topic.

##### *Practical Application*

Students will apply principles of safe and hygienic food practices in a range of practical activities, demonstrating and understanding of sustainable and ethical food choice and preparation. They will demonstrate practical and organisational skills in relation to the preparation, cooking and presentation of food.

##### *Area of Study 2 - Navigating Food Information*

Students will focus on individual responses to food information and misinformation, and the development of food knowledge, skills and habits to empower consumers to make discerning food choices. They will consider how to access information and to draw evidence-based conclusions to navigate contemporary food fads, trends and diets. An investigation will be completed, taking into consideration the evidence-based recommendations of the Australian Dietary Guidelines and the Australian Guide to Healthy Eating.

##### *Practical Application*

Students will practise and improve their food selection skills by interpreting food labels and packaging. There will be an opportunity to enjoy creating and demonstrating their practical skills through the preparation, cooking and presentation of a selection of foods that reflect the Australian Guide to Healthy Eating.

Assessment and satisfactory completion of Unit 4 will be based on a variety of learning activities and assessment tasks to provide a range of opportunities for students to demonstrate key knowledge and key skills in the outcomes.

Unit 3 will contribute 30% of the Study Score.

Unit 4 will contribute 30% of the Study Score.

End-of-year external examination will contribute 40%.

#### **LINKS TO CAREERS**

Home Economist, Dietitian / Nutritional Studies

Food Journalist

Human Development Studies

Food Scientist /Technologist – Food Processing and Marketing

Historian – Study of Culture and Society

## **Systems Engineering**

VCE Systems Engineering promotes innovative systems thinking and problem-solving skills through the Systems Engineering Process, which takes a project-management approach. It focuses on mechanical and electro-technology engineered systems.

VCE Systems Engineering integrates aspects of designing, planning, fabricating, testing and evaluating in a project management process. It prepares students for careers in engineering, manufacturing and design through either a university or TAFE vocational study pathway, employment, apprenticeships and traineeships. The study provides a rigorous academic foundation and a practical working knowledge of design, manufacturing and evaluation techniques. These skills, and the ability to apply systems engineering processes, are growing in demand as industry projects become more complex and multidisciplinary.

The study is made up of four units:

Unit 1: Introduction to mechanical systems

Unit 2: Introduction to electro-technology systems

Unit 3: Integrated systems engineering and energy

Unit 4: Systems control and new and emerging technologies.

Each unit contains two areas of study.