Curriculum Structure for 2017

With the move to the Victorian Curriculum and the determination to prepare our students to become active global citizens in a changing economic, technical and economic environment, we have made some changes to the structure of the curriculum for 2017.

Literacy and numeracy remain a priority. As literacy is the foundation for much of the learning at school and underpins life out of the college, literacy will be a focus in all subjects in all year levels in the college. Teachers will be using the latest, research based strategies to improve the students’ literacy whether that level be at a level above or below expected.

Programs for students in year 7 – 10 will be planned and delivered according to the Victorian Curriculum Framework. Programs will be developed by Professional Learning Teams to cover the content and standards that comprise the Victorian Curriculum. The Victorian Curriculum sets out what every student should learn during their first eleven years of schooling. The curriculum is the common set of knowledge and skills required by students for life-long learning, social development and active and informed citizenship. There are eight learning areas; the Arts, English, Health and Physical Education, The Humanities, Languages, Mathematics, Science and Technologies. The Victorian Curriculum also includes capabilities of Critical and Creative Thinking, Ethical, Intercultural and Personal and Social. These capabilities will be entwined in all of the learning areas.

Year 7

All students in Year 7 will complete a common course as shown below. English, Maths, Science, Humanities, Health and PE and Languages (German) are full year subjects. Students complete Visual Arts one semester and then Performing Arts the next semester. In Performing Arts, students complete music. When completing Visual Arts, the students are given the opportunity to use various mediums. Design and Technology includes wood technology and food technology, students complete a semester of each.

Flexibility in the structure of the program will allow students to learn according to their individual learning needs and learning style. An Individual Learning Plan will be developed for each child and this will be reviewed and refined throughout the year. Parents will be provided with a copy of the plan and the suggested strategies to assist the child’s development.

Skill development in the areas of literacy and numeracy will be the focus of the program. The needs of the students will be identified by testing, assessment data and teacher professional judgement. Teaching strategies will include explicit teaching of literacy and numeracy skills.

<table>
<thead>
<tr>
<th>Year 7 Curriculum</th>
<th>Subject</th>
<th>English</th>
<th>Maths</th>
<th>Science</th>
<th>Humanities</th>
<th>Health and PE</th>
<th>Performing Arts/Visual Arts</th>
<th>Design and Technology</th>
<th>Languages (German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sessions per cycle</td>
<td>9</td>
<td>9</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>4</td>
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The cycle is a two week cycle.
In years 8 – 10, the development of the Individual Learning Plan will see students making choices from the elective (and VCE) blocks to cater for their individual interests, skills and development. Students will complete the subjects of: English, Maths, Science, Humanities, Health and Physical Education in their Year Level. They will, however, choose (with guidance from the Home Teacher and in consultation with parents) the appropriate electives to ensure a comprehensive education and an extended education.

### Year 8 - 10

<table>
<thead>
<tr>
<th>Yr 8</th>
<th>English</th>
<th>Maths</th>
<th>Science</th>
<th>Humanities</th>
<th>Health &amp; PE</th>
<th>Elective 1</th>
<th>Elective 2</th>
<th>Elective 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>OR VCE</td>
<td>OR VCE</td>
<td>OR VCE</td>
</tr>
<tr>
<td>Yr 9</td>
<td>English</td>
<td>Maths</td>
<td>Science</td>
<td>Humanities</td>
<td>Health &amp; PE</td>
<td>Study from Block</td>
<td>Study from block</td>
<td>Study from block</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>8</td>
<td>6</td>
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<td>6</td>
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<tr>
<td>Yr 10</td>
<td>English</td>
<td>Maths</td>
<td>Science</td>
<td>Humanities</td>
<td>Health &amp; PE</td>
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<tr>
<td></td>
<td>9</td>
<td>8</td>
<td>6</td>
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</table>

- **Elective I** includes: Music/choir, Food Technology, IT unit, Robotics, Social Justice
- **Elective 2** includes: Team Games, Wood Technology, Photography, Media Studies, Sports Science
- **Elective 3** includes: Languages, Web/Design, Science iSTEM, Food Technology 2, 2D Art

### Years 11 & 12 - Senior Learning Community (VCE, VCAL, VET)

Students in Years 11 and 12 can study for the Victorian Certificate of Education (VCE) or Victorian Certificate of Applied Learning (VCAL). Subjects offered for study at VCE are determined by student demand. Distance Education, Virtual Learning and Language School options may also be available.

Students may also choose to undertake a Vocational Education and Training (VET) study from a wide range offered by the Mullum Cluster of schools and TAFE institutions. School Based Apprenticeships may also be undertaken as part of senior school studies. All studies at the VCE level are allocated 8 hourly sessions of explicit instruction per fortnight.

Students completing VCAL must complete Personal Development, Literacy, Work Related Skills and the program must include Foundation Maths. Students also undertake work placement and a VET study as part of the VCAL certificate.
<table>
<thead>
<tr>
<th>Sessions per fortnight</th>
<th>Subject</th>
<th>Brief description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>English</td>
<td>The Year 9 English course builds upon the knowledge and skills covered in previous years as it develops globally aware students, capable of responding creatively and critically to a range of different texts. Students complete a range of tasks, including oral presentations, analytical responses, creative responses and comparative responses to develop these thinking skills. Unit 1 – Students develop their understanding of persuasive language by looking at a variety of different persuasive language texts including print and non-print media. Students will select an issue and deliver a structured debate to an audience, developing their oral presentation skills for authentic purpose. Students will then work with their peers to develop a campaign and present this in front of a ‘panel’. Unit 2 - Students read and respond to the text, Trash, as they explore the lives of people who live in poverty. Students will recognise and explain different viewpoints about the existence and experience of ‘dumpster boys’ in Asia. Students are encouraged to explore issues that are central to Asia and Australia’s relationship with Asia as they become globalised citizens. Unit 3 – As we believe student voice is an important part of engaging young people, students will have the opportunity to choose the films they study from a list of pairs linked by genre or theme. Students will continue to develop their knowledge of metalanguage and visual language while comparing how different texts represent a central idea. Unit 4 – Students develop a writing portfolio in response to the theme of identity and its connection to culture. They will experiment with text types, the features of a text and vocabulary choices as they create their own narratives, articles and persuasive texts.</td>
</tr>
<tr>
<td>8</td>
<td>English as an Additional Language (EAL)</td>
<td>Students learning English as an Additional Language are provided with additional support to assist with their understanding of the English language within the classroom. The course focuses on developing reading, writing and listening skills and increasing familiarity with a variety of different styles of text. Students are encouraged to develop literacy in their first language alongside their development of the English language. Students also participate in a variety of aural tasks to improve and develop their verbal communication skills and listening skills.</td>
</tr>
<tr>
<td>8</td>
<td>Mathematics</td>
<td>Students in Year 9 apply various computational concepts in order to factorise and expand algebraic expressions. They</td>
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</tbody>
</table>
learn to express numbers using scientific notation and use index laws with algebraic and numerical values. Financial mathematics applies percentage and algebraic concepts to investigate and solve problems using simple interest. Angle and shape properties are used in geometric reasoning to provide evidence of congruent shapes. Pythagoras’ Theorem and trigonometric ratios in right-angled triangles are investigated. Formulas for area are used to develop volume formulas for various prisms. Students extend their understanding of probability to involve two-step chance experiments both with and without replacement. The language used to describe data sets is developed to include terms such as ‘skewed’, ‘symmetric’ and ‘bi modal’ and students compare data sets in terms of centre and spread. The usefulness of mathematics as a tool is highlighted, as students are able to investigate some of the more complex ideas that may be faced in various industry settings.

6 Science

Students undertaking science will develop further upon skills, knowledge and understanding in specialist areas that aim to cater for their individual needs and interests. Students will be offered units that will allow them to investigate chemistry, physics, biology and psychology no matter which science focus they choose. The main aim of each of the above focus areas is to encourage students to incorporate ‘teaching without telling’ and STEAM (science, technology, engineering, art and mathematics) into everyday thinking. Students will be linked in to Swinburne TAFE and experience science at a university during this year.

6 Humanities

In Year 9 Humanities students undertake a study of History, Geography, Economics and Business and Civics and Citizenship. Through a study of the industrial revolution and World War I students develop their historical thinking skills and can determine significance when investigating events. In Geography students investigate biomes and food security, analysing data and maps. In Business and Economics, students look at the business environment and how the global market influences local economies. In Civics and Citizenship students further their understanding of citizenship and government.

6 Health and Physical Education

In year 9, students apply and transfer their learned movement concepts and strategies to new and challenging movement situations. They apply criteria to make judgments about and refine their own and others’ specialised movement skills and movement performances. Students develop their leadership abilities through analysing peer movement patterns giving personalised feedback to improve overall performance. Students continue the Respectful
| **Relationships program focusing on the power connection in regard to gender, respect and relationships. In addition to this, students look at risky behaviour and create various harm minimisation strategies to maintain and healthy lifestyle.** |
### Electives

Students choose one from each block.

**Structure for 2017**

<table>
<thead>
<tr>
<th>Other VCE Blocks</th>
<th>VCE Block 5</th>
<th>VCE Block 6</th>
<th>VCE Block 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>Psychology</td>
<td>General Maths</td>
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<tr>
<td>Studio Arts</td>
<td>Computing</td>
<td>Further Maths</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Compulsory subjects of:</th>
<th>VCE Block 5</th>
<th>VCE Block 6</th>
<th>VCE Block 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Music, Choir</td>
<td>Team Games</td>
<td></td>
</tr>
<tr>
<td>Maths</td>
<td>Food Tech 1</td>
<td>Wood Tech</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>Information</td>
<td>Photography</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>Technology</td>
<td>Sports Science</td>
<td></td>
</tr>
<tr>
<td>Health/PE</td>
<td>(Computer Literacy/Digital Systems)</td>
<td>Media</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Robotics</td>
<td>2D Art</td>
<td></td>
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<tr>
<td></td>
<td>Social Justice</td>
<td>Languages</td>
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<td></td>
<td></td>
<td>Applied Stem</td>
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<tr>
<td></td>
<td></td>
<td>Food Tech 2</td>
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<td></td>
<td></td>
<td>Design/Coding</td>
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</table>

VCE Blocks are 8 sessions a cycle. (Students choosing to complete these will have to take 3 sessions from the compulsory subjects or the sessions will be from 3-4pm, depending on timetable.

**Elective subjects are for 5 sessions per cycle. Electives are for one semester.**

#### Semester 1 Electives

<table>
<thead>
<tr>
<th>Elective Block 1</th>
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<tbody>
<tr>
<td><strong>Music, Choir</strong></td>
<td>In the semester one the music/choir elective will focus on group singing. Students will discover their voice as a musical instrument. They will learn correct technique, the importance of warm up exercises and participate in the performance of various musical styles. Students gain more depth in the elements of music (melody, rhythm, harmony, dynamics and form). They will utilise these elements to explore and respond to musical style and analyse set works. Aural perception skills will be introduced such as recognizing chords, intervals and scales. Students will continue theory appreciation and learn to read treble clef vocal music notation and signs. Students will be offered opportunities to perform in public.</td>
</tr>
<tr>
<td><strong>Food Technology 1 Back to Basics</strong></td>
<td>Students will be revising cooking methods and techniques introduced in the junior school and be introduced to new terminologies related to Food Technology and the food industry. Using a variety of cooking methods, for example,</td>
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</tbody>
</table>

## VCE Blocks

- **Block 5**: Biology, Studio Arts
- **Block 6**: Psychology, Computing
- **Block 7**: General Maths, Further Maths

### Compulsory subjects of:

- **English**
- **Maths**
- **Science**
- **Humanities**
- **Health/PE**
- **Music, Choir**
- **Food Tech 1**
- **Information Technology**
- **Robotics**
- **Social Justice**
- **Team Games**
- **Wood Tech**
- **Photography**
- **Sports Science**
- **Media**
- **2D Art**
- **Languages**
- **Applied Stem**
- **Food Tech 2**
- **Design/Coding**
baking, grilling, boiling, frying, steaming and absorption and techniques such as separating, beating, piping and rubbing in, students will learn the skills and techniques required to successfully prepare food items and understand the theory behind their success. Students will further develop their understanding and use of the design process. An additional charge will apply to participate in this unit of work.

<table>
<thead>
<tr>
<th>Information Technology (Computer Literacy/Digital Systems)</th>
<th>Computer Literacy</th>
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<tbody>
<tr>
<td>Students work to achieve competency in a variety of information processing software types including word processors, spreadsheets, presentations, relational databases and visualising software.</td>
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**Digital Systems**

Students will work practically and theoretically to develop an understanding of the main components of common digital systems, and how such digital systems may connect together to form networks and transmit data.

| Robotics | Robotics is ideal in enhancing creative problem solving techniques. Using robots allows students to become active learners, show initiative and independence. Students usually work in small groups of 2 to 4 students per robot. This encourages the development of basic communication and inter-personal skills. The ability to collaborate and convey complex ideas to a fellow students or colleagues is an important skill that is seen as essential by modern employers. |

| Social Justice | Students will explore current events and issues related to social justice in both their community and the wider world. Through an exploration of the 17 Sustainable Development Goals, students will create and carry out their own project, based around advocacy and awareness raising. |

<table>
<thead>
<tr>
<th>Elective Block 2</th>
<th>Team Games</th>
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</table>
| In this elective students will participate in a variety of team games. For each of the games they will focus on team play and strategies, fair play, team work and individual skills. Students will also be looking at coaching, the role of the coach and the type of coaches there are as well as the stages of learning and how you coach different staged...

| Team Games | In this elective students will participate in a variety of team games. For each of the games they will focus on team play and strategies, fair play, team work and individual skills. Students will also be looking at coaching, the role of the coach and the type of coaches there are as well as the stages of learning and how you coach different staged... |
learners to improve and within a team situation. This elective will have practical and theoretical components.

| Wood Technology | Students will gain a deeper understanding of the design process to create a variety of wooden products. Some of these products will have specific design briefs whilst other products will have briefs allowing students to demonstrate their design thinking skills, design and technologies knowledge and production skills to produce design solutions. Students will learn how to graphical represent their designs using a variety of techniques including the use of computer-aided design technologies. Students will be introduced to environmental and social sustainability by investigating such things as the life cycle of a product. Students will continue to develop their wood working skills and knowledge using a variety of hand tools and techniques. An additional charge will apply to participate in this unit of work. |
| Photography | The emphasis of this unit is Photography. Students will be learning how to utilize basic functionality within photography. They will investigate how iconic imagery has been created throughout history in order to achieve a specific objective. Students will develop an understanding of how the design process within photography plays a pivotal role when displaying effective imagery. Students will also work through a variety of activities that display aesthetic qualities within the medium of photography. Students will also need to develop personal designs that demonstrate an understanding of historical events and how they have been perceived within the media. Students should clarify any misconceptions before undergoing any set task. |
| Media | The emphasis of this unit is Media. Students will focus on how designers have used historical moments throughout time and captured them within film and television. They will also delve into certain iconic imagery that have been made famous from the use of cinematography. Students will have to create their own brainstorming and drafting in which they will base their designs from. Students will then explore visual techniques to develop and refine their final design/s. Students will reflect and analyse the work of iconic films culminating in a visual analysis. |
| Sports Science | In this elective students will participate in a variety of sports, activities and laboratories with the focus being on the biomechanics of the skill. Students will look at the concepts of force, speed, acceleration, inertia and more to analyse simple and complex movements to create improvement. |
This elective will have both practical and theoretical components.

<table>
<thead>
<tr>
<th>Elective Block 3</th>
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<tbody>
<tr>
<td><strong>2D Art</strong></td>
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<tr>
<td>Students will develop their artistic skills by incorporating set squares, T-squares and other means of technical drawing to have detailed representations of structural design. Students will develop their observational drawing and drafting skills in which they will base their designs from. Students will explore their own architectural/drafting techniques to develop and refine their final design/s. Students will reflect and analyse the work of iconic visual representations culminating in a visual analysis. Through combined classes, students will focus on being ‘an artist as a recorder’. In doing this, students will be able to work through a range of varying levels of artistic expression which will be demonstrated through an understanding of ways visual communications are made in particular cultural and historical contexts.</td>
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<table>
<thead>
<tr>
<th><strong>Languages - German</strong></th>
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</thead>
<tbody>
<tr>
<td>In Years 8, 9 and 10, students can choose to continue on with their language learning through the German language elective. This subject will extend students of all abilities to further consider the link between language and culture. Students will use a variety of authentic German texts including books and films, to investigate German history and culture. Students practice expressing themselves and communicating with others in German, and improve their ability to problem solve and find meaning.</td>
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<table>
<thead>
<tr>
<th><strong>Applied Stem</strong></th>
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<tbody>
<tr>
<td>Students will explore areas such as heat, light, pressure, sound, motion and forces through project-based learning programs related to industry-based applications of sensor technologies in manufacturing, aerospace, cars, biomedicine, robotics, computers, smart phones, household products, security systems, smart phones. Students will learn how to design and construct electronic sensor circuits, develop programming software and explore the value of data-logging collection methods. This course will have both theoretical and practical components.</td>
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<table>
<thead>
<tr>
<th><strong>Food Technology 2 Home Grown</strong></th>
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</thead>
<tbody>
<tr>
<td>During this unit students will investigate various regions throughout Australia and prepare foods using produce recognised for that area or produced in that area. For example apples from Tasmania, burgers from Melbourne (these were introduced when the American fleet docked in Melbourne during the 1940’s), ginger from Buderim, and tuna from Port Lincoln. Students will be required to attend an excursion to the Queen</td>
</tr>
</tbody>
</table>
Victoria Market, at an additional cost, to explore the vast array of foods we have available to us. A design brief will be completed using products grown within Australia – home grown. An additional charge will apply to participate in this unit of work.

| Web Design/Coding | Web Design | Students choose between plain text and graphic web design methods and apply a design process to create a web site of their own.  
Coding | Students will be introduced to or build on programming skills in a variety of programming languages, both block based and script based. |
VCE Studies available in Elective Block

VCE studies have 3 more sessions per fortnight than an elective. Students choosing a VCE study may need to miss some of their other classes or if timetabled, remain until 4pm on some days.

Information on Unit 3 & 4 are provided, however if a student chooses unit 1 & 2, there is no compulsion to continue to unit 3 & 4. Students wishing to complete a VCE study need to indicate this on their sheet and there will be a meeting to discuss the appropriate pathway.

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 micro-organisms that live in seemingly inhospitable conditions. It is a study of the dynamic relationships between living things, and their environment and the challenges of survival.*

Unit 1: Unity and diversity

In this unit students study the activities of cells and their structure and function at light and electron microscope levels. The composition of cells and cell replication is linked to type, cell growth and size division. The transport processes across plasma membranes is investigated.

**Outcome 1**
On completion of this unit the student should be able to design, conduct and report on a practical investigation related to cellular structure, organisation and processes.

**Outcome 2**
On completion of this unit the student should be able to describe and explain the relationship between features and requirements of functioning organisms and how these are used to construct taxonomic systems.

Unit 2: Organisms and their environment

In this unit students study environmental factors common to all habitats and investigate structural and physiological adaptations of organisms to particular ecological niches. Plant growth responses are also investigated. Behavioural and reproductive adaptations are used to study individual and group behaviour of animals.

**Outcome 1**
On completion of this unit the student should be able to explain and analyse the relationship between environmental factors, and adaptations and distribution of living things.

**Outcome 2**
On completion of this unit the student should be able to design, conduct and report on a field investigation related to the interactions between living things and their environment, and explain how ecosystems change over time.

**Assessment Tasks**

- Cell specialisation presentation
- Practical Activities
- Written Tests
- Exam

Unit 3: Signatures of life

Students investigate the significant role of proteins in cell functioning. They explore how technological advances have provided improved knowledge and understanding of the roles proteins play in cell functions. The study of the structure and function of DNA and RNA leads...
students to investigate the diversity of proteins.

**Outcome 1**
On completion of this unit the student should be able to analyse and evaluate evidence from practical investigations related to biochemical processes.

**Outcome 2**
On completion of this unit the student should be able to describe and explain coordination and regulation of an organism’s immune responses to antigens at the molecular level.

**Unit 4: Continuity and change**
In this unit students focus on molecular genetics and investigate individual units of inheritance and the genomes of individuals and species. A study of asexually reproducing and sexually reproducing organisms is included. Students undertake practical investigations that involve the manipulation of DNA and inheritance traits.

**Outcome 1**
On completion of this unit the student should be able to analyse evidence for the molecular basis of heredity, and patterns of inheritance.

**Outcome 2**
On completion of this unit the student should be able to analyse and evaluate evidence for evolutionary change and evolutionary relationships, and describe mechanisms for change including the effect of human intervention on evolutionary processes.

**Assessment Tasks**
- Written report on a practical activity on the movement of a substance across a membrane.
- A summary report of a practical activity related to biochemical process.
- A summary report of a plant or animal response to chemical and/or physical stimuli.
- An oral presentation of one aspect of an immune response.
- A summary report of a practical activity related to a genetic cross using first hand data.
- A summary report of a practical activity on a DNA manipulation technique.
- A written report that demonstrates evolutionary relationships using second hand data.
- A written response to an issue related to an application or gene technology.

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

**Unit 1: Computing**
In this unit students focus on how data, information and networked digital systems can be used to meet a range of user’s current and future needs.

**Outcome 1.**
On completion of this unit the students should be able to acquire, secure and interpret data, and design and develop a graphic solution that communicates the findings of an investigation.

**Outcome 2.**
On completion of this unit students should be able to design a network with wireless capability that meets an identified need or opportunity, explain its configuration and
predict risks and benefits for intended users.

**Outcome 3.**
On completion of this unit students should be able to design and develop a website collaboratively with others that presents an analysis of a contemporary issue and the team’s point of view on the issue.

**Assessment Tasks**
- Variety of Case Studies
- Tests
- Revision Summary sheets

**Unit 2: Computing**
In this unit students focus on data and how the application of computational, design and systems thinking skills support the creation of solutions that automate the processing of data.

**Outcome 1.**
On completion of this unit students should be able to design working modules in response to solution requirements and use a programming or scripting language to develop the modules.

**Outcome 2.**
On completion of this unit students should be able to apply the problem-solving methodology and use appropriate software tools to extract relevant data and create visualization that meets a specific user’s needs.

**Outcome 3.**
On completion of this unit students should be able to apply the problem-solving methodology to create a solution using database management software, and explain the personal benefits and risks of interacting with a database.

**Unit 3: Informatics**
In Informatics Units 3 and 4 students focus on data, information and information systems. In Unit 3 students consider data and how it is acquired, managed, manipulated and interpreted to meet a range of needs.

**Outcome 1.**
On completion of this unit students should be able to design a solution, develop it using a relational database management system, and diagrammatically represent how users interact with an online solution when supplying data for a transaction.

**Outcome 2.**
On completion of this unit students should be able to use a range of appropriate techniques and processes to acquire, prepare, manipulate and interpret complex data to confirm or refute a hypothesis, and formulate a project plan to manage progress.

**Unit 4: Informatics**
In this unit students focus on strategies and techniques for manipulating, managing and securing data and information to meet a range of needs.

**Outcome 1.**
On completion of this unit students should be able to design, develop and evaluate a multimodal online solution that confirms or refutes a hypothesis, and assess the effectiveness of a project plan in managing progress.

**Outcome 2.**
On completion of this unit students should be able to compare and contrast the effectiveness of information management strategies used by two organisations to
manage the storage and disposal of data and information, and recommended improvements to their current practices.
Mathematics
Mathematics is the study of function and pattern in number logic, space and structure. Students will apply mathematical skills to solve standard problems; use mathematics when dealing with real life situations and use technology to support their learning.

Units 1 & 2: Units 3 & 4:
- General Mathematics
- Further Mathematics
- General Mathematics – Methods
- Mathematical Methods
- General Mathematics – Specialist
- Specialist Mathematics

General Mathematics -Further
These units are intended for a wide range of students who require a Year 11 Maths or intend to study Further Mathematics at Unit 3 & 4.

Unit 1: Topics include univariate statistics, algebraic techniques, linear functions and matrices.

*Outcome 1*
On completion of each unit the student should be able to define and explain key concepts in relation to the topics from the selected areas of study, and apply a range of related mathematical routines and procedures.

*Outcome 2*
On completion of each unit the student should be able to apply mathematical processes in non-routine contexts, and analyse and discuss these applications of mathematics in at least three areas of study.

*Outcome 3*
On completion of each unit the student should be able to use technology to produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches in at least three areas of study.

Unit 2: Topics include bivariate statistics, financial mathematics and trigonometry.

*Outcome 1*
On completion of each unit the student should be able to define and explain key concepts in relation to the topics from the selected areas of study, and apply a range of related mathematical routines and procedures.

*Outcome 2*
On completion of each unit the student should be able to apply mathematical processes in non-routine contexts, and analyse and discuss these applications of mathematics in at least three areas of study.

*Outcome 3*
On completion of each unit the student should be able to use technology to produce results and carry out analysis in situations requiring problem-solving, modeling or investigative techniques or approaches in at least three areas of study.

Assessment Tasks
- Univariate Test
- Bivariate Statistics Test
- Algebraic Techniques Test
- Financial Statistics Analysis Task
- Linear Functions Test
- Trigonometry Test
- Matrices Test
Further Mathematics consists of a compulsory area of study ‘Data Analysis’ and then a selection of three from five modules in the ‘Applications’ area of study. The topics for the five modules include number patterns and applications, geometry and trigonometry, graphs and relations, business related mathematics, networks and decision mathematics.

Unit 3
Outcome 1
On completion of this unit the student should be able to define and explain key terms and concepts as specified in the content from the areas of study, and use this knowledge to apply related mathematical procedures to solve routine application problems.

Outcome 2
On completion of this unit the student should be able to use mathematical concepts and skills developed in the ‘Data analysis’ area of study to analyse a practical and extended situation, and interpret and discuss the outcomes of this analysis in relation to key features of that situation.

Outcome 3
On completion of this unit the student should be able to select and appropriately use technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modeling or investigative techniques or approaches in the area of study ‘Data analysis’ and the selected module from the ‘Applications’ area of study.

Unit 4
Outcome 1
On completion of this unit the student should be able to define and explain key terms and concepts as specified in the content from the ‘Applications’ area of study, and use this knowledge to apply related mathematical procedures to solve routine application problems.

Outcome 2
On completion of this unit the student should be able to apply mathematical processes in contexts related to the ‘Applications’ area of study, and analyse and discuss these applications of mathematics.
Psychology

Psychology explores the complex interactions between biological, psychological and social factors that influence human behavior, thought and emotions. Students apply their learning to everyday situations such as the workplace and gain insight into psychological health issues within society. Students also develop a range of inquiry skills involving practical experimentation and research as they use scientific and cognitive skills to analyse contemporary psychology-related issues and communicate their findings. As well as increased understanding of scientific processes, students develop capacities that enable them to critically assess the strengths and limitations of science and gain an awareness of the ethical, social and political context of scientific endeavours.

Unit 1: How are behavior and mental processes shaped?

In this unit students investigate the structure and functioning of the human brain and the role it plays in the overall functioning of the human nervous system. Students explore brain plasticity and the influence that brain damage may have on a person’s psychological functioning. They consider the complex nature of psychological development, including situations where psychological development may not occur as expected. Students examine the contribution that classical and contemporary studies have made to an understanding of the human brain and its functions, and to the development of different psychological models and theories used to predict and explain the development of thoughts, feelings and behaviours. A student-directed research investigation related to brain function and/or development is undertaken in this unit.

**Outcome 1: How does the brain function?**
On completion of this unit the student should be able to describe how understanding of brain structure and function has changed over time, explain how different areas of the brain coordinate different functions, and explain how brain plasticity and brain damage can change psychological functioning.

**Outcome 2: What influences psychological development?**
On completion of this unit the student should be able to identify the varying influences of nature and nurture on a person’s psychological development, and explain different factors that may lead to typical or atypical psychological development.

**Outcome 3: Student-directed research investigation**
Students analyse the scientific evidence that underpins the research in response to a question of interest. They then communicate the findings of their research investigation and explain the psychological concepts, outline contemporary research and present conclusions based on the evidence.

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

In this unit students investigate how perception of stimuli enables a person to interact with the world around them and how their perception of stimuli can be distorted, looking at taste and sight. They evaluate the role social cognition plays in a person’s attitudes, perception of themselves and relationships with others. Students explore a variety of factors and contexts that can influence the behaviour of an individual and groups.

**Outcome 1: What influences a person’s perception of the world?**
On completion of this unit the student should be able to compare the sensations and perceptions of vision and taste, and analyse factors that may lead to the occurrence of perceptual distortions.

**Outcome 2: How are people influenced to behave in certain ways?**
On completion of this unit the student should be able to identify factors that influence
individuals to behave in specific ways, and analyse ways in which others can influence individuals to behave differently.

**Outcome 3: Student-directed practical investigation**

On completion of this unit the student should be able to design and undertake a practical investigation related to external influences on behaviour, and draw conclusions based on evidence from collected data.

**Assessment Tasks in Unit 1 and 2:**

In each unit students need to complete:
- logbook of activities
- tests comprising of multiple choice, short answer and extended response
- investigative poster
- essay responding to a case study
- lab report of own practical investigation
- mid and end-of-year examination containing Multiple choice questions, short answer and extended response.
Unit 3: How does experience affect behavior and mental processes?
In this unit students examine both macro-level and micro-level functioning of the nervous system to explain how the human nervous system enables a person to interact with the world around them. They explore how stress may affect a person’s psychological functioning and consider the causes and management of stress. Students investigate how models of memory and learning lead to increased knowledge, the development of new capacities and changed behaviours. They consider the limitations of memory and how memory can be improved.

**Outcome 1: How does the nervous system enable psychological functioning?**
On completion of this unit the student should be able to explain how the structure and function of the human nervous system enables a person to interact with the external world and analyse the different ways in which stress can affect nervous system functioning.

**Outcome 2: How do people learn and remember?**
On completion of this unit the student should be able to apply biological and psychological explanations for how new information can be learnt and stored in memory, and provide biological, psychological and social explanations of a person’s inability to remember information.

Unit 4: How is wellbeing developed and maintained?
In this unit students examine the nature of consciousness and how changes in levels of consciousness can affect mental processes and behaviour. They consider the role of sleep and the impact that sleep disturbances may have on a person’s functioning. Students explore the concept of a mental health continuum and apply a biopsychosocial approach, as a scientific model, to analyse mental health and disorder. They use specific phobias to illustrate how the development and management of a mental disorder can be considered as an interaction between biological, psychological and social factors. Students examine the contribution that classical and contemporary research has made to the understanding of consciousness, including sleep, and the development of an individual’s mental functioning and wellbeing.

**Outcome 1: How do levels of consciousness affect mental processes and behavior?**
On completion of this unit the student should be able to explain consciousness as a continuum, compare theories about the purpose and nature of sleep, and elaborate on the effects of sleep disruption on a person’s functioning.

**Outcome 2: What influences mental wellbeing?**
On completion of this unit the student should be able to explain the concepts of mental health and mental illness including influences of risk and protective factors, apply a biopsychosocial approach to explain the development and management of specific phobia, and explain the psychological basis of strategies that contribute to mental wellbeing.

**Outcome 3: Practical investigation**
On completion of this unit the student should be able to design and undertake a practical investigation related to mental processes and psychological functioning, and present methodologies, findings and conclusions in a scientific poster.

**Unit 3 and 4 Assessment Tasks:**
- Annotations of activities in logbook
- Tests incorporating multiple choice, short answer and extended response
- Visual presentation
- Report of investigation
- Structured scientific poster
- Media response
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 art making. 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 area of study focuses on the development of individual ideas and the identification of sources of inspiration to be used as starting points for making art. Students explore art making practices that use a variety of methods to communicate and develop ideas.

Outcome 1
On completion of this unit the student should be able to source inspiration, identify individual ideas and use a variety of methods to translate these into visual language.

Outcome 2
On completion of this unit the student should be able to explore and use a variety of materials and techniques to support and record the development of individual ideas to produce artworks.

Outcome 3
On completion of this unit the student should be able to discuss how artists from different times and cultures have interpreted sources of inspiration and used materials and techniques in the production of artworks.

The assessment task for Outcomes 1 and 2 is:
- a selection of exploratory work showing sources of ideas and inspiration translated into visual form through the use of a variety of materials and techniques.

Assessment tasks for Outcome 3 are:
- an extended response
- short-answer responses
- Exam

Unit 2: Design exploration and concepts
This unit focuses on students establishing and using a design process to produce artworks. Students also develop skills in the visual analysis of artworks. Artworks made by artists from different times and cultures are analysed to understand the artists’ ideas and how they have created aesthetic qualities and identifiable styles.

Outcome 1
On completion of this unit the student should be able to develop an individual design process, including visual research and inquiry, in order to produce a variety of design explorations to create a number of artworks. Outcome 2
On completion of this unit the student should be able to analyse and discuss the ways in which artists from different times and cultures have created aesthetic qualities in artworks, communicated ideas and developed styles.

Assessment Tasks
The assessment task for Outcome 1 is: a folio including design explorations and artworks.

Assessment tasks for Outcome 2 are:
- an extended response;
- short-answer responses.
Exam

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.

Outcome 1
On completion of this unit the student should be able to prepare an exploration proposal that formulates the content and parameters of an individual design process, and that includes a plan of how the proposal will be undertaken.

Outcome 2
On completion of this unit the student should be able to present an individual design process that produces a range of potential directions, which reflects the concepts and ideas documented in the exploration proposal.

Outcome 3
On completion of this unit the student should be able to discuss art practices in relation to particular artworks of at least two artists and analyze ways in which artists develop their styles.

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.

Outcome 1
On completion of this unit the student should present a cohesive folio of finished artworks, based on selected potential directions developed through the design process, that demonstrates skilful application of materials and techniques and that realizes and communicates the student’s ideas.

Outcome 2
On completion of this unit the student should be able to provide visual and written documentation that identifies the folio focus and evaluates the extent to which the finished artworks reflect the selected potential directions, and effectively demonstrate a cohesive relationship between the works.

Outcome 3
On completion of this unit the student should be able to examine and explain the preparation and presentation of artworks in at least two different exhibition spaces, and discuss the various roles, processes and methods involved in the exhibition of artworks.