Year 11 and 12
Curriculum Handbook
2015/16

Principal’s Message
A warm welcome to Euroa Secondary College, a school committed to delivering excellence in education. We are proud to be the only state secondary school in the Shire of Strathbogie and we take seriously our commitment to the young people in our area. It is an exciting time for our school community as teachers continually engage in professional development aligned with the latest educational research.

Teaching methods constantly change as teachers endeavour to engage all students in learning new skills and knowledge. We have many new facilities and modern equipment designed to meet the needs of students in an ever changing environment. Our connection with community is strong and expanding.

We know that all families add value to our school and we are continually endeavouring to engage our families. Belonging to our educational community means that students, teachers and community promote and practise our core values:

- **Challenge** – striving to do the very best individually and collectively.
- **Empowerment** – developing the knowledge and skills to make responsible and sound decisions as an individual or as a team member and having the discipline and courage to take the necessary action.
- **Resilience** – persisting with the task, re-evaluating strategies and making progress.
- **Respect** - respecting the rights and contribution of every individual and acknowledging responsibilities to support one another.

We continually work at being “A united community where everybody has responsibility in preparing youth for their future.” In 2015, approximately 395 students will be encouraged to participate in academic, cultural, sporting and community endeavours designed to expand individual talents and experiences. Approximately 54 teaching and non-teaching staff are committed to promoting excellence in all fields of endeavour and strongly believe that this objective is best achieved through the cooperative efforts of students, families and staff.

The College has a proud record of achievement. 90% of our Year 12 students transfer to further education and training within two years of completing their secondary education. The remaining 10% take up ongoing employment. Our aim is for all students to complete their Victorian Certificate of Education or Victorian Certificate of Applied Learning. We combine with our neighbourhood primary schools, other secondary schools, post secondary institutions and industry to ensure that the range of interests of our students is addressed. We also have a commitment to the social and emotional health and well being of our students. Programs operate at each level targeting these issues. Our school nurse promotes physical health and healthy choices. The College also makes provision for counselling by professionals in their fields.

At Euroa Secondary College we place considerable emphasis on facilitating the transition from primary to secondary school. In the Middle Years of learning (Grade 5 to Year 9), students undergo studies spanning the Discipline Domains of English, Mathematics, Science, Humanities, Technology, Languages other than English, (LOTE - Japanese), The Arts, and Health & Physical Education. Although all studies are compulsory, the **Year 7** curriculum program is specifically designed to cater for the variety of academic, cultural, sporting and welfare needs of all students. Each **Year 7** and **Year 8** student studies a core curriculum interspersed with integrated interdisciplinary projects. All students in **Year 7** and **Year 8** undergo assessment in Literacy and Numeracy and classes are set to ability levels in English.
and Mathematics in order to challenge and provide support according to individual learning plans. Although LOTE (Japanese) is part of the core, it is not compulsory for all students.

**Year 9** contains a 26 period/week core curriculum including English, Humanities, Mathematics, Science, The Arts, Technology, LOTE and Personal Development. Alongside the core, students select one expedition per term (to be worked upon each Wednesday for four periods throughout each term) which complies with the Government’s Essential Learning Standards. Students also undertake two integrated problem based learning units. A small group of teachers are assigned to the Year 9 Teaching Team. Pathways commence in Year 9 with the Beacon Foundation activities.

Students plan their next three years in **Year 10**. Students undertake six subjects with many undertaking a VCE Unit, VCE (VET) or a pre VCAL. Some students undertake Australian School Based Apprenticeships and Traineeships.

**Years 11 and 12** operate according to the requirements of the VCE and VCAL. All studies at VCE level have been reaccredited by the Victorian Curriculum Assessment Authority. The College combines with other providers to offer a broad range of VET courses. Student progress is assessed using a variety of tasks and formal written reports are provided twice during the year. There are two formal family/teacher interview sessions but families may contact the school at any time. Email addresses of all staff are available to families.

The College also provides many extra-curricular activities catering for a broad range of interests. You may wish to pursue your creativity as a member of the College Band, participate in the College theatre production, participate in debating and public speaking or compete in local, zone, state, and national sporting competitions. There is also the opportunity to participate in national competitions in English, Mathematics, Science and Information Technology to name a few. Camps and excursions are a regular feature of the extra curricula program with camps at each level.

Our College is well equipped in the area of information and communications technology and all students and staff have access to the College’s local area network. All students have their own netbook. All classrooms are connected to the school wide wireless network. More powerful computers are placed throughout the school.

The College is proud of its spacious physical environment, including indoor basketball and squash courts, oval, sporting grounds, and ample recreational space for active and passive activity. Classrooms and furniture are neatly maintained and constantly upgraded to complement the learning environment.

This booklet provides you with an outline of the comprehensive range of studies available as well as brief details about student services and management procedures at the College. Please take the time to consider the options and consult the staff who are only too willing to provide you with professional advice in a friendly and courteous manner.

Scott Watson  
Principal
Contents

Acting Principals message ........................................................................................................ 2-3
Contents Page .......................................................................................................................... 4
A message from the school ........................................................................................................ 5
Staff support team .................................................................................................................... 5
Glossary of terms ...................................................................................................................... 6
VCE VCAL VET and SBAT explained ...................................................................................... 7
VCE ........................................................................................................................................ 8
VCAL ....................................................................................................................................... 9
VET ......................................................................................................................................... 10
SBAT ....................................................................................................................................... 11
Advice on how to choose your program .................................................................................. 12
List of VCE and VCAL subjects (with page references) .......................................................... 13
VCE subjects in alphabetical order ......................................................................................... 14-41
VCAL subjects ......................................................................................................................... 42-44
NEW in 2015 VET course at Euroa Secondary College ......................................................... 45
VET subjects available ............................................................................................................ 46-47
VCE quick questions answered .............................................................................................. 48
Assessment, Reports and the GAT .......................................................................................... 49
Homework and Study Planner sample .................................................................................... 50
Publications and Resources ..................................................................................................... 51
How to use VTAC Coursesearch ............................................................................................ 52
ATAR calculation ...................................................................................................................... 53
VTAC Scaling report ............................................................................................................... 54-56
Year 10/11/12 Learning Pathway Plan ................................................................................... 57
A MESSAGE FROM THE SCHOOL

Euroa Secondary College has a proud tradition as a College that offers a broad and comprehensive range of studies within the two senior certificates available: VCE (Victorian Certificate of Education) and VCAL (Victorian Certificate of Applied Learning). We offer a full range of studies including VCE studies, VET (Vocational Education and Training) and SBAT (School-based Apprenticeships and Traineeships) as integral components of any student's individual program.

This subject handbook aims to assist students in selecting the right mix of studies through a coordinated and well-planned approach beginning in year 10 and flowing through into year 11 and 12.

A publications and resources list is included in this booklet for reference purposes. In addition to this, students are also counselled regularly and are able to seek information and advice from subject teachers, coordinators, and the pathways team. The careers room and school library contain a plethora of information for any pathway a student or parent may have questions on.

Euroa Secondary College has dedicated and experienced teachers who will provide every support to enable students to achieve their academic and vocational goals. Our College has an excellent reputation and record on achieving extremely high VCE and VCAL results over many years.

We wish all students well in their final years of education at Euroa Secondary College. If you require any further information, please do not hesitate to contact the appropriate member of our college team.

2014 Pathways Team:
Principal - Mr Scott Watson
Assistant Principal - Mr Kevin Bott
VCE/VCAL Coordinator - Mrs Marion Wetherbee
Assistant VCE/VCAL Coordinator - Mrs Fiona Townsend
Year 10 Coordinator - Mr Phil Smith
Assistant Year 10 Coordinator - Mr Jason Schultz
Pathways Advisor - Mr Adrian Bright
Assistant Pathways Advisor Ms Jacqui Coleman

Teaching and Learning leader: Mrs Michelle Bootes

2014 Curriculum Domain Leaders:
English - Mrs Nina Beresford-Smith
Mathematics - Mrs Michelle Bootes
Science - Mrs Judy Nicholls
Humanities - Miss Louise McLay
Health and Physical Education - Mrs Kim Saxon
GLOSSARY of terms

Assessment Task  Activities in Units 1 & 2 for measuring level of performance

Authentication  The process of ensuring that work submitted is the student’s own work

ATAR  Australian Tertiary Admissions Rank (formerly known as ENTER)

GAT  General Achievement Test

Outcomes  Define what students will know and be able to do as a result of undertaking a study

Pre-requisites  Are VCE studies nominated by individual course authorities as studies, which must be satisfactorily completed by all applicants seeking admission to that course at University. Check Victer guides for assistance here.

SAC  School Assessed Course work. Class work requirements completed within a limited time frame.

SAT  School Assessed Task. Class work requirements completed within a limited time frame.

SBAT  Australian School based Apprenticeship and Traineeship. A study that can form part of a students’ VCE or VCAL program.

Semester  Half year

Sequence  2 units at Level 3-4 in the same Study Design (eg. English 3-4)

Study Design  The study design describes the units available and prescribes the objectives, work requirements and assessment tasks.

TAFE  Technical and Further Education

Unit  A self-contained study of a semester’s length

Unit 1 & 2  Level of difficulty usually associated with Year 11

Units 3 & 4  Level of difficulty usually associated with Year 12

VCAA  Victorian Curriculum and Assessment Authority

VCE  Victorian Certificate of Education

VCAL  Victorian Certificate of Applied Learning

VET  Vocational Education and Training. A study that can from part of a students’ VCE or VCAL program.
VQA  Victorian Qualifications Authority
VICTER  Victorian Tertiary Entrance Requirements
VTAC  Victorian Tertiary Admission Centre

VCE, VCAL, VET and SBAT terms explained

There are two senior certificates available for completion in year 11 and 12; they are the VCE and VCAL. Within these certificates students have the option to include VET and SBATs. Below is a brief description of what these programs and subjects are, with more extensive information throughout this book.

VCE – Victorian Certificate of Education
The VCE is a nationally recognized qualification. About half of the year 10 students in Victoria undertake some VCE units. The VCE provides pathways to university, TAFE, employment or apprenticeships and traineeships. There are 90 VCE subjects available for study as well as including VET, SBAT and enhancement studies. See the ‘Where to Now’ guide for further information on these.

VCAL – Victorian Certificate of Applied Learning
The VCAL is an equivalent certificate to the VCE. It is a hands-on learning program. The VCAL provides pathways to TAFE, employment or apprenticeships and traineeships. It is not designed for students wishing to enter university directly after year 12. A VCAL program can comprise of VCAL units, VCE units, VET and or SBAT.

VET - Vocational Education and Training
A VET subject is the same as a VCE subject in that it is made up of units. One unit goes for one semester. One school year includes two semesters. It is expected that students stay in the course for the full year, usually completing unit 1 and 2 in year 10 or 11 and continuing into unit 3 and 4 in year 11 or 12. There are additional requirements for applying to undertake a VET subject. This can contribute to a VCE or VCAL program.

SBAT - School-based Apprenticeships and Traineeships
In order to become an apprentice or trainee you must to be in paid work and sign a contract of training that must be registered with an RTO (Registered Training Organisation). Students’ balance paid work, their Euroa Secondary College school program and RTO training (often at a TAFE). Generally students’ work 1 or 2 days per week, attend Euroa Secondary College 3 or 4 days per week, and attend TAFE as required throughout the year. (TAFE training is spread throughout the year, usually in one-week blocks.) This can contribute to a VCE or VCAL program.
The first senior finishing certificate option is VCE. VCE is designed to be a flexible course of study and give a balanced education. To be awarded a VCE a student must satisfactorily complete at least 16 Units, which must include:
3 units of ENGLISH or LITERATURE
3 other Unit 3-4 subjects (any)
- **Year 10** students may undertake some VCE units by participating in the Fast Tracking program.
- **Year 11** students should undertake 6 subjects = 12 units
- **Year 12** students should undertake 5 subjects = 10 units

It is highly recommended that a year 11 student undertake at least one Unit 3-4 study to understand what is needed when in year 12 across all studies. Euroa Secondary College students are able to complete more than 16 units, giving them greater flexibility and options for further studies or employment.

**ATAR – Australian Tertiary Admissions Ranking**
In addition to the VCE completion stated above, Unit 4 of English or Literature is also required in order to receive an ATAR score for tertiary entrance purposes.

Students can select from a wide range of studies, based on their individual vocational and/or tertiary educational pathway needs. Euroa Secondary College continues to provide an extensive range of VCE studies that are delivered within our daily timetable. Over 50 subjects were successfully delivered in 2012. Euroa Secondary College has the unique capacity to allow students to choose their subjects firstly, then set a timetable in place.

In addition to students selecting VCE subjects, they also have the opportunity to undertake VET or SBAT as part of their training. Comprehensive explanations are provided in this booklet about how these courses are delivered and how they contribute the VCE certificate.

**Subjects and Units explained**
Most VCE subjects are made up of four units. A unit normally lasts for one semester, or a half-year. Units 1 and 2 can be done in single units. Units 3 and 4 have to be done together as a sequence. Every unit has a set of outcome statements. Outcomes indicate the skills and knowledge that are achieved by the student in order to satisfactorily complete a unit.

Students are assessed on the extent to which they have met the outcomes by completing School Assessed Coursework (SAC) or School Assessed Tasks (SAT). SACs may include tests, essays, practical work, reports, reviews, oral deliveries, posters or other supervised activities. SATs are design folios, completed in art and technology based subjects. The satisfactory completion of SACs and/or SATs are compulsory for all VCE units.
On completion of a VCE certificate a student may undertake tertiary studies at university or TAFE.

**VCAL - Victorian Certificate of Applied Learning**

The second senior finishing certificate option is VCAL. VCAL is a hands-on option for students in years 11 and 12. It gives students practical work related skills as well as the literacy, numeracy and personal skills they need to take them into further training or their ideal job and like the VCE it is an accredited senior secondary qualification.

There are three levels of VCAL: Foundation, Intermediate and Senior. Students progress through the levels during their VCAL years. Applied (hands-on) learning is an integral part of the VCAL curriculum. It provides students with real life experiences and direct exposure to industry. While VCAL programs are designed to suit the interests of each individual, every VCAL student must complete at least 10 accredited units and modules in the following four skill development strands:

To be awarded a VCAL a student must satisfactorily complete at least **10 Units**, which must include;

- **Literacy and Numeracy Skills**
  Any VCE English or VCE Mathematics, or VCAL Literacy and VCAL Numeracy units.

- **Industry Specific Skills**
  VET or SBAT required in all VCAL programs above Foundation level. Students have the ability to be flexible in their choice of VET subjects.

- **Work Related Skills**
  In order to develop workforce skills, VCAL students have the choice of undertaking either a structured workplace learning placement where they demonstrate that certain learning outcomes have been achieved. VCAL students may also undertake pre-vocational courses or appropriate VET or VCE subjects such as Industry and Enterprise.

- **Personal Development Skills**
  The VCAL personal development skills strand develops communication skills, teamwork, self-confidence, self-esteem, respect for others and builds connections with local communities.

As part of their learning program, students undertake studies and/or specially designed community programs organised in partnership with community-based organisations. VCAL at Euroa Secondary College combines the above skill development strands together with subjects from VCE.

**Pathways**
Pathways from VCAL include completing VCE, apprenticeships or traineeships, TAFE entry or employment.

**VET – Vocational Education and Training**

Euroa Secondary College offers students the opportunity to undertake a vocational study in conjunction with their senior school certificate, whether they are studying VCE or VCAL. The successful completion of a VET program enables students to achieve many certificates, a VCE and/or VCAL and a nationally accredited certificate that is equivalent to an SBAT qualification. A VET certificate is usually studied at Certificate II or III level.

A VET subject contributes to a VCE and/or VCAL program completion, just like any other VCE subject. It is made up of units, the same as a VCE subject. Students gain credit for units by completing the TAFE training and may include some work placement hours depending on the type of VET program.

As a general rule, every 90 hours of VET training equates to one VCE/VET unit contribution towards a student’s program. VET subjects can contribute towards an ATAR score (for tertiary entrance). Assessment is slightly different to a VCE subject in that the VET studies are comprised of units of competency. Success is achieved by demonstrating competency in performing these set tasks.

**Delivery Mode:**
Students participate in a negotiated structured training program delivered in partnership between a Registered Training Organisation (RTO) and the school. The places for delivery are GO TAFE and the TEC located in Seymour, Shepparton and Wangaratta.

Euroa Secondary College is offering VET Media in 2015 for the first time, allowing students to gain these valuable skills without needing to travel. Refer to the VET options pages for more details.

**Subjects Available:**
Please refer to the 2015 TEC Course Guide for full details of all studies on offer, including costs, material fees, as well as application and enrolment information.

**Transport:**
It is the students’ own responsibility to make their own way to their TAFE training each Wednesday.

**VET Coordinator:**
Mrs Fiona Townsend.

**Pathways**
On completion of a VET certificate a student may decide to continue on into an apprenticeship in that same field, or may choose to do something totally different.
Either way the qualification goes with them for the rest of their lives no matter where in Australia they choose to live and work.
SBAT - School Based Apprenticeship & Traineeships

Students have the opportunity to undertake an employment-based pathway program in conjunction with their senior school certificate, whether they are studying for the VCE or VCAL. This pathway program is known as the School based Apprenticeship program. Their employers often refer to students undertaking the program as trainees or apprentices. To become an SBAT, it is essential that a student be employed on a part-time basis and undertake a national certificate relevant to their work. The successful completion of this program enables students to achieve many certificates, a VCE and/or VCAL and a nationally accredited certificate. In addition, the student leaves school with a paid work history.

This program provides students with a solid work experience foundation in an area they are interested in. It also helps employers to see how a student performs, which may result in offering a full time apprenticeship when the student finishes school. It is great for those on the home farm. You can receive credit for your VCE/VCAL for the work you may already be doing.

Recommended VCE/VCAL Subjects:
- VCE English or VCAL Literacy
- VCE Mathematics or VCAL Numeracy
- VET or SBAT
- Choose any VCE subject suitable to your individual needs

Delivery Mode:
- Students must be 15 years of age.
- Students participate in a negotiated structured training program delivered in partnership between the workplace, the Registered Training Organisation (RTO) and the school.
- Students commencing a SBAT generally undertake one day per week in the workplace, as well as time during scheduled school holidays.
- Students usually attend TAFE training in block release throughout the school year.

The SBAT contributes to a VCE and/or VCAL program completion, just like any other VCE subject. It is made up of units, the same as a VCE subject. Students gain credit for units by completing the TAFE components of the apprenticeship and complete a set number of work hours depending on the type of SBAT. There are many Apprenticeship or Traineeship Industry areas available.

SBAT Coordinator:
Mr Adrian Bright.

Pathways
On completion of a school based apprenticeship a student may decide to continue on into a full apprenticeship, or may choose to do something totally different. Either
way the qualification goes with them for the rest of their lives no matter where in Australia they choose to live and work.
Advice for making your VCE/VCAL choices...

You should select subjects that:
- Interest you
- You are good at
- May lead to employment or further education and training that you find appealing

DO...
- Talk with your parents, subject teachers, domain leaders, pathways advisors, VCE/VCAL coordinator and VET coordinator.
- Go to the VCE/VCAL Information Evening.
- Read the ‘Where to Now’ guide.
- Check relevant VICTER guides in careers office or VTAC website. This lists prerequisite subjects mandatory to apply for each university course on offer when you leave year 12.
- Read all literature on offer to help make informed decisions.

DON’T...
- Panic if you have no idea, think about what you currently like doing, are good at or have an interest in. Seek help with this research.
- Choose studies that are too easy for you and don’t challenge you enough.
- Select subjects just because your friends are doing that study.
- Choose studies that you don’t like because you think doing those studies will help you get a ‘good ATAR. Your ATAR represents your performance across all of your studies.
- Choose studies based on the scaling from previous years. There is no point selecting a study that you struggle with simply because it has traditionally been scaled up. You still need to perform well in it to make the scaling count.
**VCE and VCAL subject offerings**

The full comprehensive list of VCE studies can be found in the ‘Where to Now’ guides published annually. Provided in this booklet is a list of studies delivered at Euroa Secondary College, with a brief course outline in order to help you choose the best course for your individual needs.

VCE Subjects contained in this booklet are in alphabetical order. Each subject includes information at both Unit 1-2 and Unit 3-4 levels.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>14</td>
</tr>
<tr>
<td>Biology</td>
<td>15</td>
</tr>
<tr>
<td>Business Management</td>
<td>16</td>
</tr>
<tr>
<td>Chemistry</td>
<td>17</td>
</tr>
<tr>
<td>Economics</td>
<td>18</td>
</tr>
<tr>
<td>English</td>
<td>19</td>
</tr>
<tr>
<td>Food Technology</td>
<td>20</td>
</tr>
<tr>
<td>Geography</td>
<td>21</td>
</tr>
<tr>
<td>Health and Human Development</td>
<td>22</td>
</tr>
<tr>
<td>History</td>
<td>23</td>
</tr>
<tr>
<td>Industry and Enterprise</td>
<td>24</td>
</tr>
<tr>
<td>Information Technology</td>
<td>25</td>
</tr>
<tr>
<td>Literature</td>
<td>26</td>
</tr>
<tr>
<td>Legal Studies</td>
<td>27</td>
</tr>
<tr>
<td>LOTE – Japanese</td>
<td>28</td>
</tr>
<tr>
<td>Mathematics</td>
<td>29</td>
</tr>
<tr>
<td>Mathematics Pathway mapping</td>
<td>29</td>
</tr>
<tr>
<td>Foundation Mathematics</td>
<td>30</td>
</tr>
<tr>
<td>General Mathematics</td>
<td>30</td>
</tr>
<tr>
<td>Mathematical Methods</td>
<td>31</td>
</tr>
<tr>
<td>Further Mathematics</td>
<td>31</td>
</tr>
<tr>
<td>Specialist Mathematics</td>
<td>31</td>
</tr>
<tr>
<td>Music</td>
<td>32-33</td>
</tr>
<tr>
<td>Outdoor and Environmental Studies</td>
<td>34</td>
</tr>
<tr>
<td>Physical Education</td>
<td>35</td>
</tr>
<tr>
<td>Physics</td>
<td>36</td>
</tr>
<tr>
<td>Product Design and Technology</td>
<td>37</td>
</tr>
<tr>
<td>Psychology</td>
<td>38</td>
</tr>
<tr>
<td>Studio Arts</td>
<td>39</td>
</tr>
<tr>
<td>Systems Technology</td>
<td>40</td>
</tr>
<tr>
<td>Visual Communication Design</td>
<td>41</td>
</tr>
</tbody>
</table>

**VCAL specific classes**
ACCOUNTING

VCE Accounting focuses on the financial recording, reporting and decision-making processes of a sole proprietor small business. Students study both theoretical and practical aspects of accounting. Financial data will be collected and recorded, and accounting information reported, using both manual and information and communications technology (ICT) methods.

Accounting is the process of recording, reporting, analysing and interpreting financial data and accounting information, which is then communicated to internal and external users of this information. It plays an integral role in the successful operation and management of businesses.

Unit 1: Establishing and operating a service business
This unit focuses on the establishment of a small business and the accounting and financial management of the business. Students are introduced to the processes of gathering and recording financial data and the reporting and analysing of accounting information by internal and external users. The cash basis of recording and reporting is used throughout this unit.

Unit 2: Accounting for a trading business
This unit extends the accounting process from a service business and focuses on accounting for a sole proprietor of a single activity trading business. Students use a single entry recording system for cash and credit transactions and the accrual method for determining profit. They analyse and evaluate the performance of the business using financial and non-financial information. Using these evaluations, students suggest strategies to the owner on how to improve the performance of the business.

Unit 3: Recording and reporting for a trading business
This unit focuses on financial accounting for a single activity trading business as operated by a sole trader and emphasises the role of accounting as an information system. Students use the double entry system of recording financial data and prepare reports using the accrual basis of accounting. The perpetual method of stock recording with the First In, First Out (FIFO) method is used.

Unit 4: Control and analysis of business performance
This unit provides an extension of the recording and reporting processes from Unit 3 and the use of financial and non-financial information in assisting management in the decision-making process. The unit is based on the double entry accounting system and the accrual method of reporting for a single activity trading business using the perpetual inventory recording system.
Pathways
Many students who study VCE Accounting will go on to further studies and careers in business and finance.

BIOLOGY
Biology is the study of living things from familiar, complex multicellular organisms that live in the many different habitats of our biosphere to single celled microorganisms that live in seemingly inhospitable conditions. It is a study of the dynamic relationships between living things, their interdependence, their interactions with the non-living environment, and the processes that maintain life and ensure its continuity. Biology enables students to understand that despite the diverse ways of meeting the challenges of survival, all living things have many structural and functional characteristics in common.

Unit 1: Unity and diversity
In this unit students examine the cell as the structural and functional unit of the whole organism. Students investigate the needs of individual cells, how specialised structures carry out cellular activities and how the survival of cells depends on their ability to maintain a dynamic balance between their internal and external environments.

Unit 2: Organisms and their environment
The rich diversity of Australian ecosystems provides a variety of contexts for students to study the relationships between living things and their environment. Students investigate particular sets of biotic and abiotic factors that operate in different places in the biosphere, and how these factors influence the kinds of organisms that live there. Students examine how organisms in their particular habitats are part of the integrated and naturally self-sustaining systems in which energy flows and matter is cycled between the living and non-living components of the environment.

Unit 3: Signatures of life
In this unit students consider the molecules and biochemical processes that are indicators of life. They investigate the synthesis of biomolecules and biochemical processes that are common to autotrophic and heterotrophic life forms. Students consider the universality of DNA and investigate its structure; the genes of an organism, as functional units of DNA and code for the production of a diverse range of proteins in an organism.

Unit 4: Continuity and change
In this unit students examine evidence for evolution of life forms over time. Students explore hypotheses that explain how changes to species have come about. In addition to observable similarities and differences between organisms, students explore the universality of DNA, and conservation of genes as evidence for ancestral lines of life that have given rise to the present biodiversity of our planet.
Pathways
The study of biology prepares students for continuing studies in bioscience and entry into the workforce in a wide range of careers, including those not normally thought of as depending on bioscience. Much of our economic activity is generated through advances in bioscience research, in environmental, medical and associated biotechnologies, and in parallel sciences such as bioinformatics.

BUSINESS MANAGEMENT

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

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

Unit 2: Communication and management
This unit focuses on the importance of effective communication in achieving business objectives. Students investigate communication both internal and external to the business. They develop knowledge of aspects of business communication and are introduced to skills related to its effective use in different contexts. The vital functions of marketing and public relations are considered, with students developing an understanding of the important role these functions play in the ultimate success of a business.

Unit 3: Corporate management
In this unit students investigate how large-scale organisations operate. Students examine the environment (both internal and external) in which large-scale organisations conduct their business, and then focus on aspects of individual business’ internal environment and how the operations of the business are managed. Students develop an understanding of the complexity and challenge of managing large-scale organisations and have the opportunity to compare theoretical perspectives with practical applications.

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

Pathways
In studying VCE Business Management, students develop knowledge and skills that enhance their confidence and ability to participate effectively, as socially responsible and ethical members of the business community, and as informed citizens, consumers and investors.

CHEMISTRY

Chemistry is a key science in explaining the workings of our universe through an understanding of the properties and interaction of substances that make up matter. Most processes, from the formation of molecules in outer space to the complex biological interactions occurring in cells, can be described by chemical theories. Although there are no sharp boundaries between sciences such as chemistry, physics and biology, chemistry is used to explain natural phenomena at the molecular level, as well as create new materials such as medicines and polymers.

Unit 1: The big ideas of chemistry
The story of chemistry begins with the building of the Periodic Table from speculation, debate and experimental evidence. The Periodic Table provides a unifying framework for studying the chemistry of the elements using their chemical and physical properties to locate their position. The electron configuration of an element, its tendency to form a particular bond type and its ability to behave as an oxidant or reductant can all be linked to its position in the Periodic Table.

Unit 2: Environmental chemistry
Living things on earth have evolved to use water and the gases of the atmosphere in the chemical reactions that sustain them. Water is used by both plants and animals to carry out their energy-producing reactions, dissolve their nutrients and transport their wastes. The atmosphere supplies life-giving gases, provides temperature that sustains life, and gives protection from harmful radiation.

Unit 3: Chemical pathways
In this unit students investigate the scope of techniques available to the analytical chemist. Chemical analysis is vital in the work of the forensic scientist, the quality control chemist at a food manufacturing plant, the geologist in the field, and the environmental chemist monitoring the health of a waterway. Students investigate organic reaction pathways and the chemistry of particular organic molecules.

Unit 4: Chemistry at work
In this unit students investigate the industrial production of chemicals and the energy changes associated with chemical reactions. Chemical reactions produce a diverse range of products we use and depend on every day. Access to large quantities of raw materials and reliable energy supplies for these reactions is necessary to maintain continuous production of high quality useful chemicals.
Features that affect chemical reactions such as the rate and yield or equilibrium position are investigated. Students explore how an understanding of these features is used to obtain optimum conditions in the industrial production of a selected chemical.

**Pathways**

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

**ECONOMICS**

Economics is the study of how individuals and societies use resources to satisfy needs. It is central to understanding why individuals and societies behave as they do. Economic decisions are about resource use in producing goods and services and about the distribution of the proceeds of production. To understand the basis for these decisions, and their impact, requires an understanding of basic economic principles and concepts. Students will develop an awareness of the links between economics and the influence of political, ethical, environmental and social forces on economic decision making.

**Unit 1: Economics: choices and consequences**

The study of economics involves a close examination of how a society organises itself to meet the needs and wants of its citizens. In Australia scarce resources are allocated primarily by the market mechanism. Students come to understand how the decisions made by individuals, firms, governments and other relevant groups affect what is produced, how it is produced and who receives the goods and services that are produced.

**Unit 2: Economic change: issues and challenges**

The changing nature of Australia’s population will have an impact upon future rates of economic growth and living standards. With a large group of citizens approaching retirement age, the government faces challenges associated with balancing its budget and funding the healthcare needs of its population.

**Unit 3: Economic activity**

The Australian economy is a contemporary market capitalist economy. In such an economy, the principal means of allocating scarce resources is the price mechanism. Students examine the factors that affect the price and quantity traded in individual markets. Students investigate the importance of competition and analyse the degree of market power in different industries and how this affects the efficiency of resource allocation. Students also come to appreciate that markets will not always lead to the most efficient allocation of resources.

**Unit 4: Economic management**
The federal government attempts to influence the achievement of its economic goals using a range of policies. The government can influence the level of aggregate demand in the economy by relying upon its demand management policies. In recent years, the primary aggregate demand management tool has been monetary policy whereby the Reserve Bank of Australia alters the cost and availability of credit in the economy. Students learn how changes in interest rates will affect inflation, the rate of unemployment and the rate of economic growth.

Pathways
VCE Economics equips students with a unique set of concepts, ideas and tools to apply to individual and social circumstances, and helps them to be more informed citizens, consumers, workers, voters, producers, savers and investors.
ENGLISH

**English or Literature** is compulsory for satisfactory completion of VCE.

The study of English encourages the development of literate individuals capable of critical and imaginative thinking, aesthetic appreciation and creativity. The mastery of the key knowledge and skills described in this study design underpins effective functioning in the contexts of study and work as well as productive participation in a democratic society in the twenty-first century.

**Unit 1**
The focus of this unit is on the reading of a range of texts, particularly narrative and persuasive texts, in order to comprehend, appreciate and analyse the ways in which texts are constructed and interpreted. Students will develop competence and confidence in creating written, oral and multimodal texts.

**Unit 2**
The focus of this unit is on reading and responding to an expanded range of text types and genres in order to analyse ways in which they are constructed and interpreted, and on the development of competence and confidence in creating written, oral or multimodal texts.

**Unit 3**
The focus of this unit is on reading and responding both orally and in writing to a range of texts. Students analyse how the authors of texts create meaning and the different ways in which texts can be interpreted. They develop competence in creating written texts by exploring ideas suggested by their reading within the chosen Context, and the ability to explain choices they have made as authors.

**Unit 4**
The focus of this unit is on reading and responding in writing to a range of texts in order to analyse their construction and provide an interpretation. Students create written or multimodal texts suggested by their reading within the chosen Context and explain creative choices they have made as authors in relation to form, purpose, language, audience and context.

**Pathways**
The English course provides students with the opportunity to develop their oral and written communication skills. It enables students to address issues in a critical manner and develop and articulate their thoughts. A pass in English or Literature is a prerequisite for most tertiary courses and **is necessary for students to attain a VCE certificate**. Students may elect to study one or both of these studies.
FOOD AND TECHNOLOGY

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

Unit 1: Food safety and properties of food
In this unit students study safe and hygienic food handling and storage practices to prevent food spoilage and food poisoning, and apply these practices in the preparation of food. They consider food preparation practices suitable for use in a small-scale food operation, such as in the home, a school setting or in a small food business. Students consider the selection and use of a range of tools and equipment suitable for use in food preparation.

Unit 2: Planning and preparation of food
In this unit students investigate the most appropriate tools and equipment to produce optimum results, including the latest developments in food technology. Students research, analyse and apply the most suitable food preparation, processing and cooking techniques to optimise the physical, sensory and chemical properties of food.

Unit 3: Food preparation, processing and food controls
Students devise a design brief from which they develop a detailed design plan. Evaluation criteria are developed from the design brief specifications. In preparing their design plan, students conduct research and incorporate their knowledge about key foods, properties of food, tools, equipment, safety and hygiene, preparation, cooking and preservation techniques. They make decisions related to the specifications of the brief. In developing the design plan, students establish an overall production timeline to complete the set of food items (the product) to meet the requirements of the brief for implementation in Unit 4.

Unit 4: Food product development and emerging trends
In this unit students develop individual production plans for the proposed four to six food items and implement the design plan they established in Unit 3. In completing this task, students apply safe and hygienic work practices using a range of preparation and production processes, including some, which are complex. They use appropriate tools and equipment and evaluate their planning, processes and product.

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

Geography is the study of where geographical features are located and why they are there, and what makes one place different from another, and how and why these differences matter. It looks at the interaction between human activities and natural processes, and develops understanding of the distribution of human and natural phenomena on or near the surface of the Earth from a spatial perspective.

Unit 1: Natural environments
This unit investigates the geographic characteristics of natural environments and landforms and the natural processes that shape and change the Earth’s surface. It investigates how the interactions between natural processes and human activities can also change natural environments.

Unit 2: Human environments
This unit investigates the characteristics of rural and urban environments, which are developed by human activities and their interactions with natural environments. Rural and urban environments vary significantly from place to place and across a variety of scales. Rural and urban environments are significant because they are the locations where people live. Their presence creates settlements, which vary in size and complexity from individual farmhouses to small villages, regional towns, large metropolitan cities and mega cities.

Unit 3: Regional resources
This unit investigates the characteristics of resources and the concept of region. A resource is anything, which occurs naturally or is created by humans provided that people use it to satisfy a need or want. Resources found within regions mean different things to different people over place and time. A study of resources is about the processes and relationships operating in the past, in the present, and those, which will operate in the future. Regions are areas of various scales that have characteristics and features that distinguish them from other areas according to the elements used to define them.

Unit 4: Global perspectives
This unit investigates the geographic characteristics of global phenomena and responses to them. Global phenomena are major natural or human events, processes or activities. Such phenomena are distributed globally and possess the capacity to affect the globe or significant parts of the globe and require more than a local or national response.

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

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

Unit 1: The health and development of Australia’s youth
This unit focuses on the health and individual human development of Australia’s youth. For the purposes of this study, ‘youth’ is defined as twelve to eighteen years of age; however, it should be acknowledged that some agencies may use differing age classifications for the stage of youth. Students investigate one health issue in detail and analyse personal, community and government strategies or programs that affect youth health and individual human development.

Unit 2: Individual human development and health issues
Individual human development is perceived as involving a series of orderly and predictable changes, which can be classified as physical, social, emotional and intellectual. In this unit students identify issues that affect the health and individual human development of Australia’s mothers and babies, children and adults. Students investigate health issues in detail and analyse personal, community and government strategies and programs that affect the health and individual human development of mothers and babies, children and adults.

Unit 3: Australia’s health
Australians generally enjoy good health and are among the healthiest people in the world when compared to other developed countries. The health status of Australians can be measured in many ways, such as consideration of burden of disease, health adjusted life expectancy, disability adjusted life years (DALYs), life expectancy, under-five mortality rate, mortality and morbidity rates, incidence and prevalence of disease. Despite Australia’s good health status, there is still potential for improvements. The National Health Priority Areas (NHPAs) initiative provides a national approach that aims to improve health status in the areas that contribute most of the burden of disease in Australia.

Unit 4: Global health and human development
This unit takes a global perspective on achieving sustainable improvements in health and human development. In the context of this unit human development is about creating an environment in which people can develop to their full potential and lead productive, creative lives in accord with their needs and interests. It is about expanding people’s choices and enhancing capabilities (the range of things people can be and do), having access to knowledge, health and a decent standard of living, and participating in the life of their community and decisions affecting their lives.

Pathways
Can lead to careers in nursing, psychology, community work and teaching.
HISTORY

History is the practice of understanding and making meaning of the past. It is also the study of the problems of establishing and representing that meaning. It is a synthesising discipline, which draws upon most elements of knowledge and human experience. Students learn about their historical past, their shared history and the people, ideas and events that have created present societies and cultures.

Unit 1: Twentieth century history 1900–1945
The first half of the twentieth century was marked by significant change. From the late nineteenth century up to World War I there was still a sense of a certain and natural order of society. Patterns of daily life in the twentieth century were to change as a result of political and social developments. Advances in science and technology also began to transform the world of work and the home. Traditional forms of cultural expression such as art, literature, music and dance, as well as the new mediums of film and radio, were to both reflect and explore these changes. This unit considers the way that societies responded to these changes and how they affected people’s lives.

Unit 2: Twentieth century history 1945–2000
This unit considers some of the major themes and principal events of post-World War II history, and the ways in which individuals and communities responded to the political, economic, social and technological developments in domestic, regional and international settings.

Units 3 and 4: Australian history
For the past 200 years of Australia’s history, a recurring preoccupation has been the nature of the new world that was developing in this country. From the decision to establish a penal colony on the shores of NSW in 1788, in ‘terra nullius’ a so-called ‘empty land’, to present-day dilemmas about national dependence and independence, Australian people and historians have continued to ask ‘what sort of society is this?’ and ‘what sort of society should this become?’

Units 3 and 4: Revolutions
Revolutions are the great disjuncture of modern times and mark deliberate attempts at new directions. They share the common aim of breaking with the past by destroying the regimes and societies that engender them and embarking on a program of political and social transformation. As processes of dramatically accelerated social change, revolutions have a profound impact on the country in which they occur, as well as important international repercussions. The revolutions in Russia and France are studied.

Pathways
VCE History is relevant to students with a wide range of expectations, including those who wish to pursue formal study at tertiary level, as well as providing valuable knowledge and skills for an understanding of the underpinnings of contemporary society.
VCE Industry and Enterprise investigates work and its place in work settings, industries and society. The study explores the vocational, economics, social and cultural aspects of work and encourages students to undertake a theoretical and practical investigation of these aspects throughout the four units. Students investigate trends and patterns in Australian workplaces and industries and significant issues affecting Australian industries, and analyse the industry responses to these issues. A key feature of VCE Industry and Enterprise is the structured workplace learning that students are required to undertake.

**Unit 1: Workplace participation**
This unit prepares students for effective workplace participation. Their exploration of the importance of work-related skills is integral to this unit. Students develop work-related skills by actively exploring their individual career goals and pathways. They observe industry and employment trends and analyse current and future work options. Students build work-related skills that assist in dealing with issues affecting participants in the workplace.

**Unit 2: Being enterprising**
In this unit of study students explore the development of enterprise, leadership and innovation in different settings within industry and in the context of significant issues faced by industry. Students learn that enterprising and leadership behaviours are vital for success in diverse personal, work and community settings. All work settings exist within a wider industry context and ongoing workplace enterprise and innovation are pivotal to industry success. Students investigate the characteristics and qualities of successful entrepreneurs in different settings, and investigate the relationship between leadership behaviour and the development of an individual’s work-related skills.

**Unit 3: Enterprise culture**
In this unit students focus on the development of enterprise culture in community and/or work settings and within Australian industries. The future of Australian industry relies on the ongoing development of a successful enterprise culture. Work settings within Australian industries are continually affected by ongoing forces for change and to succeed they need to respond in enterprising ways.

**Unit 4: Industry change and innovation**
Australian industry is faced with ongoing pressures and opportunities for change: the role of government; international competitiveness; changing societal values and attitudes; and environmental sustainability. In this unit students investigate the enterprising responses by industry to these pressures and opportunities and how these are transforming the Australian workplace.

**Pathways**
VCE Industry and Enterprise enables students to develop personal career goals and pathways and encourages them to develop enterprising behaviour in personal, work, social and community settings.
VCE Information Technology focuses on the processing of data and the management of information and information systems. VCE Information Technology equips students with appropriate knowledge and skills to use ICT responsibly and to make informed personal and workplace choices about developments in this exciting field. Students are encouraged to orient themselves towards the future, with an awareness of the technical and societal implications of ICT.

Unit 1: IT in action
This unit focuses on how individuals and organisations use, and can be affected by, information and communications technology (ICT) in their daily lives. Students acquire and apply a range of knowledge and skills to manipulate different data types such as numeric, text, sound and images (still and moving) to create solutions that can be used to persuade, educate, inform and entertain. Students also explore how their lives are affected by ICT, and consider strategies for managing how ICT is applied. Students examine how networked information systems allow data to be exchanged locally and within a global environment, and explore how mobile devices, such as phones, are used within these networks.

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

Unit 3 and 4: IT applications
The focus of Unit 3 is the World Wide Web and how it supports the information needs of individuals, communities and organisations. In Unit 4 students focus on how ICT is used by organisations to solve ongoing information problems and on the strategies used to protect the integrity and security of data and information.

Unit 3 and 4: Software development
Unit 3 focuses on programming as a strategy for solving problems for specific users in a networked environment. Students develop knowledge and skills in the use of a programming language. Unit 4 focuses on how the information needs of individuals, organisations and society are and can be met through the creation of purpose-designed solutions in a networked environment.

Note: Students may elect to undertake one or both of these Units 3 and 4 sequences.

Pathways
VCE Information Technology provides pathways to further studies in IT and to careers in ICT-based areas. It also prepares students for programs that require an IT-related subject or for a range of careers that require efficient and effective use of ICT.
LEGAL STUDIES

VCE Legal Studies investigates the ways in which the law and the legal system relate to and serve individuals and the community. This knowledge is central to understanding the workings of contemporary Australian society. Students develop an understanding of the complexity of the law and the legal system and the challenges faced by our law-makers and dispute resolution bodies. They investigate the workings of the Australian legal system and undertake comparisons with international structures and procedures. Students are encouraged to question these systems and develop informed judgments about their effectiveness, as well as consider reforms to the law and the legal system.

Unit 1: Criminal law in action
The law influences all aspects of society – at home, at work and in the wider community. Laws are used by society to preserve social cohesion, and to ensure the protection of people from harm and from the infringement of their rights. These laws can be grouped according to their source and whether they are criminal or civil in nature. Following an overview of the law in general, this unit focuses on criminal law.

Unit 2: Issues in civil law
The civil law regulates the rights and responsibilities that exist between individuals, groups and organisations. If legal rights have been infringed, the aggrieved party may pursue legal action through the court system, through a tribunal, or by using one of the methods of dispute resolution. Students examine the rights that are protected by civil law, as well as obligations that laws impose. They investigate types of civil laws and related cases and issues and develop an appreciation of the role of civil law in society and how it affects them as individuals.

Unit 3: Law-making
In this unit students develop an understanding of the institutions that determine our laws, and their law-making powers and processes. They undertake an informed evaluation of the effectiveness of law-making bodies and examine the need for the law to keep up to date with changes in society.

Unit 4: Resolution and justice
The legal system provides mechanisms by which legal disputes of both a criminal and a civil nature can be resolved in a fair and just manner. Dispute resolution bodies such as courts and tribunals employ a range of means and processes that enables the resolution of legal disputes.

Pathways
Legal Studies prepares students for further study in the areas of Las, Humanities, Arts, and social sciences. It can lead to employment in government, legal fields and associated areas. It is also recommended for those considering the Police Force.
The study of literature focuses on the enjoyment and appreciation of reading that arises from discussion, debate and the challenge of exploring the meanings of literary texts. Students reflect on their interpretations and those of others.

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

Unit 2
The focus of this unit is on students’ critical and creative responses to texts. Students deepen their understanding of their responses to aspects of texts such as the style of narrative, the characters, the language and structure of the text. Students extend their exploration of the ideas and concerns of the text. They understand the ways their own culture and the cultures represented in the text can influence their interpretations and shape different meanings. Students make comparisons between texts and identify some of the relationships that exist through features such as the language, characterisation and ideas.

Unit 3
This unit focuses on the ways writers construct their work and how meaning is created for and by the reader. Students consider how the form of text (such as poetry, prose, drama, non-print or combinations of these) affects meaning and generates different expectations in readers, the ways texts represent views and values and comment on human experience, and the social, historical and cultural contexts of literary works.

Unit 4
This unit focuses on students’ creative and critical responses to texts. Students consider the context of their responses to texts as well as the concerns, the style of the language and the point of view in their re-created or adapted work. In their responses, students develop an interpretation of a text and learn to synthesise the insights gained by their engagement with various aspects of a text into a cogent, substantiated response.

Pathways
Literature can be studied in place of compulsory VCE English, or in addition to it. Literature can lead to tertiary courses in the arts, business, music, teaching, media, journalism, communications, psychology and international studies. A pass in English or Literature is a prerequisite for most tertiary courses and is necessary for students to attain a VCE certificate. Students may elect to study one or both of these studies.
LOTE – Languages Other Than English - Japanese

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

Japanese is one of the most widely taught languages from the Asia-Pacific region in Australian schools. This recognises the close economic and cultural ties between the two countries.

The language to be studied and assessed is modern standard Japanese in both written and spoken forms. Some dialect variations in pronunciation and accent are acceptable. Students should be familiar with informal and formal levels of language as prescribed in this syllabus. Hiragana and Katakana syllabaries and a prescribed number of Kanji (Chinese characters) will be studied.

**Unit 1**
On completion of this unit the student should be able to establish and maintain a spoken or written exchange related to personal areas of experience. Listen to, read and obtain information from spoken and written texts and produce a personal response to a text focusing on real or imaginary experience.

**Unit 2**
On completion of this unit the student should be able to participate in a spoken or written exchange related to making arrangements and completing transactions. Listen to, read, and extract and use information and ideas from spoken and written texts and give expression to real or imaginary experience in spoken or written form.

**Unit 3**
On completion of this unit the student should be able to express ideas through the production of original texts. Analyse and use information from spoken texts and be able to exchange information, opinions and experiences.

**Unit 4**
On completion of this unit the student should be able to analyse and use information from written texts and respond critically to spoken and written texts, which reflect aspects of the language and culture of Japanese-speaking communities.

**Pathways**
The ability to communicate in another language, in conjunction with other skills, may provide opportunities for employment in the fields of interpreting, social services, ethnic affairs, the tourism and hospitality industries, international relations, the arts, commerce, technology, science, education.
MATHEMATICS

Mathematics is the study of function and pattern in number, logic, space and structure. It provides both a framework for thinking and a means of symbolic communication that is powerful, logical, concise and precise. It also provides a means by which people can understand and manage their environment. Essential mathematical activities include calculating and computing, abstracting, conjecturing, proving, applying, investigating, modelling, and problem posing and solving. This study is designed to provide access to worthwhile and challenging mathematical learning in a way that takes into account the needs and aspirations of a wide range of students. It is also designed to promote students’ awareness of the importance of mathematics in everyday life in a technological society, and confidence in making effective use of mathematical ideas, techniques and processes.

The following diagram outlines the pathways in Mathematics.

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<tr>
<th>YEAR 10</th>
<th>YEAR 11</th>
<th>YEAR 12</th>
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<tbody>
<tr>
<td>Pathways Math</td>
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<td>VCAL Numeracy</td>
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<td>Year 10</td>
<td>VCE Foundation Math 1-</td>
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<td>General Math</td>
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<td>VCE Further Math</td>
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<td>Year 10</td>
<td>Units 1-2</td>
<td>Units 3-4</td>
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<td>VCE Mathematical</td>
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<tr>
<td>Methods</td>
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<td>Methods (CAS) Units 3-4</td>
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<td>Units 3-4</td>
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**Entry requirements**

There are no prerequisites for entry to VCAL Numeracy, Foundation Mathematics Units 1 and 2 or General Mathematics Units 1 and 2 or Mathematical Methods (CAS) Units 1 and 2. However, students attempting Mathematical Methods (CAS) are expected to have a sound background in number, algebra, function, and probability. Some additional preparatory work will be advisable for any student who is undertaking Mathematical Methods (CAS) Unit 2 without completing Mathematical Methods (CAS) Unit 1. Enrolment in Specialist Mathematics Units 3 and 4 assumes a current enrolment in, or previous completion of, Mathematical Methods (CAS) Units 3 and 4.

**The structure of VCE Mathematics summarised.**

*Foundation Mathematics Units 1 and 2* are an alternative to General Mathematics Units 1 and 2, Mathematical Methods (CAS) Units 1 and 2. Students who take Foundation Mathematics Units 1 and 2 would not be taking Mathematical Methods (CAS) Units 1 and 2 in the same year, and would not proceed to study a Units 3 and 4 Mathematics in the following year. Some students may choose to take Foundation Mathematics Units 1 and 2 in conjunction with General Mathematics Units 1 and 2.

*General Mathematics Units 1 and 2* may be taken alone or in conjunction with Mathematical Methods (CAS) Units 1 and 2. They contain assumed knowledge and skills for related material in Further Mathematics Units 3 and 4. They are strongly recommended, in addition to Mathematical Methods (CAS) Units 1 and 2, as
preparation for Specialist Mathematics Units 3 and 4.

**Mathematical Methods (CAS) Units 1 and 2** may be taken alone or in conjunction with General Mathematics Units 1 and 2. They contain assumed knowledge and skills for Mathematical Methods (CAS) Units 3 and 4. Students may complete Mathematical Methods (CAS) Unit 1 followed by General Mathematics Unit 2. Completing General Mathematics Unit 1 followed by Mathematical Methods (CAS) Unit 2 is not generally advised without additional preparatory work.

**Further Mathematics Units 3 and 4** may be taken alone or in conjunction with Mathematical Methods (CAS) Units 3 and 4. Unit 3 has a prescribed core (Data analysis) and one selected module. Unit 4 has two selected modules.

**Mathematical Methods (CAS) Units 3 and 4** may be taken alone or in conjunction with either Further Mathematics Units 3 and 4 and/or Specialist Mathematics Units 3 and 4.

**Specialist Mathematics Units 3 and 4** are normally taken in conjunction with Mathematical Methods (CAS) Units 3 and 4. Mathematical Methods (CAS) Units 3 and 4 contain assumed knowledge and skills for Specialist Mathematics Units 3 and 4.

**Advice about combinations of math units**
In particular, students intending to study both Mathematical Methods (CAS) Units 3 and 4 and Specialist Mathematics Units 3 and 4 should, in all but the most exceptional cases, prepare by studying both Mathematical Methods (CAS) Units 1 and 2 and General Mathematics Units 1 and 2. Although it is possible to prepare for Mathematical Methods (CAS) Units 3 and 4 by studying only Mathematical Methods (CAS) Units 1 and 2, a much firmer basis is obtained by also studying General Mathematics Units 1 and 2.

**Mathematic subject descriptions:**

**Units 1 and 2: Foundation Mathematics**
Foundation Mathematics provides for the continuing mathematical development of students entering VCE, who need mathematical skills to support their other VCE subjects, including VET studies, and who do not intend to undertake Unit 3 and 4 studies in VCE Mathematics in the following year. In Foundation Mathematics there is a strong emphasis on using mathematics in practical contexts relating to everyday life, recreation, work and study. Students are encouraged to use appropriate technology in all areas of their study. These units will be especially useful for students undertaking VET studies.

**Units 1 and 2: General Mathematics**
General Mathematics provides courses of study for a broad range of students and may be implemented in a number of ways. Some students will not study Mathematics beyond Units 1 and 2, while others will intend to study Further Mathematics Units 3 and 4. The areas of study for Unit 1 and Unit 2 of General Mathematics are ‘Arithmetic’, ‘Data analysis and simulation’, ‘Algebra’, ‘Graphs of linear and non-linear relations’, ‘Decision and business mathematics’ and ‘Geometry and trigonometry’.
**Units 1 and 2: Mathematical Methods (CAS)**
Mathematical Methods (CAS) Units 1 and 2 are designed as preparation for Mathematical Methods (CAS) Units 3 and 4. The areas of study are ‘Functions and graphs’, ‘Algebra’, ‘Rates of change and calculus’ and ‘Probability’.

**Units 3 and 4: Further Mathematics**
Further Mathematics consists of a compulsory core area of study ‘Data analysis’ and then a selection of three from six modules in the ‘Applications’ area of study. Unit 3 comprises the ‘Data analysis’ area of study, which incorporates a statistical application task, and one of the selected modules from the ‘Applications’ area of study. Unit 4 comprises the two other selected modules from the ‘Applications’ area of study. Assumed knowledge and skills for the ‘Data analysis’ area of study are contained in the topics: Univariate data, Bivariate data, Linear graphs and modelling, and Linear relations and equations from General Mathematics Units 1 and 2. In particular, students are encouraged to use graphics or CAS calculators, computer algebra systems, spreadsheets or statistical software in ‘Data analysis’, dynamic geometry systems in ‘Geometry and trigonometry’ and graphics calculators, graphing packages or computer algebra systems both in the learning of new material and the application of this material in a variety of different contexts. The three applications modules are selected from: Number patterns, Geometry and trigonometry, Graphs and relations, Business-related mathematics, Networks and decision mathematics or Matrices.

**Units 3 and 4: Mathematical Methods (CAS)**
Mathematical Methods (CAS) Units 3 and 4 consists of the following areas of study: ‘Functions and graphs’, ‘Calculus’, ‘Algebra’ and ‘Probability’, which must be covered in progression from Unit 3 to Unit 4. Assumed knowledge and skills for Mathematical Methods (CAS) Units 3 and 4 are contained in Mathematical Methods Units (CAS) Units 1 and 2, and will be drawn on.

**Units 3 and 4: Specialist Mathematics**
Specialist Mathematics consists of the following areas of study: ‘Functions, relations and graphs’, ‘Algebra’, ‘Calculus’, ‘Vectors’ and ‘Mechanics’. The development of course content should highlight mathematical structure and proof. Specialist Mathematics Units 3 and 4 assumes concurrent or previous study of Mathematical Methods (CAS) Units 3 and 4. They contain assumed knowledge and skills for Specialist Mathematics, which will be drawn on as applicable in the development of content from the areas of study and key knowledge and skills for the outcomes.

**Pathways**
Units Mathematics is essential to a wide range of occupations and tertiary courses. Students should consult with parents and teachers before deciding which course of VCE mathematics to undertake.
VCE Music offers students opportunities to engage in the practice of performing, creating and studying music that is representative of diverse genres, styles and cultures. Students can specialise in one or more approaches to the study of music, depending on their VCE program overall and the post-VCE pathways they may be interested in following. Students may enrol in all units or select specific combinations of units that cater for their interests and intended pathways.

The following diagram outlines the structure of VCE Music:

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<table>
<thead>
<tr>
<th>Music Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units 1-2</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Music Performance</td>
</tr>
<tr>
<td>Units 3-4</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Music Investigation</td>
</tr>
<tr>
<td>Units 3-4</td>
</tr>
</tbody>
</table>
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**Entry requirements**
Although there are no prerequisites for entry to Music Performance or Music Investigation, students should be highly competent on their chosen instrument to at least AMEB grade 4. Students are strongly recommended to undertake Units 3 and 4 Music Performance before or in the same year that they undertake Units 3 and 4 Music Investigation. Music Performance Units 1 to 4 are designed to a standard equivalent to the final two years of secondary education. Music Investigation Units 3 and 4 are designed for students with considerable music experience.

**Units 1-4: Music Performance**

**Unit 1**
This unit focuses on building performance and musicianship skills. Students present performances of selected group and solo music works using one or more instruments. They study the work of other performers and explore strategies to optimise their own approach to performance. They identify technical, expressive and stylistic challenges relevant to works they are preparing for performance and practise technical work to address these challenges. They also develop skills in performing previously unseen music. Students study aural, theory and analysis concepts to develop their musicianship skills and apply this knowledge when preparing and presenting performances.

**Unit 2**
In this unit students build their performance and musicianship skills. They present performances of selected group and solo music works using one or more instruments. Students study the work of other performers through listening and analysis and use specific strategies to optimise their own approach to performance. They also study strategies for developing technical and expressive performance skills. They identify technical, expressive and stylistic challenges relevant to works they are preparing for
performance and practise related technical work. They develop skills in performing previously unseen music and study specific concepts to build their musicianship knowledge and skills. Students also devise an original composition or improvisation.

Unit 3
This unit prepares students to present convincing performances of group and solo works. In this unit students select a program of group and solo works representing a range of styles and diversity of character for performance. They develop instrumental techniques that enable them to interpret the works and expressively shape their performances. They also develop an understanding of performance conventions they can use to enhance their performances. Students develop skills in unprepared performance, aural perception and comprehension, transcription, music theory and analysis. The focus for analysis in Area of Study 3 is works and performances by Australian musicians.

Unit 4
In this unit students refine their ability to present convincing performances of group and solo works. Students select group and solo works that complement works selected in Unit 3. They further develop and refine instrumental and performance techniques that enable them to expressively shape their performance and communicate their understanding of the music style of each work. Students continue to develop skills in aural perception and comprehension, transcription, theory, analysis and unprepared performance. Students continue to study ways in which Australian performers interpret works that have been created since 1910 by Australian composers/songwriters.

Units 3 and 4: Music Investigation
Unit 3
In this unit students select a work from a prescribed list as the basis for an investigation of a Focus Area. They explore the Focus Area through three complementary areas of study: Investigation, Composition/arrangement/improvisation and Performance. Students plan, rehearse and perform a program of works that are representative of the Focus Area and in doing so develop relevant instrumental and performance techniques and apply performance practices. Together, these areas of study require students to apply extensive skills in performance, aural awareness, transcription, music theory and analysis.

Unit 4
In this unit students continue the exploration within the Focus Area they began in Unit 3. In Unit 4 the Investigation involves the preparation of program notes to accompany their end-of-year performance program. In Area of Study 2, the Composition/improvisation/arrangement involves creating and performing a composition, improvisation or arrangement that draws on musical characteristics of the Focus Area. This composition, arrangement or improvisation builds on and extends exercises completed in Unit 3. Students rehearse and perform works for inclusion in a performance program of works that relates to the Focus Area. They develop mastery of relevant instrumental techniques and apply advanced performance conventions to realise their intended interpretations of each work. They
continue to use skills in aural awareness, transcription, music theory and music analysis to support their work.

Pathways
VCE Music offers students opportunities for personal development and to make an ongoing contribution to the culture of their community through participation in life-long music making.

OUTDOOR AND ENVIRONMENTAL STUDIES

VCE Outdoor and Environmental Studies is concerned with the ways humans interact with and relate to outdoor environments. ‘Outdoor environments’ include environments that have minimum influence from humans, as well as those environments that have been subject to different levels of human intervention. The study enables students to make critically informed comment on questions of environmental sustainability and to understand the importance of environmental health, particularly in local contexts.

VCE Outdoor and Environmental Studies provides students with the skills and knowledge to safely participate in activities in outdoor environments and to respect and value diverse environments. The blend of direct practical experience of outdoor environments with more theoretical ways of knowing, enables informed understanding of human relationships with nature.

Unit 1: Exploring outdoor experiences
This unit examines some of the ways in which humans understand and relate to nature through experiences of outdoor environments. The focus is on individuals and their personal responses to and experiences of outdoor environments.

Unit 2: Discovering outdoor environments
This unit focuses on the characteristics of outdoor environments and different ways of understanding them, as well as the human impacts on outdoor environments. In this unit students study nature’s impact on humans, as well as the ecological, social and economic implications of human impact on outdoor environments. Students develop a clear understanding of the impact of technologies and changing human lifestyles on outdoor environments.

Unit 3: Relationships with outdoor environments
The focus of this unit is the ecological, historical and social contexts of relationships between humans and outdoor environments in Australia. Case studies of impacts on outdoor environments are examined in the context of the changing nature of human relationships with outdoor environments in Australia.

Unit 4: Sustainable outdoor relationships
In this unit students explore the sustainable use and management of outdoor environments. They examine the contemporary state of environments in Australia, consider the importance of healthy outdoor environments, and examine the issues in relation to the capacity of outdoor environments to support the future needs of the Australian population.
Pathways
Outdoor and Environmental Studies offers students a range of pathways, and caters to those who wish to pursue further formal study in areas where interaction with outdoor environments is central, such as natural resource management, nature-based tourism, outdoor leading and guiding, environmental research and policy, education, and agriculture.
VCE Physical Education examines the biological, physiological, psychological, social and cultural influences on performance and participation in physical activity. It focuses on the interrelationship between motor learning and psychological, biomechanical, physiological and sociological factors that influence physical performances, and participation in physical activity. The study of physical activity and sedentary behaviour is significant for the understanding of health, wellbeing and performance of people.

Unit 1: Bodies in motion
In this unit students explore how the body systems work together to produce movement and analyse this motion using biomechanical principles. They are introduced to the aerobic and anaerobic pathways utilised to provide the muscles with the energy required for movement and the basic characteristics of each pathway.

Unit 2: Sports coaching and physically active lifestyles
This unit explores a range of coaching practices and their contribution to effective coaching and improved performance of an athlete. The way in which a coach influences an athlete can have a significant effect on performance. The approach a coach uses, the methods applied and the skills used will have an impact on the degree of improvement experienced by an athlete.

Unit 3: Physical activity participation and physiological performance
This unit introduces students to an understanding of physical activity and sedentary behaviour from a participatory and physiological perspective. Students apply various methods to assess physical activity and sedentary levels, and analyse the data in relation to adherence to the National Physical Activity Guidelines.

Unit 4: Enhancing performance
Improvements in performance, in particular fitness, depend on the ability of the individual or coach to gain, apply and evaluate knowledge and understanding of training. Students undertake an activity analysis. Using the results of the analysis, they then investigate the required fitness components and participate in a training program designed to improve or maintain selected components. Athletes and coaches aim to continually improve and use nutritional, physiological and psychological strategies to gain advantage over the competition. Students learn to critically evaluate different techniques and practices that can be used to enhance performance, and look at the rationale for the banning or inclusion of various practices from sporting competition.

Pathways
The study prepares students for such fields as the health sciences, exercise science and education, as well as providing valuable knowledge and skills for participating in their own sporting and physical activity pursuits to develop as critical practitioners and lifelong learners.
Physics

Physics is a theoretical and empirical science, which contributes to our understanding of the physical universe from the minute building blocks of matter to the unimaginably broad expanses of the Universe. This understanding has significance for the way we understand our place in the Universe.

Unit 1
This unit focuses on Physics as a human endeavour. Observations and ideas about the physical world related to aspects of energy are organised and explained through the use of conceptual models. The detailed studies provide opportunities to explore the application of energy concepts and models in nuclear energy, sustainable energy sources, flight, space and medical contexts.

Unit 2
This unit focuses on the application of models to more complex phenomena – motion and light – developed within contexts that are familiar to students and relevant to their experiences. Newtonian ideas of motion are extended to include a range of movements and more abstract ideas, while the wave and particle models of light provide a framework for exploring light phenomena in real world applications. The detailed studies provide opportunities to explore motion and/or light in nuclear, sustainable energy, flight, space and medical contexts.

Unit 3
This unit focuses on the ideas that underpin much of the technology found in areas such as communications, engineering, commerce and industry. Motion in one and two dimensions is introduced and applied to moving objects on Earth and in space. Circuit models are applied to further aspects of electricity and electronics, and the operation and use of photonic devices are introduced. The detailed studies offer examples of theoretical and practical applications of these technologies.

Unit 4
This unit focuses on the development and limitations of models in explaining physical phenomena. A field model of electromagnetism is applied to the generation of electricity, and the development of models that explain the complex interactions of light and matter are considered. The detailed studies provide examples of innovative technologies used for research and communication.

Pathways
The knowledge gained through physics will enhance students’ ability to be innovative and contribute to the intelligent and careful use of resources. This knowledge can be used, for example, in industrial, medical, engineering and technical applications.
Central to VCE Product Design and Technology is the Product design process, which provides a structure for students to develop effective design practice. The design process involves identification of a real need that is then articulated in a design brief. The need is investigated and informed by research to aid the development of solutions that take the form of physical, three-dimensional functional products.

Unit 1: Product re-design and sustainability
This unit focuses on the analysis, modification and improvement of a product design with consideration of the materials used and issues of sustainability. Finite resources and the proliferation of waste require sustainable product design thinking. Many products in use today have been redesigned to suit the changing needs and demands of users but with little consideration of their sustainability.

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

Unit 3: Applying the Product design process
In this unit students are engaged in the design and development of a product that meets the needs and expectations of a client and/or an end-user, developed through a design process and influenced by a range of complex factors. These factors include the purpose, function and context of the product; human-centred design factors; innovation and creativity; visual, tactile and aesthetic factors; sustainability concerns; economic limitations; legal responsibilities; material characteristics and properties; and technology. This unit examines different settings and takes students through the Product design process as they design for others.

Unit 4: Product development and evaluation
In this unit students learn that evaluations are made at various points of product design, development and production. In the role of designer, students judge the suitability and viability of design ideas and options referring to the design brief and evaluation criteria in collaboration with a client and/or an end-user. Comparisons between similar products help to judge the success of a product in relation to a range of Product design factors. The environmental, economic and social impact of products throughout their life cycle can be analysed and evaluated with reference to the Product design factors.

Pathways
VCE Product Design and Technology can provide a pathway to a range of related fields such as industrial, product, interior and exhibition design, engineering, and
fashion, furniture, jewellery, textile and ceramic design at both professional and vocational levels.

**PSYCHOLOGY**

Psychology is the scientific study of mental processes and behaviour in humans. Biological, behavioural, cognitive and socio-cultural perspectives inform the way psychologists approach their research into the human condition.

**Unit 1: Introduction to psychology**

In this unit students are introduced to the development of psychology from its philosophical beginnings to a scientific study of the human mind and behaviour. Students explore the scope of psychology, its specialist disciplines such as neuropsychology, cognitive, social and human developmental psychology, and its fields of application.

**Unit 2: Self and others**

A person’s attitudes and behaviours affect the way they view themselves and the way they relate to others. Understanding what influences the formation of attitudes of individuals and behaviours of groups can inform and contribute to explanations of individual aggression or altruism, the positive and negative power of peer pressure and responses to group behaviour. Intelligence and personality can determine differences between individuals, and these abstractions are studied and their methods of assessment analysed.

**Unit 3: The conscious self**

This unit focuses on the study of the relationship between the brain and the mind through examining the basis of consciousness, behaviour, cognition and memory. Students study the structure and functioning of the human brain and nervous system and explore the nature of consciousness and altered states of consciousness including sleep. Students study memory, which involves the selective retention and retrieval of information and plays an important role in behaviours. They apply the different theories of memory and forgetting to their everyday life.

**Unit 4: Brain, behaviour and experience**

This unit focuses on the interrelationship between learning, the brain and its response to experiences, and behaviour. The overall quality of functioning of the brain depends on experience, and its plasticity means that different kinds of experience change and configure the brain in different ways. Mental health is also studied in terms of the biopsychosocial approach to the analysis of mental health and illness. They also explore concepts of normality, and the nature of stress and a selected mental disorder.

**Pathways**

The study of Psychology leads to opportunities in a range of careers that involve working with children, adults, families and communities in a variety of settings. These include academic and research institutions, management and human resources, and government, corporate and private enterprises. Fields of applied psychology include educational, environmental, forensic, health, sport and organisational psychology. Specialist fields of psychology include counselling and
clinical contexts, as well as neuropsychology, social psychology and developmental psychology.
STUDIO ARTS

VCE Studio Arts encourages and supports students to recognise their individual potential as art makers and presents a guided process to assist their understanding and development of artmaking. The study establishes effective art practices through the application of an individual design process to assist the student’s production of a folio of artworks.

Unit 1: Artistic inspiration and techniques
This unit focuses on using sources of inspiration and individual ideas as the basis for developing artworks and exploring a wide range of materials and techniques as tools for communicating ideas, observations and experiences through artmaking. Students also explore and research the ways in which artists from different times and cultures have interpreted and expressed ideas, sourced inspiration and used materials and techniques in the production of artworks.

Unit 2: Design exploration and concepts
This unit focuses on students establishing and using a design process to produce artworks. The design process includes the formulation and use of an individual approach to locating sources of inspiration, experimentation with materials and techniques, and the development of aesthetic qualities, directions and solutions prior to the production of artworks.

Unit 3: Studio production and professional art practices
This unit focuses on the implementation of an individual design process leading to the production of a range of potential directions and solutions. Students develop and use an exploration proposal to define an area of creative exploration. They plan and apply a design process to explore and develop their individual ideas. Analysis of these explorations and the development of the potential directions is an intrinsic part of the design process to support the making of finished artworks in Unit 4.

Unit 4: Studio production and art industry contexts
This unit focuses on the production of a cohesive folio of finished artworks. To support the creation of the folio, students present visual and written documentation explaining how selected potential directions generated in Unit 3 were used to produce the cohesive folio of finished artworks. These artworks should reflect the skilful application of materials and techniques, and the resolution of ideas and aesthetic qualities.

This unit also investigates aspects of artists’ involvement in the art industry, focusing on a variety of exhibition spaces and the methods and considerations involved in the preparation, presentation and conservation of artworks. Students examine a range of environments for the presentation of artworks exhibited in contemporary settings. Students are expected to visit at least two different exhibition spaces in their current year of study.

Pathways
Studio Arts can lead to becoming an artist, illustrator and photographer. It can also lead onto tertiary study in art, visual art, media, photography.
Systems Engineering

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

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 electrotechnology engineered systems.

Unit 1: Introduction to mechanical systems
This unit focuses on engineering fundamentals as the basis of understanding underlying principles and the building blocks that operate in simple to more complex mechanical devices.

Unit 2: Introduction to electrotechnology systems
Students study fundamental electrotechnology engineering principles. Through the application of their knowledge and the Systems Engineering Process, students produce operational systems that may also include mechanical components. In addition, students conduct research and produce technical reports.

Unit 3: Integrated systems engineering and energy
Students study the engineering principles that are used to explain the physical properties of integrated systems and how they work. Through the application of their knowledge, students design and plan an operational, mechanical electrotechnology integrated and controlled system. They learn about the technologies used to harness energy sources to provide power for engineered systems.

Unit 4: Systems control and new and emerging technologies
Students complete the production work and test and evaluate the integrated controlled system they designed in Unit 3. Students investigate new and emerging technologies, consider reasons for their development and analyse their impacts.

Pathways
This study can be applied to a diverse range of engineering fields such as manufacturing, land, water, air and space transportation, automation, control technologies, mechanisms and mechatronics, electrotechnology, robotics, pneumatics, hydraulics, and energy management. It prepares students for careers in engineering, manufacturing and design through either a university or TAFE vocational study pathway, employment, apprenticeships and traineeships.
VISUAL COMMUNICATION DESIGN

The Visual Communication Design study examines the way visual language can be used to convey ideas, information and messages in the fields of communication, environmental and industrial design. Designers create and communicate through visual means to shape the everyday quality of life for individuals, communities and societies. Visual communication design relies on drawing as the primary component of visual language to support the conception and visualisation of ideas. Consequently, the study emphasises the importance of developing a variety of drawing skills to visualize thinking.

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. Students practise their ability to draw what they observe and they use visualisation drawing methods to explore their own ideas and concepts.

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.

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 design principles can create effective visual communications for specific audiences and purposes. They investigate and experiment with the use of manual and digital methods, media and materials to make informed decisions when selecting suitable approaches for the development of their own design ideas and concepts.

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 completed in Unit 3. This involves applying the design process twice to meet each of the stated needs. Students refine and present two visual communications within the parameters of the brief. They reflect on the design process and the design decisions they took in the realisation of their ideas. They evaluate their visual communications and devise a pitch to communicate their design thinking and decision making to the client.

Pathways
The study of Visual Communication Design can provide pathways to training and tertiary study in design and design-related studies, including graphic design, industrial and architectural design and communication design.
**VCAL - Class**

The Victorian Certificate of Applied Learning (VCAL) is a hands-on option for students in Years 11 and 12. The VCAL gives you practical work-related experience, as well as literacy and numeracy skills and the opportunity to build personal skills that are important for life and work. Like the Victorian Certificate of Education (VCE), VCAL is an accredited secondary certificate.

**Personal Development Skills - Compulsory**

Unit 1 focuses on the development of appropriate knowledge, skills and attributes in relation to self, personal organisation and planning skills and problem solving and interpersonal skills. This can be achieved through participation in activities related to person, health and wellbeing, educational, social or family experiences of a practical nature.

Unit 2 focuses on the development of appropriate knowledge, skills and attributes in relation to community engagement, social awareness, interpersonal skills and planning and organisational skills. This can be achieved through participation in experiences of a practical nature within the community. The units enable students to develop personal development skills through participation in locally developed curriculum and locally developed projects and leadership activities linked to voluntary community roles or community service projects.

There are five learning outcomes in each unit. Students must achieve all learning outcomes to be credited with the unit.

**Work Related Skills**

The purpose of the Work Related Skills Strand is to develop employability skills, knowledge and attitudes valued within community and work environments as a preparation for employment. The development of employability skills within this strand provides learners with a capacity to consider and choose from the range of pathways.

The Work Related Skills units are designed to:

- integrate learning about work skills with prior knowledge and experiences
- enhance the development of employability skills through work related contexts develop critical thinking skills that apply to problem solving in work contexts
- develop planning and work related organisational skills
- develop OH&S awareness
- develop and apply transferable skills for work related contexts.

Students can gain credit by completing VCAL Work Related Skills units or by completing VCE Industry and Enterprise, VCE Technology studies or VCE Outdoor and Environmental Studies.

**Pathways**

VCAL is designed to develop and extend pathways for young people. May lead to undertaking VCE, further education and training at TAFE and employment.
including apprenticeships and traineeships.
VCAL – Literacy

Students may select VCAL Literacy or any VCE English units to satisfy VCAL requirements.

The purpose of literacy curriculum selected for this strand is to enable the development of skills, knowledge and attitudes in literacy that allow progression in the main social contexts of family, employment, further learning and citizenship. The broad purpose of the Literacy Skills units is to enable the development of skills, knowledge and attitudes in literacy that allows progression in the main social contexts of family and social life, workplace and institutional settings, education and training contexts and community and civic life.

The four domains of Literacy are:
- Self expression focuses on aspects of personal and family life, and the cultures which shape these.
- Practical purposes focuses on forms of communication mainly used in workplace and institutional settings and in communication with such organisations.
- Knowledge focuses on sociological, scientific, technological, historical and mechanical theories and concepts that are relevant to education and training.
- Public debate focuses on matters of public concern, and the forms of argument, reason and criticism used in the public arena.

The application of literacy skills cannot be separated from social context. The overall purpose is to provide an applied ‘real life’ approach to literacy development. Literacy includes reading, writing and oral communication skills.

READING AND WRITING UNITS
In the Reading and Writing units, the four literacy domains provide a framework by which students can become aware of the social context or areas of social practices in which they operate, the genres relevant to these social contexts and practices, and in which they can develop skills to use the genres effectively.

ORAL COMMUNICATION UNITS
The Oral Communication units are designed to provide participants with knowledge, understanding and skills in spoken communication for different social purposes. The Oral Communication units reflect the theory that language use varies depending on the social context and purpose of the interaction and this is its main organising principle. The units identify four primary purposes for oral communication which reflect the literacy domains and encompass a range of contexts for spoken interaction.

Pathways
VCAL is designed to develop and extend pathways for young people. May lead to undertaking VCE, further education and training at TAFE and employment including apprenticeships and traineeships.
VCAL - Numeracy

Students may select VCAL Numeracy or any VCE Mathematics units to satisfy VCAL requirements.

Numeracy is the ability to use mathematical skills in order to carry out purposes and functions within society related to designing, measuring, constructing, using graphical information, money, time and travel, and the underpinning skills and knowledge for further study in mathematics or related fields. Numeracy develops skills to facilitate the practical application of mathematics at home, work and in the community.

Rather than the learning outcomes having as their focus the traditional mathematical areas (number, space and shape, data, measurement, and algebra) the purposes or functions to which the mathematics may be put, are given prominence. The learning outcomes still ensure that the skills and knowledge of the mathematics strands are included but they are arranged under a different organisational structure. The specific mathematical skills and knowledge required are embedded in the learning outcomes and specified within the elements.

The four domains of Numeracy are:

- Practical Purposes addresses aspects of the physical world to do with designing, making and measuring.
- Interpreting Society relates to interpreting and reflecting on numerical and graphical information of relevance to self, work or community.
- Personal Organisation focuses on the numeracy requirements for personal organisational matters involving money, time and travel.
- Knowledge deals with mathematical skills needed for further study in mathematics, or other subjects with mathematical underpinnings and/or assumptions.

Pathways

VCAL is designed to develop and extend pathways for young people. May lead to undertaking VCE, further education and training at TAFE and employment including apprenticeships and traineeships.
NEW VET program in 2015
Certificate III in Media - Game Design Foundations

Course Overview
This program combines industry standard game design workflows and technologies to teach you how to create and design games using 3D software.

In the first year, you are introduced to the Unreal 4 game engine along with visual scripting, Photoshop and Maya. You learn to create unique 3D art assets, gameplay elements and design game mechanics as you complete a fully playable game.

During the second year, you expand and build on these techniques as you learn how to create a custom character and implement it within the game engine to create a unique game to your design. You will also cover key topics including website construction, flash development and graphic design.

As a two-year program, this course provides students with a Certificate III level qualification recognised by industry. The qualification is not just limited to gaming and application of the skills learnt can be applied across a range of fields including; film, defence, medical science, mining and many more.

Projects completed within the course.

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Game Design</td>
<td>Learn about what is involved in designing games and write a game design for a new, unique game.</td>
</tr>
<tr>
<td>3D game framework</td>
<td>Edit and create 3D game assets and bring them into the Unreal 4 game engine to bring your game concepts to life.</td>
</tr>
<tr>
<td>Game Mechanics</td>
<td>Using powerful visual scripting learn how to create gameplay for your game including computer controlled enemies and collectables.</td>
</tr>
<tr>
<td>Game Production</td>
<td>Finalise your own unique and fully playable game and learn how to publish your game to share with friends and family.</td>
</tr>
<tr>
<td>Interactive Design</td>
<td>Building on skills learnt in the first game production you will begin working on a second game learning how to interactively prototype game ideas.</td>
</tr>
<tr>
<td>Game Core</td>
<td>Learn how to rapidly build advanced gameplay elements including a custom 3D animated character and the process of implementing it inside the Unreal 4 game engine.</td>
</tr>
<tr>
<td>Interactive Production</td>
<td>Learn how to apply custom options to the game building process as you publish your fully playable game for friends and family to enjoy.</td>
</tr>
</tbody>
</table>

Delivery Mode: Wednesdays in a computer room at Euroa Secondary College.
Cost: $50 Year 1.
NOTE: costs are for Year 1 only and may be subject to change. Year 2 will be on offer in 2016.
Visit: [https://drive.google.com/folder/d/0B16hm6ydL1_vS0xOaUJ5b2FTMnM/edit](https://drive.google.com/folder/d/0B16hm6ydL1_vS0xOaUJ5b2FTMnM/edit)
More details: David Robinson, Michelle Bootes and Fiona Townsend.
VET subjects on offer in 2015

Vocational Education and Training (VET) is usually a two year program combining general VCE/VCAL studies with accredited vocational education and training. It enables students to complete a nationally recognised vocational qualification (eg Certificate II in Interactive Digital Media) at the same time as completing their VCE or VCAL. Important industry specific skills and workplace skills are learnt through the VET program, and the students are usually required to complete work placements as a part of the program, which develops their skills even further.

VET is provided by many providers, and for the first time in 2015, we will be offering VET (Interactive Digital Media) at ESC. Our students also can also attend either Shepparton, Seymour, Wangaratta or Broadford to access courses.

The VET courses that students from ESC can access are listed below. There may be some later additions to this list, and some courses may be withdrawn, as a course running depends upon the total number of students enrolled.

The materials fees for each course is shown, and it is a requirement that families pay the materials fees PRIOR to commencement of the course. Students are also responsible for travel to and from their VET course.

### VET Courses Available to ESC students in 2015.

<table>
<thead>
<tr>
<th>Program</th>
<th>VET Certificate</th>
<th>Offered at</th>
<th>Materials Cost</th>
<th>Work-placement</th>
<th>VETIs (score assess)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1st Yr</td>
<td>2nd Yr</td>
<td></td>
</tr>
<tr>
<td>Agriculture (AHC20110)</td>
<td>Certificate II in Agriculture (VCEVET)</td>
<td>TEC-Shepparton</td>
<td>$75</td>
<td>$75</td>
<td>Compulsory 80 hours</td>
</tr>
<tr>
<td>Automotive (22015VIC)</td>
<td>Certificate II in Automotive Studies (Pre-vocational) (VCEVET)</td>
<td>TEC-Shepparton</td>
<td>$90</td>
<td>$90</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td></td>
<td>Certificate II in Automotive Studies</td>
<td>Seymour P-12 College</td>
<td>$300</td>
<td>$300</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td>Aviation</td>
<td>Certificate IV in Aviation (partial Completion)</td>
<td>Gawne Aviation</td>
<td>$1400</td>
<td>$1400</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td>Beauty (SIB30110)</td>
<td>Certificate II in Retail Cosmetic services</td>
<td>TEC-Shepparton</td>
<td>$685</td>
<td>$350</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td>Building and Construction (22216VIC)</td>
<td>Certificate II in Building and Construction (Carpentry) (VCEVET)</td>
<td>TEC-Shepparton</td>
<td>$350</td>
<td>$180</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td></td>
<td>Certificate II in Building and Construction (Carpentry)</td>
<td>Broadford Secondary College</td>
<td>TBA</td>
<td>TBA</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td>Conservation Land Management</td>
<td>Certificate II in Conservation Land Management &amp; Certificate II in Horticulture (VCEVET)</td>
<td>TEC-Shepparton</td>
<td>$70</td>
<td>$70</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td>Program</td>
<td>Certificate Level</td>
<td>Provider</td>
<td>Cost 1</td>
<td>Cost 2</td>
<td>Recommendation</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------</td>
<td>---------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Design Fundamentals (CUV30311)</strong></td>
<td>Certificate III in Design Fundamentals</td>
<td>TEC - Wangaratta</td>
<td>$300</td>
<td>$300</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Electrical UEE22011</strong></td>
<td>Certificate II in Electrical (CareerStart)</td>
<td>TEC-Shepparton</td>
<td>$260</td>
<td>$110</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Engineering (22209V1C)</strong></td>
<td>Certificate II in Engineering (VCEVET)</td>
<td>TEC-Shepparton</td>
<td>$220</td>
<td>$190</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td></td>
<td>Certificate II in Engineering</td>
<td>Seymour TTC</td>
<td>$300</td>
<td>$300</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Equine (22246V1C)</strong></td>
<td>Certificate II in Equine Industry (VCEVET)</td>
<td>GoTAFE – Wangaratta (online)</td>
<td>$1250</td>
<td>$1070</td>
<td>Yes</td>
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<tr>
<td><strong>Furnishings (LMF20309)</strong></td>
<td>Certificate II in Furniture Making</td>
<td>TEC-Shepparton</td>
<td>$300</td>
<td>$310</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Hairdressing (SIH20111)</strong></td>
<td>Certificate II in Hairdressing</td>
<td>TEC-Shepparton</td>
<td>$640</td>
<td>NA</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td></td>
<td>Certificate II in Hairdressing</td>
<td>GoTAFE - Seymour</td>
<td>TBA</td>
<td>TBA</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td></td>
<td>Certificate III in Hairdressing (partial completion)</td>
<td>TEC-Shepparton</td>
<td>NA</td>
<td>$360</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Health (HLT32512/ HLT32412)</strong></td>
<td>Certificate II in Allied Health &amp; Certificate II in Health Services Assistant (combined) (VCEVET)</td>
<td>TEC-Shepparton</td>
<td>$200</td>
<td>$120</td>
<td>Compulsory</td>
</tr>
<tr>
<td><strong>Horticulture (AHC20310)</strong></td>
<td>Certificate II in Production Horticulture (VCEVET)</td>
<td>TEC-Shepparton</td>
<td>$70</td>
<td>$70</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Hospitality (SIT20312)</strong></td>
<td>Certificate II in Hospitality (Kitchen Operations)</td>
<td>TEC-Shepparton or Seymour</td>
<td>$380</td>
<td>$200</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td></td>
<td>Certificate II in Hospitality (Kitchen Operations)</td>
<td>Broadford Secondary College</td>
<td>TBA</td>
<td>TBA</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Interactive Digital Media</strong></td>
<td>Certificate III in Interactive Digital Media</td>
<td>Euroa Secondary College</td>
<td>$100</td>
<td>$100</td>
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<tr>
<td><strong>Music</strong></td>
<td>Certificate II in Music (Technical Production)</td>
<td>Broadford Secondary College</td>
<td>TBA</td>
<td>TBA</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Plumbing (22138V1C)</strong></td>
<td>Certificate II in Plumbing (pre-vocational)</td>
<td>TEC-Shepparton</td>
<td>$230</td>
<td>$230</td>
<td>Highly Recommended</td>
</tr>
<tr>
<td><strong>Sport &amp; Recreation (SIS20313/ SIS30513)</strong></td>
<td>Certificate II in Sport and Recreation (VCEVET)</td>
<td>GoTAFE - Seymour</td>
<td>$470</td>
<td>$370</td>
<td>Highly Recommended</td>
</tr>
</tbody>
</table>

Please contact ESC’s VET coordinator Mrs Townsend if you would like more information.  

**Pathways**
Students who undertake a VET course, may continue into further training at TAFE or look for an apprenticeship or traineeship in the industry.
VCE quick questions answered

Q. How many units should I choose each semester in the VCE?
   A. You can choose 5 to 7 units per semester. However, if you want to do less than five units you must consult with a Year Level Coordinator. Most Year 11 students do 6 and Year 12 do 5 units per semester.

Q. How many units should I choose in total for my VCE?
   A. You may choose as low as the VCAA minimum of 16 or as high as 26. Most full time students attempt in the range of 20 to 24 units over the two years; the vast majority of these complete 22 units (12 in Year 11 and 10 in Year 12).

Q. Can I take longer than 2 years to complete my VCE?
   A. Yes. You may spread your VCE over 3 or more years.

Q. If I spread my VCE over 3 years will I be disadvantaged for tertiary entrance?
   A. No.

Q. Will I be penalized in any way (eg; ATAR score) if I repeat a year 12 study?
   A. No.

Q. Can I do some Unit 3 & 4 studies while in my first year of VCE?
   A. Yes. Furthermore, in your second year, you may wish to do some Unit 1 & 2 studies along with your Units 3 & 4 studies.

Q. Should I consider doing some Unit 3 & 4’s in my first year?
   A. If you are a capable student, you should extend yourself. These Unit 3 & 4 studies completed in you first year will be counted as part of your ATAR (Australian Tertiary Admissions Rank).

Q. Can I change my VCE course for the second semester?
   A. Yes, for Unit 2. However, Units 3 & 4 must be done as a sequence and so cannot be changed halfway through.

Q. Can I combine VCE with part-time work?
   A. Yes. However, you will need to check your program with a Year Level Coordinator to see if you can match the units you want with your non-work times.

Q. Is there a special provision due to physical disability?
   A. Yes. VCAA makes “special provision” for students:
      - With physical disabilities
      - Who are from non-English speaking backgrounds
      - Who have interrupted studies
      - Who have transferred to Victoria

Q. Who do I see for more advice about VCE?

57
A. Your year level coordinator, the VCE/VCAL coordinator or Pathways Advisor.

ASSESSMENT TASKS

In all units 3-4 studies, and in most unit 1-2 studies, students are asked to complete assessment tasks. This is not to decide a “pass/fail”, but rather to decide “how well” students have done. These assessment tasks may be tests, a particular essay, project or model, which are marked on a scale of A+ to E. If the work submitted is not of a suitable standard for grading, it will then receive a UG (ungraded). For Units 3 & 4 the assessment is a combination of examinations set and marked by VCAA, and school assessed coursework/task (SAC/SAT) class work set and marked by the subject teachers.

REPORTS

At the end of each semester, students will receive a report from about the units they have completed. The report will have ‘S’ for satisfactorily completed or ‘N’, for not satisfactory completion for work requirements. There will also be written comments and grades for assessment tasks (if applicable). Students can redeem an ‘N’ result in consultation with the subject teacher and year level coordinator. At the end of Year 12, students will receive from VCAA a statement of results (S, N or J i.e. did not attempt) plus further information about school assessed tasks (SAT’s) and exam results. Students that are eligible, will also receive an ATAR score that can be used for tertiary entry.

GENERAL ACHIEVEMENT TEST (GAT)

All students undertaking Unit 3 & 4 studies must sit the General Achievement Test. The GAT is not study (i.e. subject) related, but is a general test of students’ ability in a range of areas: Written communication, Math, Science, and Technology, Humanities, Art and Social Sciences. They are used for comparison with school-assessed coursework/tasks to ensure that marking standards are fair between all schools. The GAT is sat in the middle of the year under external examination conditions. It does not contribute to VCE completion.

ATAR (Australian Tertiary Admissions Rank)

The ATAR is calculated by the Victorian Tertiary Admission Center (VTAC) from your study scores for Units 3 and 4 in VCE studies and some VCE/VET studies only. It is the primary way universities offer places to students. Some TAFE institutions also use this score for entry purposes. Unlike the study score, the ATAR is a means of comparing students across studies, rather than within them. By doing this it can give an overall account of student ability, which has proved a reliable indicator of how likely students are to complete tertiary courses. The cross-study comparison of students involves a statistical treatment of each student’s study scores, after which
these can be added in a simple way to derive each student’s ATAR. Whilst most Tertiary places are allocated according to the ATAR other factors, such as folios, references, relevant work experience and interviews may be considered for some courses, particularly at TAFE.

**HOMEWORK AND STUDY**

Homework consists of assignments, essays, reading, exercises, problems, reports and is set by the teacher for completion at home in order to satisfy coursework and/or assessment tasks. Study is revision, extra reading, problem solving practice, test and examination preparation, that is an essential part of all subjects, but not specifically set by the teacher. A REGULAR HOMEWORK AND STUDY PATTERN IS CRUCIAL FOR THE SUCCESSFUL COMPLETION OF VCE and VCAL.

**GUIDELINES**

- Students and their families are encouraged to allocate a home study area that becomes a familiar and comfortable workplace. A suitable homework/study area is a room where the student can work alone, at a table of desk, with adequate heating and lighting and free from interference from television, radio, family conversation etc.
- All students should keep and use a homework diary.
- Parents should be aware of, and encourage students to undertake a regular homework schedule and to complete assigned tasks.
- Homework should develop skills of organization and responsibility in students. A regular homework pattern will mean that work requirements should be completed by the date set by the teacher.
- Every student should have a personal homework timetable. Contact the VCE Coordinator for assistance if required.

**Sample Study Planner**

*(You’ll find one in your Student Planner. Make use of it!!)*

<table>
<thead>
<tr>
<th>Time</th>
<th>Mon.</th>
<th>Tues.</th>
<th>Wed.</th>
<th>Thurs.</th>
<th>Fri.</th>
<th>Time</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.30-7.15am</td>
<td>Swimming</td>
<td>BIOLOGY</td>
<td>Walking</td>
<td>MATH</td>
<td>ENGLISH</td>
<td>9am</td>
<td>Work</td>
<td>Walk</td>
</tr>
<tr>
<td>5.00-5.30pm</td>
<td>Homework</td>
<td>Homework</td>
<td>Homework</td>
<td>Sports Prac</td>
<td>Walk</td>
<td>10am</td>
<td>Leisure Time</td>
<td>Walk</td>
</tr>
<tr>
<td>5.30-6.00pm</td>
<td>Homework</td>
<td>Sports Prac</td>
<td>Homework</td>
<td>Sports Prac</td>
<td>Walk</td>
<td>11am</td>
<td>SPORT</td>
<td>MATH</td>
</tr>
<tr>
<td>6.00-6.30pm</td>
<td>Dinner</td>
<td>Sports Prac</td>
<td>Dinner</td>
<td>Sports Prac</td>
<td>Dinner</td>
<td>12pm</td>
<td>SPORT</td>
<td>ENG</td>
</tr>
<tr>
<td>6.00-6.30pm</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Dinner</td>
<td>1pm</td>
<td>SPORT</td>
<td>Lunch</td>
</tr>
<tr>
<td>7.00-7.30pm</td>
<td>Leisure Time</td>
<td>ENGLISH</td>
<td>HISTORY</td>
<td>Homework</td>
<td>Leisure Time</td>
<td>2pm</td>
<td>SPORT</td>
<td>BIOL</td>
</tr>
<tr>
<td>7.30-8.00pm</td>
<td>MATH</td>
<td>BIOLOGY</td>
<td>PE</td>
<td>MATH</td>
<td>3pm</td>
<td>SPORT</td>
<td>HISTORY</td>
<td></td>
</tr>
<tr>
<td>8.00-8.30pm</td>
<td>ENGLISH</td>
<td>HISTORY</td>
<td>ENGLISH</td>
<td>PE</td>
<td>Homework</td>
<td>4pm</td>
<td>SPORT</td>
<td>PE</td>
</tr>
<tr>
<td>8.30-9.00pm</td>
<td>Homework</td>
<td>Homework</td>
<td>Homework</td>
<td>Homework</td>
<td>Homework</td>
<td>5pm</td>
<td>Homework</td>
<td>Leisure Time</td>
</tr>
<tr>
<td>9.00-9.30pm</td>
<td>General Study &amp; Catch Up</td>
<td>6pm</td>
<td>Dinner</td>
<td>Dinner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Publications and Resources

All publications are available for borrowing from the school careers office, school library or online, however students have been given some publications already. Everyone is welcome to drop into the careers office to pick up any current reference material.

www.vcaa.edu.au
Where to now? Guide to the VCE, VCAL and Apprenticeship and Traineeships. This publication outlines all options available for year 11 and 12 students in Victoria. It explains each option, including case studies of students in their individual program. Hard copy handed out to students when in year 10. The site also contains all information about VCE, VCAL VET and SBATs.

www.jobguide.deewr.edu.au
JOBGUIDE outlines all jobs across Australia, and the pathway to achieving qualifications. It explains what each job is like, characteristics suited, and training required. Hard copy handed out to students when in year 10.

www.myfuture.edu.au
This site is free. It allows students (or adults) to register and undertake small questionnaires in order to know what type of jobs you would be suited to. It then has links to current information on wages, work conditions and training available in each job.

www.vtac.edu.au
VTAC guide. This is the body that provide the ATAR score and organise university and TAFE offers in Victoria. Outlines courses on offer through the VTAC system in Victoria only. It gives a guide to the ATAR score needed in the previous year. For subject prerequisites needed in order to apply for courses students must consult the relevant VICTER guide within the VTAC website. This free site is a valuable tool for students as it has a fantastic section called CourseLink. In this section students enter their VCAA student number, and pin number, to then be personally welcomed. It will list the VCE studies already completed by the student. It allows you to explore combinations of VCE studies, to then see suitable tertiary courses based on the combination of studies selected at VCE.

CHOICE! VCE studies and the ATAR
Small brochure explaining how the ATAR score is derived, and tips on selecting VCE studies. Also available through the vtac website.


TAFE guide. This resource lists all courses, at TAFE level on offer throughout Victoria. It lists short courses, certificates and diploma level programs. It includes where it can be studied as well as requirements for entry.
HOW TO USE COURSESEARCH PROGRAM ON THE VTAC WEBSITE...

These instructions are for students at any year level to check what subjects are suitable for University and Tafe entrance. It is important to note that Pre-requisites are published when students are in Year 10, in order for them to plan their VCE program in line with their University or Tafe aspirations post year 12. Universities and Tafes must publish this for Year 10 students each year. You can also look on their websites for more information.

1. Log into www.vtac.edu.au and click on Courselink at bottom centre of home screen.
2. Then click on your current Year level link.
3. Enter your user name. This is your eight digit VCAA number and letter eg: 1122344A
_ _ _ _ _ _ _
4. Enter your pin. This is your date of birth - 4 digits (do not include your year of birth)
eg: 25th January = 2501._ _ _ _
5. You will then see on the left hand side of the screen YOUR personal VCE/VCAL program of studies in a box. On the left are all studies possible. Fill your program up with studies you plan to complete.
6. Click on the course search button underneath your program box.
7. You have the option of putting in an ATAR range (or simply leave it blank).
9. Areas of Interest - select up to 3 areas of study you are interested in studying at TAFE or University. Click the INFO button for a description.
10. Institution type - Select Higher ed for University OR VET for Tafe , or a specific institution from the list provided OR leave blank for both.
11. Do not put pre-requisite studies in, as all courses include the studies you are eligible to apply for based on the studies you have completed in your VCE program.
12. Click Submit.
13. Based on the subjects you have to studied (or plan to study in year 11/12), the range of courses you are eligible to apply for at the successful completion of year 12 is now listed.
14. Click on the course code to find out about the course description and how many offers were made last year. This window also shows the ATAR needed.
15. Click on the course name if you want more information about the prerequisite studies needed for the courses listed.
16. You can Save and Print this search. This will help you in making sure you select the right subjects based on the score you may receive and the courses you are suited to linked to the subjects you completed.
17. You can also do another search, save, replace or compare this to the previous search.
Your ATAR score is based on your SAC/SAT results in your Unit 3/4 studies only. In each subject you get a STUDY SCORE out of 50 (based on assessments and examinations). This score is then scaled against all other students’ scores in the state of Victoria doing that study, thus giving you an ATAR subject score out of 50. English (any) and your next 3 best scores are added together, plus 10% of any 5th and 6th study you complete at unit 3/4 level. Scored VET courses can be in the best 3 studies. If you do a non-scored VET subject, it cannot be included in the best 3, but can be included as a 5th or 6th study increment by averaging your primary 4 studies and taking 10% of them. So too can SBAT be added the same as a non-scored VET as 10%.

The Average Study Score is 30/50. You may use this as a guide.

<table>
<thead>
<tr>
<th>UNIT 3/4 SUBJECTS:</th>
<th>STUDY SCORE/50</th>
<th>ATAR subject score/50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. English OR English Literature</td>
<td>___________ = ___________</td>
<td></td>
</tr>
</tbody>
</table>

**Plus next 3 Best Scaled studies:**

| 2. | ________________ | ________________ = ________________ |
| 3. | ________________ | ________________ = ________________ |
| 4. | ________________ | ________________ = ________________ |

**plus increments:**

10% of 5th & 6th study, OR if a non-scored Vet then 10% of the average of primary 4 above.

| 5. | ________________ | ________________ = ______.______10% |
| 6. | ________________ | ________________ = ______.______10% |

Total Aggregate Score is out of 210 = ____________/210

Then use the Scaled Aggregate Table to determine your ATAR score. Place this on the line on the top right hand side of this page. This is only your estimation, and scores can vary. Subjects are scaled in the year you complete them. If you do a 3/4 study in year 11, it will be scaled in that year and added towards your ATAR when you complete year 12.
2013 Scaling Report

VCAA provides VTAC with study scores (relative positions). These study scores are scaled in order to calculate scaled aggregates and Australian Tertiary Admission Ranks (ATARs). Candidates are in the 2013 scaling population if, excluding small studies, they have obtained at least one VCAA study score in 2013, at least four in total, at least one in an English study [English, English (SL), English Language or Literature], but do not already have an ATAR. The scaling population is therefore a subset of the entire population. The means and standard deviations below pertain to the scaling population in 2013.

The following table gives the 2013 scaled means and standard deviations as well as the VTAC scaled study scores (rounded to the nearest integer) corresponding to the study scores of 20, 25, 30, 35, 40, 45 and 50. The formal aggregation process uses VTAC scaled study scores to two decimal places, but the following information gives an indication of how scaling adjusts scores in the various studies.

<table>
<thead>
<tr>
<th>Study</th>
<th>Mean</th>
<th>St. Dev</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>30.6</td>
<td>7.2</td>
<td>19</td>
<td>25</td>
<td>30</td>
<td>36</td>
<td>41</td>
<td>46</td>
<td>50</td>
</tr>
<tr>
<td>Agricultural &amp; Horticultural Studies</td>
<td>25.8</td>
<td>6.8</td>
<td>15</td>
<td>19</td>
<td>24</td>
<td>29</td>
<td>35</td>
<td>41</td>
<td>50</td>
</tr>
<tr>
<td>Art</td>
<td>26.9</td>
<td>7.7</td>
<td>15</td>
<td>20</td>
<td>26</td>
<td>32</td>
<td>38</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>Biology</td>
<td>30.6</td>
<td>7.2</td>
<td>20</td>
<td>26</td>
<td>31</td>
<td>36</td>
<td>41</td>
<td>46</td>
<td>50</td>
</tr>
<tr>
<td>Business Management</td>
<td>26.7</td>
<td>7.2</td>
<td>16</td>
<td>21</td>
<td>26</td>
<td>32</td>
<td>37</td>
<td>42</td>
<td>50</td>
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<tr>
<td>Chemistry</td>
<td>34.0</td>
<td>7.3</td>
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<td>29</td>
<td>34</td>
<td>39</td>
<td>44</td>
<td>50</td>
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<tr>
<td>Classical Studies</td>
<td>30.9</td>
<td>7.8</td>
<td>18</td>
<td>26</td>
<td>30</td>
<td>36</td>
<td>42</td>
<td>47</td>
<td>50</td>
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<td>Dance</td>
<td>29.5</td>
<td>6.8</td>
<td>20</td>
<td>25</td>
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<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
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<tr>
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<td>Drama</td>
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<td>27</td>
<td>33</td>
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<td>45</td>
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<td>Economics</td>
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<td>7.0</td>
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<td>27</td>
<td>32</td>
<td>37</td>
<td>42</td>
<td>46</td>
<td>50</td>
</tr>
<tr>
<td>English</td>
<td>28.2</td>
<td>7.5</td>
<td>17</td>
<td>22</td>
<td>28</td>
<td>33</td>
<td>40</td>
<td>45</td>
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64
NOTES:

1. Small Studies were not scaled by the automatic procedure, since their eligible scaling population was less than or equal to ten. The means and standard deviations are not given in these cases, since they are not as useful.

2. For small VCE Languages, the Language adjustment is the maximum of zero and the average Language adjustment over the previous three years. The following table gives the ATAR Subject Scores for small VCE Languages in 2013.
Small VCE Languages - 2013 VTAC Scaled Study Scores

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### 2013 Scaled Aggregate Table

Based on the 2013 scaling and aggregation process, the following table gives an indication of the minimum scaled aggregate required to achieve at least a particular ATAR. The table can be used to check roughly an ATAR calculation.
## Learning Pathway Plan

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<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
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<td>(may try at least one VCE 1/2 level)</td>
<td>Select 6 subjects – Units 1/2 level (try at least one 3/4 level)</td>
<td>Select 5 subjects - Units 3/4 level</td>
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<td>VCE English 1/2 compulsory and/or Literature 1/2 Or VCAL Literacy compulsory</td>
<td>VCE English 3/4 compulsory and/or Literature 3/4 Or VCAL Literacy compulsory</td>
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<tr>
<td><strong>Pathways Math</strong> or <strong>General Math</strong> or <strong>Math Methods</strong></td>
<td>Foundation Math 1/2 General Mathematics 1/2 Mathematical Methods 1/2 Or VCAL Numeracy compulsory</td>
<td>Further Mathematics 3/4 Mathematical Methods 3/4 And if wanting; Specialist 3/4 Or VCAL Numeracy compulsory</td>
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<td>Accounting Industry &amp; Enterprise Economics History - Revolutions Legal Studies Business Management</td>
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<td>Health &amp; Human Development Physical Education Outdoor &amp; Environmental Studies</td>
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