



# Senior School Handbook 2026



## OUR VISION

The Lowanna College community is committed to high expectations and believes all students will achieve excellence in their endeavours.



# Guide to Senior School

## Welcome to Senior School

During the senior years of education, our sense of self grows rapidly, and we become acutely aware of all the varied opportunities that study and life offer. As you approach your final years at Lowanna College, do so with the confidence that your teachers understand the particular nature of the senior years of schooling and strive to ensure that these transitional years to adulthood are rich and fulfilling.

The final years of secondary school present some wonderful opportunities to explore subjects and pathways that students find particularly engaging. No other student will necessarily choose the same combination of subjects as you.

Our pursuit is your pursuit – we hope that you will achieve all you are capable of achieving and do so within an environment that is nurturing and supportive. We recognise you as the individuals you are and the adults you are becoming. Both academically and as individuals, we look forward to supporting and guiding you through these years and ultimately leading you to the next phase in your life.

The College, along with your parents or guardians and wider community, will direct its efforts to ensure that these will be years you will remember with great pride and personal satisfaction. The coming years, with their challenges and possibilities, present an

opportunity for all young adults to thrive and we encourage you to embrace them with enthusiasm and hope.

The Senior School of the College offers:

- ▶ A commitment to excellence—both academic and practical
- ▶ A caring environment concerned with the welfare of all students
- ▶ Experienced and committed staff
- ▶ A commitment to providing equal opportunity to all students
- ▶ State of the art facilities
- ▶ Close links with Federation Training, Community College Gippsland (CCG) and other Registered Training Organisations (RTOs), especially in the delivery of VET courses
- ▶ A work placement program for VCE-VM
- ▶ Career Action Plans
- ▶ Counselling in relation to tertiary study requirements and opportunities to visit Universities and TAFE Colleges
- ▶ Opportunities to engage with the Headstart program

This booklet is designed to provide you with information so you will be able to develop a program which best suits your needs and aspirations.

## The Senior School Team

The Senior School Team is responsible for the development of student programs, monitoring student progress, student welfare and links to the VCAA, VQA and other providers and industry. All members of the team are available to assist and should you need any information or advice, please ask.



## Table of Contents

Planning and Selecting Your Course .....	3
Student Workload .....	5
Additional Programs .....	6
Head Start .....	6
Advance to University (ATU) .....	6
Sports Academy .....	7
Victorian Certificate of Education (VCE) .....	8
Vocational Education and Training (VET) .....	10
VCE Vocational Major (VCE-VM) .....	11
Art .....	12
Art Creative Practice .....	12
Music .....	13
VET Music .....	14
Health & Physical Education .....	15
Outdoor & Environmental Studies .....	15
Physical Education .....	15
Health & Human Development .....	16
VET VCE Cert III in Sport & Recreation .....	16
VET VM Sport & Recreation .....	17
English .....	18
Mathematics .....	19
Humanities .....	21
Sociology .....	21
Business Management .....	21
Legal Studies .....	21
History .....	22
Languages .....	23
Science .....	24
Psychology .....	24
Biology .....	25
Chemistry .....	25
Physics .....	26
Technology .....	27
Food Studies .....	27
Computing .....	28
Product Design & Technology .....	29
Systems Engineering .....	30
Career Planning .....	31



# Planning & Selecting your Course

The information in this handbook is designed to help Year 10 and Year 11 students and their parents make appropriate and informed choices about VCE units and program selection for 2026. Selecting preferences for Year 11 or 12 is an exciting time. The range of choices available, the possible career options and personal interests can also make it feel a little daunting.

Students select a program over two or three years that satisfies the requirements of the Victorian Curriculum Assessment Authority (VCAA). There is provision for students to take longer to complete their studies and to change direction during that time. Students need to be aware of choosing a meaningful course of study, which will provide pathways into further study and employment.

When selecting subjects, students should carefully check pre-selection requirements for any courses or career paths they may be considering. All students should check the current VTAC Guide and the publications on university and TAFE entrance requirements before making final selections. The following questions should also help guide subject choices:

- Am I interested in this study?
- Is it a study containing the right level of difficulty for me?
- Do my teachers and parents think it is a wise choice?

The good news is that by making a choice now, you are not bound to it for life. So relax and think about what you like, are good at and what field of study or work you are interested in pursuing. Keep in mind there are no tricks to getting a good ATAR. The ATAR represents your overall performance across all studies, not individual subjects. To get a good ATAR, you should therefore pick subjects that interest you and in which you can perform well.

Subjects will only run if there is sufficient demand from students. The feasibility of a class running is dependent on many variable constraints: the timetable, the minimum class size and the physical and human resources available at the College. Many of these issues cannot be dealt with until late in the year when results are known and the program for the rest of the College is determined. We will always endeavour to satisfy the choices and requirements of as many students as possible. Unfortunately, there can be situations where students may not receive their first choice of subject.

Take time to select your subjects as you enter Year 11, as this will form the basis for your studies for the next 2 years. Think about your areas of passion. Success is about reaching your goal and not giving in. Whatever your dream is, it requires hard work and dedication to make it happen. In most cases you will need to plan and, most importantly, have a number of options just in case. While there are no guarantees, there are some things you can do to make sure you get the most out of your program:

- use your teachers and school as a resource
- ask questions, seek and apply feedback
- be consistent, planned and purposeful in your study and homework

We have trained course counsellors who meet with Year 10 students and their families to ensure each student is well informed when making subject choices. Our advice is for students to select subjects they have a passion for and also any subjects that are prerequisites for particular career pathways they are interested in pursuing in the future. If choices are made with these criteria in mind then students are more likely to discover career pathways that are very rewarding.

We pride ourselves on supporting students in achieving excellent learning outcomes. We are committed to ensuring every student is supported in their final years of schooling to help them pursue their future pathway.

## Where to get information

Where to get information

### CAREERS ADVICE:

Available from the Lowanna College Careers Resource Centre (Room A10)  
Telephone: 03 5127 9225

### ‘WHERE TO NOW’ BOOKLET:

Hard copies provided to all Year 10 students. Also available to everyone as a digital download: <https://www.vcaa.vic.edu.au/Documents/wtn/2023WhereToNow.pdf>

### LOWANNA COLLEGE WEBSITE:

[www.lowanna.vic.edu.au](http://www.lowanna.vic.edu.au)  
Various information sources including the Senior School Handbook

### VTAC GUIDE:

Tertiary and TAFE course listings for Victoria  
[www.vtac.edu.au](http://www.vtac.edu.au) - go to course link

### ENTER INTO TERTIARY COURSES:

VTAC Publication — See the careers team (calculating your ATAR and subject scaling) about this publication.

### VCAA WEBSITE:

[www.vcaa.vic.edu.au](http://www.vcaa.vic.edu.au)  
Telephone: 03 9651 4357

### JOB GUIDE:

Available from Lowanna College Careers Resource Centre



## 4

## Managing Your Study Time

There are only so many hours in a day, a week, and a term. You cannot change the number of hours, but you can decide how to best use them. To be successful in school, you must carefully manage your study time.

Here is a strategy for doing this.

- ▶ At the beginning of a term, prepare a Term Calendar. Update it as the term goes on.
- ▶ Record your school assignments with their due dates and your scheduled tests.
- ▶ Record your planned school activities.
- ▶ Record your known out-of-school activities.
- ▶ Each Sunday before a school week, prepare a Weekly Schedule. Update it as the week goes on.
- ▶ Enter things to be done for the coming week from your Term Calendar.
- ▶ Review your class notes from the previous week to see if you need to add any school activities.
- ▶ Add any out-of-school activities in which you will be involved during the week.
- ▶ Be sure to include times for completing assignments, working on projects, and studying for tests. These times may be during the school day, right after school, evenings, and weekends.

Each evening before a **school day**, prepare a **Daily Organiser** for the next day. Place a ✓ next to each thing to do as you accomplish it.

- ▶ Enter the things to do for the coming day from your Weekly Schedule.
- ▶ Enter the things that still need to be accomplished from your Daily Organiser from the previous day.
- ▶ Review your class notes for the day just completed to see if you need to add any school activities.
- ▶ Add any out-of-school activities in which you will be involved the next day.

Your Weekly Schedule should have more detail than your Term Calendar. Your Daily Organiser should have more detail than your Weekly Schedule. Using a Term Calendar, a Weekly Schedule, and a Daily Organiser will help you make the best use of your time.

For further study tips visit:  
[www.how-to-study.com](http://www.how-to-study.com)

## SAMPLE EXAM STUDY TIMETABLE

Remember to include details from your personal schedule (classes, meal breaks, leisure time, sporting commitments, part time work, etc.) first, and then build your study timetable around this.

Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
9-10am							
10-11am							
11- 12pm							
12- 1pm							
1-2pm							
2-3pm							
3-4pm							
4-5pm							
5-6pm							
6-7pm							
7-8pm							
8-9pm							
9-10pm							

Your success as a Senior School student will be related to many factors:

- ▶ Managing your time effectively to provide for study and for personal interests.
- ▶ Setting attainable work and study goals.
- ▶ Readiness to discuss work-related problems with your teachers.
- ▶ Promptly seeking the assistance of your Coordinator when difficulties arise. The VCE and VCE-VM have procedures to assist students encountering physical, medical, psychological and domestic traumas. Special provision can include time extensions to complete work and in some cases, complete alternate tasks.

A VCE student who is prepared to work consistently at school and at home will succeed. Students will receive advice and assistance in time management and study techniques throughout the year. Coordinators are always available to assist students who experience study or time management problems.

By being a well-organised student, you will be able to pursue personal interests and at the same time be a successful student.

All students will have discussions about their pathways and access to advice.

All VCE units have a number of learning outcomes, all of which must be demonstrated to succeed. The experience of students shows that sensible goals must be set to meet deadlines. Students must expect to work consistently at school and at home to meet all learning outcomes. Home study must be planned and organised.

As a general rule, students in the senior school are recommended to commit to the following guidelines on homework:

- two and a half to three hours per night for Unit 1 & 2 subjects,
- three to four hours per night for Unit 3 & 4 subjects

Ideally, students will spend no more than 10 hours per week in employment in order to allow them to maintain balance in their lives.



# Additional Programs

## Head Start

### What is Head Start?

Head Start is an Apprenticeship and Traineeship pathway for school students allowing them to combine their traditional school education with paid, on-the-job training. This allows students to develop skills employers need in growing industries.

Head Start students leave secondary school with their VCE or VCE-VM and an Apprenticeship or Traineeship.

### The Benefits of Head Start?

Head Start students are supported to grow into skilled Apprentices and Trainees who have the literacy and numeracy skills and on the job experience that employers seek.

Employers and students are supported by Head Start Coordinators over the whole apprenticeship

or traineeship.

Employers are committed to providing genuine, long-term employment opportunities to young people who want to complete both their apprenticeship/traineeship and their VCE/VCE-VM.

Students receive professional career planning advice from their school career practitioner, get the opportunity to discuss it with family and weigh up if it is the right career pathway for them, before signing up to a Head Start apprenticeship or traineeship.

A Head Start student receives;

- ▶ More time on the job in areas of industry demand.
- ▶ Employer support for students to complete their VCE or VCE-VM, as well as their apprenticeship or traineeship.
- ▶ Payment of a fair training wage.
- ▶ Quality training through Victorian TAFE or Skills First Registered Training Organisations.

- ▶ Strong support for the life of their apprenticeship or traineeship.

### Further Information?

For further information, call Patt Frendo, Head Start Coordinator, Gippsland Hub on

0498 448 412 or email

[patrick.frendo@education.vic.gov.au](mailto:patrick.frendo@education.vic.gov.au)



## Advance to University (ATU)

In partnership with Federation University, high-performing students may study first-year university units as part of their VCE program.

### How it works

- Choose from a range of paired university units, including business, health, education, maths, physiology, biology and information technology.
- Your final score in your Advance Studies (two units) may result in an additional ATAR increment.
- There is no Higher Education Contribution Scheme (HECS) debt incurred for any of the university units you study. You may need to factor in costs for textbooks and other learning resources depending on the units chosen.

- Successful completion provides entry to Federation University and credit for both subjects in your first year of study. Entry to some courses may also be subject to additional requirements (e.g. ATAR, VCE pre-requisites).
- Each unit is delivered via flexible online learning, alongside an on-campus orientation session and a number of on-campus enriched learning experiences each semester.
- Students attend an academic preparation program in February, before commencing university studies in March.

### What would make you a good candidate?

- Aspiration to enter tertiary education
- Time management
- Great communication
- Problem solving
- Independent learning skills
- Planning and organisation skills

### Further Information?

For additional details including necessary VCE pre-requisites/co-requisites visit:

[www.federation.edu.au/advance-to-university](http://www.federation.edu.au/advance-to-university)



# Federation University

## Sports Academy

Students can apply to participate in the Sports Academy as an extracurricular program. This is a specialist program and incurs additional fees.

The program aims to:

- Provide diverse sporting and career pathways for students involved in the LSA (Lowanna Sports Academy) to meet their needs and develop their potential.
- Students who want to optimise their education with a balance of sport and academics.
- To develop strong partnerships in peak sporting organisations and related sports industries.
- To promote a “culture of excellence” with focus on academic, personal and sporting development.

Some of the topics covered include:

Individual/team skill coaching, fitness testing, skill and game analysis, game strategies, individual skill practice and development, strength and conditioning, coaching and umpiring (rotating every year), rehabilitation and sports injuries, nutrition for sport performance and recovery and fitness training methods. Due to the complexity of the timetable and selection process, interested students/families are encouraged to seek further information from their mini school.

### Year 11-12

Students who are successful in gaining entry to the program will receive:

- individualised strength and conditioning training programs. These will take place both at school and at Voyage Gym (membership included in program fee).
- before school skills training session.
- weekly skills session.
- excursions.
- guest speaker sessions.
- nutritional consults.

Sports Academy students will have daily check ins with key staff during home group. It is a requirement of the program that students maintain a suitable academic standard and GPA.

The program will incur a fee of **\$450**.

Interested students should complete an EOI form when applications open (online via the Lowanna College website).

Sample study program for:

### Physical Education - Recreation

A traditional course. Each tertiary institution has their own criteria, make sure you seek advice from your careers teacher.

Subject	Units			
	1	2	3	4
English	×	×	×	×
Biology	×	×	×	×
Physical Education	×	×	×	×
Outdoor Education	×	×	×	×
Health	×	×	×	×
Additional Unit	×	×		

**Recommended additional units:**

Design and Technology, Science, Maths, Accounting, History, Economics, Legal Studies, Computing, Informatics, Business Management, Industry & Enterprise.

#### TAFE

**Certificate/Diploma courses in:**

Fitness Instruction, Travel Operations, Beauty Therapy, Tourism

#### UNIVERSITY

**Associate Diplomas/Bachelor Degrees in:**

Recreational Leadership, Human Movement, Applied Science, PE, Outdoor Education, Parks & Recreation, Tourism, Education

**Possible employment outcomes after TAFE/**

**University:**

Teaching, Recreation, Sports Administration, Parks & Wildlife, Youth Work, Ambulance Service, Sports Psychology, Journalism.



# Victorian Certificate of Education (VCE)

The VCE is governed by the Victorian Curriculum and Assessment Authority (VCAA) which is responsible for the curriculum, assessment and reporting of both the Victorian Certificate of Education (VCE) and the Victorian Certificate of Education Vocational Major (VCE-VM).

For further information, refer to the VCAA website: [www.vcaa.vic.edu.au](http://www.vcaa.vic.edu.au)

## Curriculum

VCE studies are made up of semester length units, representing approximately 100 hours of work of which 50 to 60 hours are class time. Each study (subject) offers a sequence of four units, which are generally delivered as one unit in each of four semesters over two years.

Students at Lowanna College usually study twelve Units 1 & 2 subjects in Year 11 and ten Units 3 & 4 subjects in Year 12. Over the two VCE years, students will aim to complete a total of 22 units from a range of studies.

Units 3 & 4 must be studied as a sequence and have external assessments and exams, while Units 1 & 2 are assessed within the college. All studies are designed in such a way that some Units 3 & 4 sequences can theoretically commence without prerequisites. However, a sound study background in a particular area will assist with VCE units.

Staff will offer advice to students/parents/carers at the end of Year 11 about subject choices for Units 3 & 4, based on their Units 1 & 2 results and prerequisites for some subjects.

To be awarded the VCE Certificate:

The minimum requirement for a student's program for the award of the VCE is satisfactory completion of 16 units which include:

- Three units from the English group (see below) which must include a Unit 3 & 4 sequence.
- Three sequences of Units 3 & 4 studies other than English, which can include VCE VET Unit 3 & 4 sequences.

**Please note** that there are different requirements for the Vocational Major stream (see p. 11).

### English requirements

- A minimum of four units of English may be selected from English Units 1 – 4 or Literature Units 1 – 4.
- An English sequence will count as a sequence other than English when (a) it is additional to a student satisfying three units from the English group, or (b) the student has satisfied more than one sequence from the English group.
- Students choosing Literature are strongly recommended to complete English as well.

## Unit Outcomes

Each VCE unit includes a set of two to four outcomes. These outcomes must be achieved for satisfactory completion of the unit.

Achievement of the outcomes is based on the teacher's assessment of the student's performance on assessment tasks, class work, homework and other activities designated for the unit.

Satisfactory completion of units is determined by the school, in accordance with the Victorian Curriculum and Assessment Authority requirements. Students will receive information regarding assessment and other activities at the beginning of the unit.

## Assessment of VCE Units 3&4

All studies have both school assessment and examination(s). There are three assessments reported as grades (A+ to E satisfactory; UG unsatisfactory) for each study.

### ► School Assessed Coursework (SACs)

School assessed coursework is made up of a number of assessment tasks that are specified in the study design. These assessment tasks are used to assess the unit learning outcomes.

- Assessment tasks are part of the regular teaching and learning program.
- Tasks must be completed mainly in class time.
- Tasks are to be completed in a limited time frame.

### ► School Assessed Tasks (SATs)

A small number of studies have school assessed tasks (SATs). In 2026, Product Design and Technology, Food Technology, Creative Art Practice and Systems Engineering have SATs.

### ► Determining and reporting grades

Students' scores will be determined from the rankings given by their teacher on a set of assessment and performance criteria specified by the VCAA.

To ensure that schools' assessments are comparable throughout the state; schools' scores for school assessed tasks and coursework in Units 3 & 4 are moderated using the General Achievement Test (GAT), and if necessary the assessments will be reviewed by VCAA. Students and their parents/carers should be aware that if a student fails to meet the outcome for a task on the first attempt, the student will be allowed to sit for a re-sit task within the following two weeks after school. Students can only sit one re-sit per unit (subject) except in cases of special consideration as approved by the Senior School Leader. If the task is one which is graded, the original grade cannot be altered; only the N (Not Satisfactory) can be changed to an S (Satisfactory) for the unit if the student achieves the stated outcomes on the second attempt.

### ► Examinations – Units 3 & 4

In 2026 all externally assessed written examinations will be conducted in late October/November.

Performance/oral examinations are held in October. Grades for all examinations are determined by VCAA. Final results for Units 1- 4 are issued in December. Please note that in 2026 students studying the Vocational Major at the Units 3 & 4 level will complete the GAT but will not complete external examinations.

### ► Study Scores

In order to qualify for a Study Score, a student must have satisfactorily completed Units 3 & 4 in that study.

Students' overall achievements for each study will be calculated by the VCAA and reported as a Study Score (Relative Position) on a scale of 0 to 50. The Study Scores are used to determine the ATAR (Australian Tertiary Achievement Ranking) for the student (if the student has satisfactorily completed their VCE and has applied for a tertiary course through VTAC).

## Vocational Education and Training (VET)

VET programs are fully integrated into the VCE. This means that they are independent studies at Units 1, 2, 3 and 4 levels and also form a compulsory part of the Vocational Major pathway. Students are able to include a VET Unit 3 & 4 sequence as one or more of the three studies other than English needed to gain their VCE.

Full VCE study scores are available for some VCE VET Units 3 & 4. Some VCE VET results contribute directly to the calculation of the ATAR. Other VET courses may contribute as an increment (5th or 6th subject).

Scored VCE VET studies have two Graded Assessments for each Unit 3 & 4 sequence.

## Tertiary Entrance

The tertiary entrance requirements change annually and students/parents/carers need to check that details are appropriate to the year they will seek entry to tertiary courses. Year 10 students should check the Prerequisites for 2026 Tertiary Entrance Requirements published in the daily papers in July/August 2023 or make an appointment with a member of the College Careers team.

## The Australian Tertiary Admission Rank (ATAR)

The ATAR is calculated by adding together the student's study score in English study plus the three next best study scores (the 'primary four') and then adding 10% of the score obtained for a maximum of two other studies in Units 3 & 4. Completion of a higher education study (e.g. Advance to University) can count as an increment only.



# Victorian Certificate of Education (VCE)

NOTE: Victorian Tertiary Admissions Centre (VTAC) advises that for the calculation of a student's Australian Tertiary Admission Rank (ATAR), satisfactory completion of both Units 3 & 4 of an English sequence is also required. Students who do a first year university study at Year 12 will have demonstrated their ability to cope with university standard work, and this may influence selection officers when they are considering a student's application to do a tertiary course. If passed, such studies gain credit towards a degree upon entry to university.

## VCE Requirements

### ► Promotion

In most instances, entry into Year 12 depends upon satisfactory completion (S) of a minimum of ten units. Continuation in a subject requires assessment grades which indicate competence in that subject. This is generally indicated by a 'C' grade or better. Results achieved under examination conditions are particularly important. Promotion is considered in consultation with parents/carers.

In addition, parents/carers have the opportunity to attend formal interviews at Parent/Student/Teacher Conferences. Parents/carers may request an interview with the Senior School Leader or a Coordinator at any time if they have concerns about their child's progress. Attending parent teacher conferences and ensuring feedback in semester reports is discussed at home will support progress.

### ► Attendance

At Lowanna College all students in Years 11 and 12 are required to attend college for a minimum of 90% of scheduled classes to complete the year or the semester unit satisfactorily.

Absences covered by medical certificates or appropriate professional evidence are not normally included in the 90%. Lateness to class will be treated as an absence on a pro-rata basis. If students are ill and have missed the date for completion of coursework, a valid medical certificate must be provided immediately on return to school before the student will be allowed to undertake coursework which has been missed. The college cannot accept medical certificates where a doctor is unable to confirm that a student was ill on a particular day.

Assessment in the VCE is continuous and is based on completion of set tasks throughout the unit. Students need to attend regularly and may have their enrolment reviewed if attendance is poor. Where a student has completed work but there has been a substantial breach of attendance rules, the college can withdraw the VCAA enrolment for the student in that subject.

### ► Homework

It is an expectation of the College that in addition to scheduled class time, students spend at least 2.5 to 3 hours per week of self-directed learning for each VCE unit. This expectation extends to school term breaks.

## School Assessed Coursework (SACs) and School Assessed Tasks (SATs)

There are a number of requirements associated with the completion of assessment work and tasks at the college. These are provided to students in the VCE Handbook and set out college requirements around attendance at assessment activities, illness and absence from a SAC, procedures for a re-sit if a task has not been completed or has not been satisfactorily completed. The college bases the handbook on the advice and requirements of the VCAA (Administrative Handbook). There are different assessment arrangements in place for the Vocational Major as assessment is ongoing and integrated into classroom activities. Students in the Vocational Major work towards a Satisfactory result for each outcome in the subject.

## General Achievement Test (GAT)

All students undertaking a Unit 3 & 4 study, regardless of their year level, are required to sit for the General Achievement Test (GAT) which is set by the VCAA. The score achieved by the students on their GAT is compared to the scores they achieve for their coursework. It may also be used in the statistical moderation process and for the calculation of a Derived Examination Score (DES) if required in an examination. It is in the students' best interests to do as well as they possibly can on the GAT.

## Special Provision- Examinations and School Assessment

Arrangements are made to allow students who are experiencing significant hardship the maximum opportunity to demonstrate both what they know and what they can do. Parents/carers who believe their child is eligible for special provision should discuss this with the Senior School Leader to see if arrangements can be put in place.

NOTE: Special provision will not be given to a student who has been absent from school or study for prolonged periods. Where prolonged absence has occurred, it may be necessary to repeat the unit.

## Authentication of Student Work

Students must submit for assessment only work that is their own. All assistance received by the students in producing the work must be acknowledged and made obvious to the reader. Students are responsible for ensuring the teacher has no difficulty in authenticating their work.

VCAA states that:

1. Students must ensure that all unacknowledged work submitted for coursework is genuinely their own.
2. Students must acknowledge all resources used, including:
  - (a) Text and source material
  - (b) The name(s) and status of any person(s) who provided assistance and the type of assistance provided.
3. A student must not receive undue assistance from any other person in the preparation and submission of work.
4. Students must not submit the same piece of work for assessment more than once.
5. Students who knowingly assist other students in a Breach of Rules may be penalised.
6. Students must sign the Declaration of Authenticity at the time of submitting the completed task. This declaration states that all unacknowledged work is the student's own. Students must also sign a general declaration that they will observe the rules and instructions for the VCE and accept disciplinary provisions.

If a suspected breach of the rules about authentication occurs, the parents and student concerned will be notified in writing and invited to appear before a panel convened by the college. Parents/carers cannot advocate on behalf of students. The panel will make a determination based on the information and evidence presented. Consequences for a breach may include a reprimand, resubmission of work, refusal to accept all or part of the work – it may result in a 'N' if the infringement is deemed serious or if very little or none of the work can be authenticated.

## Appeals

Students have a right of appeal to the VCAA against the decision of the principal if a penalty has been imposed because of a breach of the VCAA rules set out above.

There is no appeal to the VCAA in the case of a school refusing to accept the late submission of work.



# Vocational Education and Training (VET)

## VET at Lowanna

Students are able to choose a VCE VET program as part of their VCE, which means that they will be undertaking training in a specific vocational area (e.g. Hospitality, Animal Studies, Information Technology or Allied Health).

VET is intended to broaden the range of study options available to students in VCE. It is about training for the workplace and is industry-based.

These courses are incorporated into the VCE and are endorsed by the Victorian Curriculum and Assessment Authority. Over a two-year period (Years 11 and 12) a student will be able to complete their VCE and one of the certificate courses simultaneously. VET studies also form an integral part of the VCE-VM program.

VCE VET programs will give you credit at Units 1–4. A number of the programs also have a study score available and these and most others contribute to the ATAR (Australian Tertiary Admissions Rank). A program booklet for each of the VCE VET programs is available on the VCAA website at [www.vcaa.vic.edu.au](http://www.vcaa.vic.edu.au).

All students who select the VCE-VM program are required to undertake a VET study.

It is most important that students interested in these courses seek advice and details from the Careers team.

It is important to note the following in relation to VET courses offered by Lowanna College as part of VCE Studies:

- Enrolment in VET programs may result in additional costs for materials at TAFE Institutions.
- Students are responsible for their own transport to and from TAFE/provider institutions.
- As the courses are offered in collaboration with other government, Catholic and private schools, students will often be involved in mixed classes.
- These classes are usually timetabled on a Wednesday and students will be required to stay up to date with work missed in usual scheduled classes.

## How to apply

There is an increasing demand for VET places, and students interested in a VET course must list the VET course on their subject application form and attend a compulsory induction day in November. Applying does not guarantee automatic entry.

## School Based Apprenticeships & Traineeships (SBAT)

These are described in the “Where to Now” booklet. The College recommends this type of training as an alternative for students who are considering VET courses. Several key points should be noted:

- For a student to be signed up for a SBAT, an employer must be found who is prepared to take on the student, not just for part-time work, but also for on-the-job training.
- A SBAT requires that a number of VCE or VCE-VM studies be undertaken and a course be undertaken with an RTO. The course would probably be over two years and would probably involve 1 or 2 days with the employer, and 3 or 4 days at school or similar arrangements.

## Courses

Some courses may include:

- ▷ Certificate III in Allied Health Assistance
- ▷ Certificate III in Childhood Education and Care
- ▷ Certificate II in Building and Construction Pre-Apprenticeship (Carpentry)
- ▷ Certificate II in Building and Construction Pre-Apprenticeship (Bricklaying)
- ▷ Certificate II in Building and Construction Pre-Apprenticeship (Painting and Decorating)
- ▷ Certificate II in Plumbing
- ▷ Certificate II in Civil Construction
- ▷ Certificate II in Electrotechnology (Career Start)
- ▷ Certificate II in Integrated Technologies (3D Printing and Robotics)
- ▷ Certificate II in Engineering Fabrication and Fitting
- ▷ Certificate II in Automotive Vocational Preparation
- ▷ Certificate II in Hospitality
- ▷ Certificate II in Kitchen Operations
- ▷ Hair and Beauty Skills Set
- ▷ Certificate III in Business
- ▷ Certificate III in Screen and Media
- ▷ Certificate III in Visual Arts
- ▷ Certificate II in Animal Care
- ▷ Certificate II in Agriculture
- ▷ Certificate II in Conservation and Ecosystem Management
- ▷ Certificate II in Horticulture



## What is the VCE – Vocational Major (VCE-VM)?

The VCE Vocational Major (VM) is a new vocational and applied learning program that sits within the VCE. It comprises of four subjects that have been added to the VCE subjects offered. The new Vocational Major has an 'Applied Learning Approach' which involves students engaging in relevant and authentic learning experiences.

The Vocational Major is the replacement for the Intermediate and Senior VCAL and is a two-year program at Years 11 and 12. Only students who enrol in the full program can choose this pathway.

The Vocational Major will prepare students for a transition into apprenticeships, traineeships, further education and training. There can be university access through alternative entry programs, and it also provides direct access into the workforce.

There are no external examinations for the VCE VM studies and therefore students completing a Unit 3 & 4 subject will not receive a Study Score (as they do in VCE) and are not eligible for an ATAR.

## How is the VCE-VM structured?

The VCE VM has specific subjects designed to prepare students for a vocational pathway. Students study four specific subjects:

VM Numeracy, VM Literacy, VM Personal Development Skills, VM Work Related Skills and a VET Certificate. Students at the college will also complete two structured work placements: one in each semester.

Each subject has four units (students complete two units each year) and each unit has a set of outcomes which are assessed through a range of learning activities and tasks. Students have the opportunity to apply their knowledge and skills in practical settings and also undertake community-based activities and projects that involve them working in a team.

## What do students have to do to complete their VCE-VM?

Students must satisfactorily complete at least 16 units over the two years of the VM Certificate including:

- 3 VCE VM Literacy or VCE English units (including a Unit 3-4 sequence)
- 3 other Unit 3-4 sequences (from the list below)
- 2 VCE VM Numeracy or VCE Maths units
- 2 VCE VM Work Related Skills (WRS) units
- 2 VCE VM Personal Development Skills (PDS)
- 2 VET credits at Certificate II or above

Students will also undertake structured workplace learning (SWL).

## Satisfactory completion of a VCE or VM unit

The decision to award a Satisfactory or Not Satisfactory is determined at the school level of each unit. The decision is based on the work submitted and completed by the student and must follow VCAA, and school rules and procedures as outlined in the previous pages.

In each of the Certificate Levels students are required to undertake education and training options in the 6 following Strands:

### 1. English

#### ▲ VCE-VM Literacy

VCE Vocational Major Literacy focuses on the development of the knowledge and skills required to be literate in Australia today. Literacy empowers students to read, write, speak and listen in different contexts. Literacy enables students to understand the different ways in which knowledge and opinion are represented and developed in texts drawn from daily life. By engaging with a wide range of text types and content drawn from a range of local and global cultures, forms and genres, students learn how information can be shown through print, visual, oral, digital and multimodal representations.

### 2. Maths

#### ▲ VCE-VM Numeracy

Numeracy develops mathematical knowledge, skills and practical applications in relation to the home, work and community. Students will use a range of mathematical skills including: designing, measuring, constructing, using graphical information, money, time and travel.

### 3. VET Credits

- ▲ VET Certificate Course — students can undertake any one of the alternatives offered.

Students undertaking the VCE-VM must complete a minimum of 180 hours in an accredited VET course to meet the minimum requirements.

For a list of VET courses available please refer to the VET in Schools information provided to you.

### 5. Professional Development Skills

The purpose of the Personal Development Skills (PDS) is to develop knowledge, skills and attributes that lead towards:

- ▷ the development of self
- ▷ social responsibility
- ▷ building community
- ▷ civic and civil responsibility
- ▷ improved self-confidence and self-esteem
- ▷ valuing civic participation in a democratic society

The PDS units have been developed to recognise learning that is not recognised within other qualifications, but is valued within the community.

The units enable students to develop personal development skills through participation in collaboratively developed curriculum. The programs have a consistent purpose within the PDS strand and enable the achievement of the PDS learning outcomes.

Assessment is written, oral and participatory in form.

Activities in this strand are flexible and can be negotiated depending on needs/interests.

### 5. Work Related Skills (WRS)

Compulsory work placement.

Work placement is compulsory when completing any VCE-VM level. Students who are on work placement must have completed and returned the signed arrangement forms to the work placement officer before work placement can commence, this is a legal requirement.

Work placements are arranged by the student however support can be given by careers staff.

Work placements are usually aligned to the students VETDSS course but other placements may be acceptable. The placement must be a minimum of 100 hours per semester.

Throughout the year opportunities arise that can be used to fulfil the minimum hours required for work placement. VCE-VM students should become familiar with these programs and maintain regular contact with the careers staff. Activities may include:

- ▷ VEET Program sponsored by SP AUSNET P/L
- ▷ Horticulture Taster Program
- ▷ Nurse for a Day Program
- ▷ Agriculture Taster Program
- ▷ Navy Program at HMAS Cerberus
- ▷ GippsWeb for Business- for students interested in Computers
- ▷ Copy Cap Program- for students interested in work as a Carer
- ▷ Civil Construction Taster
- ▷ Grocon site visit
- ▷ White Card Course
- ▷ First Aid Course
- ▷ RSA Course

## Homework

It is an expectation of the College and the Victorian Curriculum and Assessment Authority that each VCE-VM unit is 100 nominal hours in length. The nominal hours include both scheduled and unscheduled time and may vary when considering the specific needs of each student. VCE-VM students are expected to complete homework and study as required, including for the VET subject.



Art Creative Practice

Year 11

Unit 1

This unit focuses on experiential learning to explore ideas related to personal identity. Students will work through the steps of the Creative Practice to make artworks in response to a theme. As the artist and audience, students will research other artists, consider how visual language can communicate ideas in artworks and apply the Interpretive Lenses when analysing art. Students will examine artists in different societies, cultures, and historical periods to develop their own interpretations and viewpoints. A key part of Art Creative Practice is building a folio of experimental artwork that focuses on experimenting with different art forms including drawing, painting, and printmaking. Students will trial a range of materials and techniques to develop their own personal style and will document this process in their folios, using annotation and reflection to explain their artistic development.

Unit 2

This unit focuses on inquiry learning to investigate the artistic and collaborative practices of artists. Students will research a range of artists from different cultural contexts and time periods to learn about how society and culture are visually represented in artworks. They will use this knowledge to analyse artworks using the Cultural Lens, as well as the other Interpretive Lenses to explore and analyse how artists interpret and communicate social and personal ideas. Students will approach their own artmaking using the Creative Practice and collaboration with other students to produce a folio of work and one finished artwork. As students continue to develop their own artistic style and ideas in Unit 2, they will have the opportunity to work with artforms, materials, and techniques of their own choosing. Using the folio to document their Creative Practice, students will annotate and reflect on their work to problem solve and refine practical skills and ideas in preparation for Units 3 and 4 Art Creative Practice.



Year 12

Unit 3

This unit focuses on the inquiry and project-based learning as starting points to develop a Body of Work. Students explore ideas and experiment with materials, techniques and processes using the Creative Practice. The research of historical and contemporary artists is integral to students' use of the Creative Practice and informs the basis of their investigation. Students also investigate the issues that may arise from the artworks they view and discuss, or those evolving from the practice of the artist. Unit 3 commences with students researching the practice of a selected artist as the starting point to develop a finished artwork. The finished artwork will contribute to the Body of Work developed over Units 3 and 4.

Unit 4

This unit focuses on allowing students to continue building upon the ideas begun in Unit 3 and present a critique of their use of the Creative Practice. They reflect on the feedback from their critique to further refine and resolve a Body of Work that demonstrates their use of the Creative Practice and the realisation of their personal ideas. The students present their Body of Work to an audience accompanied by documentation of their use of the Creative Practice.

The students' use of the Creative Practice involves both Making and Responding and is underpinned by the Interpretive Lenses. Students use the Interpretive Lenses to analyse and interpret the meanings and messages of artworks created by the artists they study and to investigate the practices used to create them.



Sample study program for:

Art Creative Practice

A traditional course. Each tertiary institution has their own criteria, make sure you seek advice from your careers teacher.

Subject	Units			
	1	2	3	4
English	X	X	X	X
Art Creative Practice	X	X	X	X
Additional Unit	X	X	X	X
Additional Unit	X	X	X	X
Additional Unit	X	X	X	X

Recommended additional units:  
Maths, Psychology, Sociology, English  
Literature, Music, Product Design &  
Technology - Wood or Metal.

**TAFE**

**Certificate/Diploma courses in:**  
Social & Community Studies, Arts, Media, Design, Photography, Floristry.

**UNIVERSITY**

**Associate Diplomas/Bachelor Degrees in:**  
Arts, Fine Art, Creative Writing, Education, Social Sciences, Humanities, Graphic Design, Marketing, Planning.

**Possible employment outcomes after TAFE/University:**  
Teaching, Artist, Curator, Writer, Journalist, Photographer, Florist, Marketing, Screen Printer.

## Music Performance

Students may enrol in all units or select specific combinations of units that cater for their interests and intended pathways.

Each unit contains between two and four Areas of Study.

### Year 11

#### Unit 1

This learning sequence focuses specifically on students developing solo instrumental skills on their chosen instrument in preparation for a range of Units 3 and 4 options including: Inquiry, Contemporary and Repertoire. This unit is designed to be accessible to all learners from a range of previous musical backgrounds, including those with very little instrumental experience, while providing opportunities to challenge learners who are intending to undertake Units 3 and 4 specialist options. Musical knowledge (elements, concepts, language, compositional devices) will be drawn from students' solo repertoire.

#### Unit 2

This unit explores performing, creating, analysing and responding with a focus on film music using a variety of film repertoire. Students will examine how effect is created through variation of the elements of music, concepts and compositional devices. The learning sequence is designed to be accessible for all learners, while providing scope to appropriately challenge those who are intending to undertake Units 3 and 4 specialist options (Performing and Composition).

### Year 12

#### Unit 3

This unit focuses specifically on students developing instrumental skills on their chosen instrument. Students perform as a soloist and present at least one ensemble work. This is a specialist performing unit and assumes previous musical experience. It is recommended that students undertaking this specialist option should be taking instrumental lessons with an instrumental teacher who has the capacity to teach to VCE level. Musical knowledge (elements, concepts, language, compositional devices) will be drawn from students' performing repertoire.

#### Unit 4

This unit focuses specifically on students refining their ability to present convincing performances as a soloist and present at least one ensemble work. This is a specialist performing unit and assumes previous musical experience to access the full range of marks in the final recital and external examination. It is recommended that students undertaking this specialist option should be taking instrumental lessons with an instrumental teacher who has the capacity to teach to VCE level and has an understanding of the current VCE Music Study Design. Musical knowledge (elements, concepts, language, compositional devices) will be drawn from students' performing repertoire.





This course is offered to students under the auspices of the College of Sound and Music Production

Students and parents are welcome to contact the RTO 'COSAMP' with the RTO code **#41549** for confirmation of this program by phone or email.

Phone: (03) 9592 4801

email: [enquiries@cosamp.com.au](mailto:enquiries@cosamp.com.au)

website: [cosamp.com.au](http://cosamp.com.au)

The Certificate III in Music and Certificate III in Technical Production provides a broad education in music, integrating theoretical, historical, performance studies and music technology while enabling students to master the skills needed for a wide array of professions. It is intended to appeal to those aspiring to deepen their existing knowledge of music and those who may be seeking to gain accredited recognition in order to apply for further study.

The Music Industry requires creative and dynamic multi-taskers. The career options include: Artist/Event Management; Record Production; Audio Engineering; Song Writing; Arts Administration; Music Marketing & Distribution; Festival Direction; Music Publishing. Most significantly the course prepares students to function in the increasingly DIY Industry environment.

These certificates include scored assessments, which contribute to your overall VCE studies.

These courses are delivered over a two-year period held on Wednesdays during the school term.

## ■ Certificate III in Music (CUA30920) Performance

The Certificate III in Music for VCE will be of particular interest to those aspiring to a high level of proficiency in Music with a focus on performance.

There are no formal education pre-requisites for entry into this course; however applicants must have some proficiency in instrumental music performance or singing and be receiving instrumental music or singing instruction on a regular basis. Candidates will be required to be familiar with conventions of music theory to approximately Grade 3 AMEB (Australian Music Examinations Board) or equivalent.

### Content:

#### Year 1 & 2 Music Performance

**CUAMPF312** Prepare for musical performances  
**CUAIND314** Plan a career in the creative arts industry

**CUAIND313** Work effectively in the music industry

**CUAMPF315** Develop and perform music improvisation

**CUACMP311** Implement copyright arrangements

**CUAMPF412** Develop and apply stagecraft skills  
**CUAMPF213** Perform simple repertoire in ensembles

**CUAMPF311** Develop technical skills for musical performances

**CUAMPF414** Perform music as part of a group

**CUAMCP311** Create simple musical compositions

**CUAMPF416** Perform music as a soloist

**CUAMPF314** Make music demos

## ■ Certificate III in Music (CUA30920) Sound Production

The Certificate III in Technical Production for VCE will be of particular interest to those aspiring to a high level of proficiency in Music with a focus on production, recording and the implementation of sound and lighting technology.

There are no formal education pre-requisites for entry into this course. A basic understanding of the conventions of music notation and language would be an advantage.

### Content:

#### Year 1 & 2 Sound Production

**CUASOU212** Perform basic sound editing

**CUASOU321** Mix music in studio environments

**CUAIND314** Plan a career in the creative arts industry

**CUAIND313** Work effectively in the music industry

**CUASOU308** Install and disassemble audio equipment

**CUASOU412** Manage audio input sources

**CUASOU213** Assist with sound recordings

**CUASOU211** Develop basic audio skills and knowledge

**CUASOU317** Record and mix basic music demos

**CUACMP311** Implement copyright arrangements

**CUASOU306** Operate sound reinforcement systems



## Outdoor & Environmental Studies

VCE Outdoor and Environmental Studies (OES) offers students a unique mix of environmental awareness, physical activity and sustainability thinking. It prepares them for careers where nature, the outdoors, conservation and human–nature relationships are central. Skills learned in this class are transferable to any job or career path, particularly problem solving, leadership, teamwork, communication, planning, critical thinking and adaptability. Job areas include Outdoor Recreation, Conservation and Land Management, Education and Community Engagement, Environmental Science, Emergency Services, Nature focused media, Business and Tourism.

### Year 11

#### 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 natural environments. Through outdoor experiences, students develop practical skills and knowledge to help them live sustainably in outdoor environments.

Practical programs may include surfing, bush walking and high ropes courses.

#### 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. Students develop a clear understanding of the impact of technologies and changing human lifestyles on outdoor environments. Students develop the practical skills required to minimise human impact on outdoor environments.

Practical programs may include snow activities and exploration.

### Year 12

#### 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. Students consider a number of factors that influence contemporary relationships with outdoor environments. Students are involved in a number of experiences in outdoor environments, including areas where there is evidence of human interaction.

Practical programs may include bush walking and exploration.

#### Unit 4: Sustainable Outdoor Environments

In this unit students explore the sustainable use and management of outdoor environments. Students examine the importance of developing a balance between human needs and the conservation of outdoor environments and consider the skills needed to be environmentally responsible citizens. Students investigate current agreements and environmental legislation, as well as management strategies and policies for achieving and maintaining healthy and sustainable environments in contemporary Australian Society.

Practical programs may include snow or water based activities.

#### Please note:

There are additional costs associated with Outdoor & Environmental Studies to cover specialist equipment hire, instructors and excursions. The cost of food for excursions is often not included.

Students must attend ALL practical activities.

Year 11 Outdoor & Environmental Studies costs approximately \$800-900 per year (Units 1 & 2) and Year 12 Outdoor & Environmental Studies costs approximately \$700 per year (Units 3 & 4).

## Physical Education

### Year 11

#### Unit 1: Physical Education

Students explore how the musculoskeletal and cardiorespiratory systems work together to produce movement. Through practical activities, students explore the relationships between the body systems and physical activity. Students investigate the role and function of the main structures in each system and how they respond to physical activity. Students consider a variety of permitted and prohibited substances and methods used to enhance performance of the musculoskeletal and cardiorespiratory systems. They also explore the ethical and sociocultural considerations of using permitted and prohibited performance-enhancing substances and methods.

#### Unit 2: Physical Activity, Sport & Society

Students develop their understanding of an array of bio mechanical principles. These include Newton's 3 Laws of Motion and other key principles in relation to sporting performance. Students then explore how technological developments in sport have

improved performance. Students also research the bio mechanical and technological impacts on sub populations and junior sport. Within the second area of focus, students are introduced to types of physical activity and the role physical activity plays in their own and others health and wellbeing. Through a series of practical activities, students experience and explore different types of physical activity and they gain an appreciation of the level of physical activities required for health benefits. Students investigate how participation in physical activity varies across the lifespan. They explore a range of factors that influence participation in regular physical activity. Students investigate the consequences of physical inactivity and sedentary behaviour.

### Year 12

#### Unit 3: Movement skills and energy for physical activity, sport and exercise

This unit introduces students to principles used to analyse human movement from a biophysical perspective. Students use a variety of tools and coaching techniques to analyse movement skills and apply biomechanical and skill-acquisition principles to improve and refine movement in physical activity, sport and exercise. They use practical activities to demonstrate how correctly applying these principles can lead to improved performance outcomes.

Students consider the cardiovascular, respiratory and muscular systems and the roles of each in supplying oxygen and energy to the working muscles. They investigate the characteristics and interplay of the 3 energy systems for performance during physical activity, sport and exercise. Students explore the causes of fatigue and consider different strategies used to postpone fatigue and promote recovery.

#### Unit 4: Training to Improve Performance

In this unit, students' participation and involvement in physical activity will form the foundations of understanding how to improve performance from a physiological perspective. Students analyse movement skills and fitness requirements and apply relevant training principles and methods to improve performance at various levels (individual, club and elite).

Improvements in performance, in particular fitness, depend on the ability of the individual and/or coach to gain, apply and evaluate knowledge and understanding of training. Students assess fitness and use collected data to justify the selection of fitness tests based on the physiological requirements of an activity, including muscles used, energy systems and fitness components. Students then consider all physiological data, training principles and methods to design a training program. The effectiveness of programs is evaluated according to the needs of the individual and chronic adaptations to training.

# Health & Physical Education

## Health & Human Development

Studying VCE Health and Human Development (HHD) provides a strong foundation for a wide range of careers in health, wellbeing, human services and community development. Job pathways include becoming a Nurse, Doctor/General Practitioner, Midwife, Physiotherapist, Occupational Therapist, Paramedic Community Health Officer etc.

### Year 11

#### Unit 1:

Unit one focuses on the health and wellbeing of youth, how health is defined and measured and the factors that influence youth health and wellbeing. Students look at health status data and consider reasons for variations and inequalities in the health status of youth. Students explore food and nutrition as foundations for good health and wellbeing. They investigate the roles and sources of major nutrients, the consequences of dietary imbalance and the use of food selection models and other tools to promote healthy eating. Food practices and food choices made by youth are explored.

#### Unit 2:

This area of study examines the developmental transitions from youth to adulthood. Students investigate factors that contribute to development and health and wellbeing during the prenatal, infancy and early childhood stages of the lifespan. Students investigate the health system in Australia, equity of access to health services and the rights and responsibilities of individuals receiving care. Students research the range of health services in their communities and suggest how to improve health and wellbeing in Australia. They explore a range of issues associated with the use of new and emerging health procedures and technologies such as reproductive technologies, artificial intelligence, robotics, nanotechnology, three-dimensional printing of body parts and use of stem cells.

### Year 12

#### Unit 3:

Students explore health and wellbeing as a global concept and investigate factors that influence health status and the burden of disease in Australia. They examine key public health initiatives, including the Ottawa Charter for Health Promotion, and evaluate how Australia's healthcare system supports health and wellbeing. Students analyse variations in health outcomes and develop skills in evaluating the effectiveness of health promotion programs aimed at improving population health.

#### Unit 4:

Students investigate health status and burden of disease in low, middle and high-income countries and explore the factors contributing to global health inequalities. They examine the impact of globalisation and trends such as climate change, digital technologies and conflict on health and human development. Students study the United Nations Sustainable Development Goals and the work of the World Health Organisation, alongside Australia's aid program and the role of non-government organisations. They develop skills in analysing global health data and evaluating the effectiveness and sustainability of health and development programs.

## VET VCE Sport and Recreation Cert 3

Lowanna offers a 2 year VCE scored Sport and Recreation Certificate. This is delivered on site as part of the normal school timetable (not off site on Wednesdays like other VET courses). This course would be of particular interest to anyone who enjoys sport and fitness activities or is thinking about pursuing a career in the sport and recreation industry.

#### Units studies:

BSBWHS303 Participate in WHS hazard identification, risk assessment and risk control

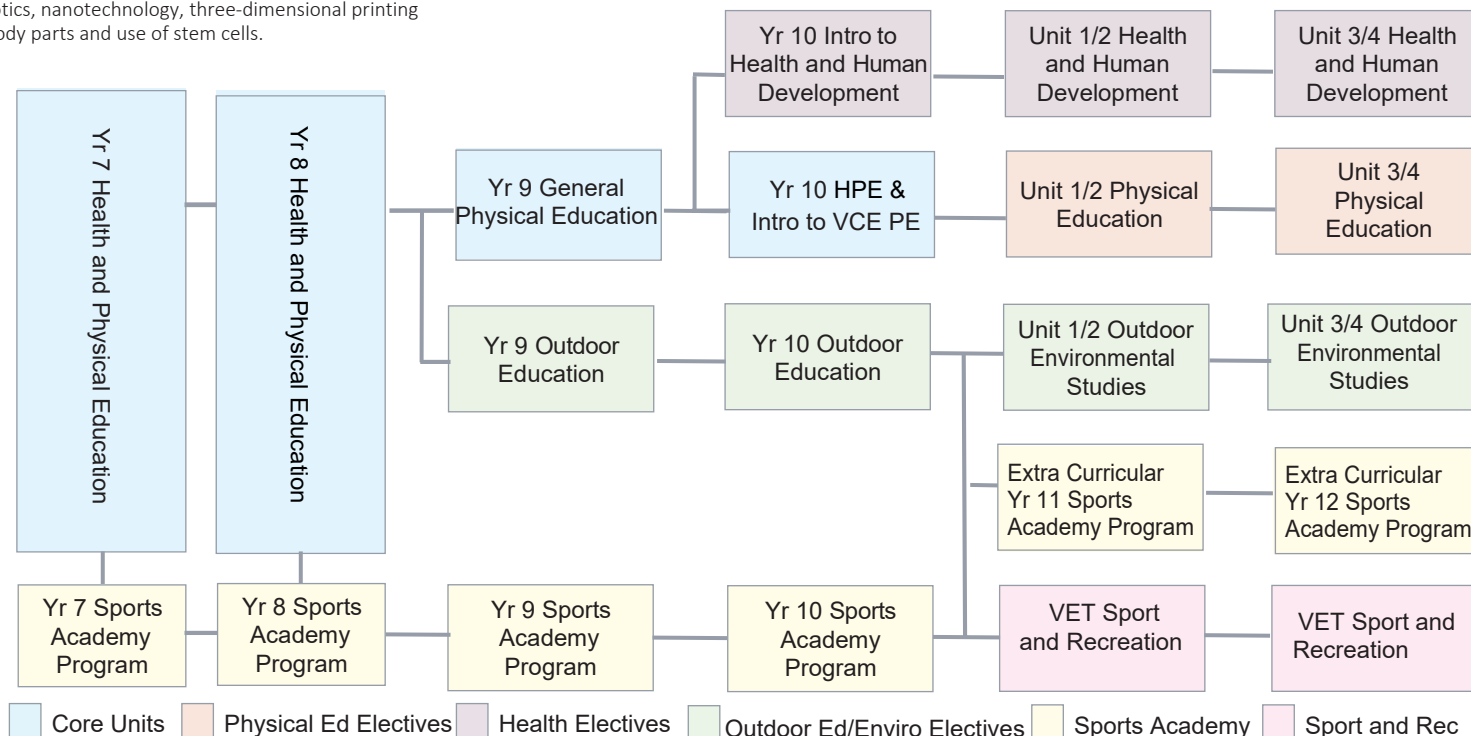
BSBWOR301	Organise personal work priorities and development
HLTAID003	Provide first aid
HLTWHS001	Participate in workplace health and safety
ICTWEB201	Use social media tools for collaboration and engagement

SISXCAI003	Conduct non-instructional sport, fitness or recreation sessions
SISXCAI004	Plan and conduct programs
SISXCCS001	Provide quality service

#### General Electives:

HLTAID006	Provide advanced first aid
SISXCAI006	Facilitate groups
SISXFAC002	Maintain sport, fitness and recreation facilities
SISXFAC003	Implement facility maintenance programs
SISXIND006	Conduct sport, fitness or recreation events
SISXRES002	Educate user groups

### Pathways for Health & Physical Education



### Career Pathways:

**VCE-VM:** Sports Coach, Sports Instructor, Retail Sales, Community Coach, Community Recreation

**VET:** Sports Admin, Development Officer, Events Coordinator, Camp Instructor, Fitness/Personal Trainer

**VCE/Tertiary:** Sports Admin, Teaching/Coaching, Physiotherapy, Occupational Therapist, Exercise Physiologist, Scientist



## VET Sport and Recreation Certificate 3

Students can choose to study VET Sport and Recreation at Lowanna, obtaining a Certificate 3. The course includes a lot of hands-on learning such as facilitating sports days, coaching, completing a first aid certificate etc.

**Units studied:**

BSBWHS303	Participate in WHS hazard identification, risk assessment and risk control
BSBWOR301	Organise personal work priorities and development
HLTAID003	Provide first aid
HLTWHS001	Participate in workplace health and safety
ICTWEB201	Use social media tools for collaboration and engagement

**General Electives:**

HLTAID006	Provide advanced first aid
SISXCAI006	Facilitate groups
SISXFAC002	Maintain sport, fitness and recreation facilities
SISXFAC003	Implement facility maintenance programs
SISXIND006	Conduct sport, fitness or recreation events
SISXRES002	Educate user groups

SISXCAI003	Conduct non-instructional sport, fitness or recreation sessions
SISXCAI004	Plan and conduct programs
SISXCCS001	Provide quality service

### Description

This qualification reflects the multi-skilled role of individuals in operational and customer support positions in the sport or community recreation industry. These individuals are competent in a range of activities and functions requiring autonomous work within a defined range of situations and environments.

They work in locations such as fitness centres, sporting grounds or complexes, leisure and aquatic centres and community recreation centres.

Possible career paths include Recreation Officer, Activity Operation Officer, Sport and Recreation Attendant, Community Activities Officer, Leisure Services Officer.





## VCE English Options

### Year 11

#### English Units 1 & 2

Students study and are assessed on several outcomes: Reading and Exploring Texts, Crafting Texts, Exploring Argument.

#### Literature Units 1 & 2

Students develop their reading practices, explore literary movements and genres, study texts in their context and Aboriginal texts and voices.

### Year 12

#### English Units 3 & 4

Students further develop their skills and are assessed on several outcomes: Reading and Responding, Creating Texts, Analysing Argument.

#### Literature Units 3 & 4

Students study adaptations and transformations, and further develop their skills of close analysis and creative and analytical response by developing their own interpretations of text.

Students must complete one of the following:

1. English Units 1 & 2
2. Literature Units 1 & 2

Students who select English or Literature may study these individually or together.

To meet their English requirement for VCE students must select either:

1. English Units 3 & 4
2. Literature Units 3 & 4

Students may wish to choose both English and Literature. Those who did well in Year 11 English are recommended to do Literature and English to make the most of their ability in this area.

## English

### Year 11

#### Unit 1

In this unit, students read and explore features of texts. Students craft their own text designed for a specific context, audience and purpose.

#### Unit 2

In this unit, students explore and analyse how the features of texts construct meaning. They explore and analyse persuasive texts and construct a point of view text for oral presentation.

### Year 12

#### Unit 3

In this unit, students explore and analyse features of texts. Students create their own texts designed for a specific context, audience and purpose.

#### Unit 4

In this unit, students analyse ideas, concerns and values presented in a text. They create an oral presentation intended to position audiences about an issue currently debated in the media.



## Literature

### Year 11

Literature is recommended for students who are competent readers and who wish to extend their writing skills.

#### Unit 1

In this unit, students respond to a range of texts through close analysis. They explore conventions common to a selected movement or genre.

#### Unit 2

In this unit, students explore and reflect on the voices, perspectives and knowledge in the texts of Aboriginals and Torres Strait Islander authors and creators. They analyse and respond to the representation of a specific time period and/or culture explored in a text and reflect or comment on the ideas and concerns of individuals and groups in that context.

Assessment will include School Assessed Coursework (SAC) and a mid-year and end-of-year examination.

### Year 12

Literature is recommended for students who are competent readers and who wish to extend their writing skills. Whilst there is no formal prerequisite, it is strongly suggested that students complete Unit 1 and 2 Literature to benefit the most from this study.

#### Unit 3

In this unit, students closely analyse a text and then discuss the extent to which meaning changes when that text is adapted to a different form. They develop interpretations of a text informed by the ideas, views and values of the text and supplementary readings.

#### Unit 4

In this unit, students respond creatively to a text and comment critically on both the original text and their creative response. They analyse literary forms, features and language to present a view of a text.

School Assessment is worth 50% of their final Study Score, with the other 50% being derived from their end-of-year examination.





## Calculators

All mathematical subjects require the TI-nspire CX CAS Calculator (approx. \$200).

## General Mathematics

### Year 11

#### Units 1 & 2

General Mathematics provides for different combinations of student interests and preparation for study of VCE Mathematics at the Unit 3 and 4 level. The areas of study for General Mathematics Unit 1 and Unit 2 are Algebra and structure, Arithmetic and number, Discrete Mathematics, Geometry, measurement and trigonometry, Graphs of linear and nonlinear relations and Statistics.

General Mathematics can be taken by itself or in combination with Mathematical Methods.

## General Mathematics

### Year 12

#### Units 3 & 4

Further Mathematics consists of two areas of study, a compulsory Core area of study to be completed in Unit 3 and an Applications area of study to be completed in Unit 4. The Core comprises Data analysis and Recursion and financial modelling. The Applications comprises two modules to be completed in their entirety, from a selection of four possible modules: Matrices, Networks and decision mathematics, Geometry and measurement and Graphs and relations. Assumed knowledge and skills for the core are contained in the General Mathematics Units 1 and 2 topics: computation and practical arithmetic, investigating and comparing data distributions, investigating relationships between two numerical variables, linear graphs and modelling, linear relations and equations, and number patterns and recursion. For each module there are related topics in General Mathematics Units 1 and 2.

Entry: Students must have completed General Mathematics Unit 1 and 2 or Mathematical Methods Unit 1 and 2 to enter this unit.

## Mathematical Methods

### Year 11

#### Units 1 & 2

Mathematical Methods Units 1 and 2 provide an introductory study of simple elementary functions of a single real variable, algebra, calculus, probability and statistics and their applications in a variety of practical and theoretical contexts. They are designed as preparation for Mathematical Methods Units 3 and 4 and contain assumed knowledge and skills for these units. The focus of Unit 1 is the study of simple algebraic functions, and the areas of study are Functions and graphs, Algebra, Calculus, and Probability and statistics.

In Unit 2 students focus on functions and graphs, algebra, calculus and probability and statistics.

Students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, algebraic manipulation, equation solving, graph sketching, differentiation and integration with and without the use of technology.

## Mathematical Methods

### Year 12

#### Units 3 & 4

Mathematical Methods Units 3 and 4 consist of the areas of study Functions and graphs, Calculus, Algebra and Probability and statistics. Assumed knowledge and skills for Mathematical Methods Units 3 and 4 are contained in Mathematical Methods Units 1 and 2, and will be drawn on, as applicable, in the development of related content from the areas of study, and key knowledge and skills for the outcomes of Mathematical Methods Units 3 and 4. Entry: Students must have completed Mathematical Methods Unit 1 and 2 to enter this unit.

## Specialist Mathematics

### Year 11

#### Units 1 & 2

Specialist Mathematics Units 1 and 2 provide a course of study for students who wish to undertake an in-depth study of mathematics, with an emphasis on concepts, skills and processes related to mathematical structure, modelling, problem solving and reasoning.

Mathematical Methods Units 1 and 2 and Specialist Mathematics Units 1 and 2, taken in conjunction, provide a comprehensive preparation for Specialist Mathematics Units 3 and 4. The areas of study for Units 1 and 2 of Specialist Mathematics are Algebra and structure, Arithmetic and number, Discrete mathematics, Geometry, measurement and trigonometry, Graphs of linear and nonlinear relations and Statistics.

This course is highly recommended for students intending to study Engineering, Physics or Mathematics at University.

## Specialist Mathematics

### Year 12

#### Unit 3 & 4

Specialist Mathematics Units 3 and 4 consist of the areas of study: Functions and graphs, Algebra, Calculus, Vectors, Mechanics and Probability and statistics.

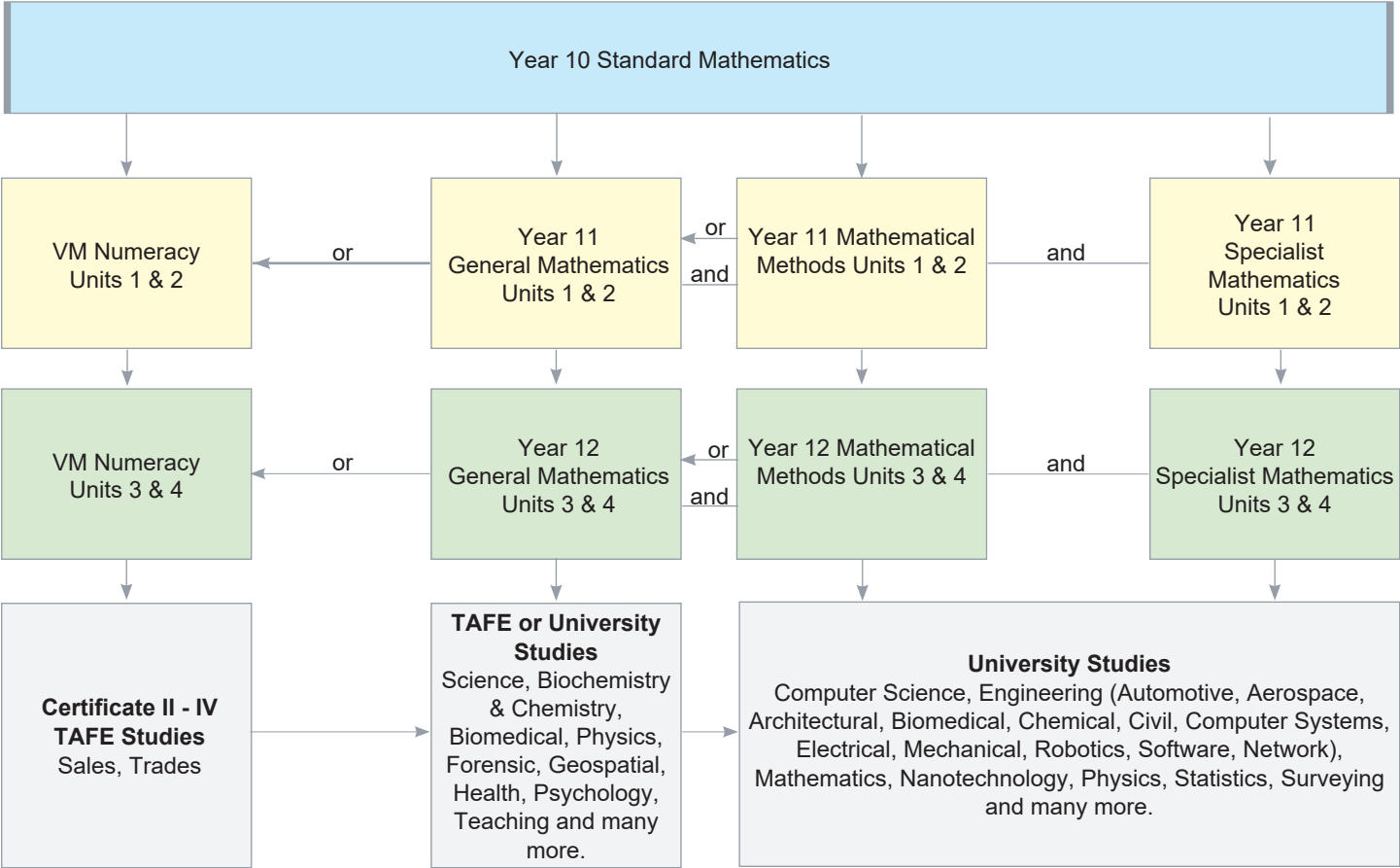
Specialist Mathematics Units 3 and 4 assumes familiarity with the key knowledge and skills from Mathematical Methods Units 1 and 2 and the key knowledge and skills from Specialist Mathematics Units 1 and 2.

Should you have any concerns about which Mathematics subject is appropriate, please ask your current Mathematics teacher or talk to the Mathematics Teaching and Learning Leader.

The diagram on the following page shows the possible pathways available to students.

- ▷ Arrows indicate the sequence direction normally taken.
- ▷ Specialist Mathematics must be taken in conjunction with Mathematical Methods. Specialist Mathematics complements and extends Mathematical Methods.

Pathways for Mathematics



## Sociology

VCE Sociology focuses on the study of human behaviour and social interaction to understand how societies are organised, develop and change. Sociologists use theories and frameworks to attempt to objectively example social issues and explain concepts. In VCE Sociology students examine key theories regarding family, deviance, ethnicity, community and social movements.

VCE Sociology provides valuable knowledge and skills for participation in everyday life. It develops a capacity for detailed observation of social patterns and group behaviour, and encourages students to become aware of and to think about daily life and activities, as well as wider social issues, from a sociological perspective.

Students can undertake Units 3 & 4 without undertaking Units 1 & 2.

### Year 11

#### Unit 1: Youth and Family

In this unit students explore the way youth is constructed as a social category, in light of differing experiences of young people. They explore the range of potential negative impacts of categorisation, such as stereotyping, prejudice and discrimination. Students investigate the social institution of family. They use a range of theoretical approaches to explain the purpose and experiences of family life, including functionalist and feminist approaches.

#### Unit 2: Social Norms: breaking the code

In this unit students explore the concepts of deviance and crime. The study of these concepts involves ascertaining the types and degree of rule breaking behaviour, examining traditional views of criminality and deviance and analysing why people commit crimes or engage in deviant behaviour. It also involves consideration of the justice system, how the understanding of crime and deviance has changed over time, and the relationship between crime and other aspects of society, such as gender and ethnicity.

### Year 12

#### Unit 3: Culture and Ethnicity

This unit explores expressions of culture and ethnicity within Australian society in two different contexts - Australian Indigenous culture and ethnicity in relation to migrant groups.

#### Unit 4: Community, Social Movements and Social Change

In this unit students explore the ways sociologists have thought about the idea of community and how various types of community are experienced. Students examine the changing definitions and experiences of community. They investigate the role of social movements, developing an understanding of the purpose, evolution, power and outcomes of social movements.

## Business Management

In Australia today, there are a wide variety of business organisations in terms of size, ownership, objectives, resources and location. Business Management studies the ways in which people within an organisation manage resources to achieve business objectives. Students will develop an understanding of the complexity of the challenges facing decision makers in managing these resources.

Students will develop an understanding of the challenges and rewards that come from business management. They will develop knowledge and skills that will enhance their confidence and ability to participate effectively as members of the business community and as informed consumers, investors and citizens.

Students can undertake Units 3 & 4 without undertaking Units 1 & 2.

### Year 11

#### Unit 1: Planning a Business

In this unit students explore the factors affecting business ideas and the internal and external environments which businesses operate and the effect of these on planning a business.

#### Unit 2: Establishing a Business

This unit focuses on the establishment phase of a business's life. Students examine the legal requirements that must be satisfied to establish a business. They investigate the essential features of effective marketing, staffing a business and financial record keeping.

### Year 12

#### Unit 3: Managing a Business

In this unit students explore the key processes and issues concerned with managing a business efficiently and effectively to achieve business objectives. They examine different types of businesses, corporate culture, management styles and skills and the relationship between each of these.

#### Unit 4: Transforming a Business

Businesses are under constant pressure to adapt and change to meet their objectives. In this unit students consider the importance of reviewing key performance indicators to evaluate performance. Students will also study a theoretical model to undertake change and consider a variety of strategies to manage change and improve business performance.

Sample study program for:

### Commerce

A traditional course. Each tertiary institution has their own criteria, make sure you seek advice from your careers teacher.

Subject	Units			
	1	2	3	4
English	×	×	×	×
Maths	×	×	×	×
Business Man.	×	×	×	×
Legal Studies	×	×	×	×
Additional Unit	×	×	×	×
Additional Unit	×	×		

Recommended additional units:  
Legal Studies, Industry & Enterprise,  
Computing, Informatics, English Literature.

#### TAFE

##### Certificate/Diploma courses in:

Accounting, Business Management, Legal Office, Human Resources, Business Applications, Business Computing, Business/Secretarial Studies.

#### UNIVERSITY

##### Associate Diplomas/Bachelor Degrees in:

Business, Computing, Commerce, Economics, Marketing, Office Management, Sports Management, Agribusiness International Trade, Public Administration.

##### Possible employment outcomes after TAFE/University:

Banking, Insurance, Marketing, Secretarial Work, Office Management, Retailing.





Knowledge of a foreign language can open doors to a wide range of employment opportunities in areas of business, teaching, government, tourism, travel, hospitality, translating and interpreting, automotive, medicine, engineering and journalism.

Whatever, level of competence is attained, there are benefits to be gained from learning a language, such as:

- Enhancing literacy skills of ALL learners
- Building confidence
- Encouraging cultural awareness, tolerance and understanding
- Enhancing future job opportunities as well as expanding life opportunities and experiences
- English only speakers will face increasing competition for positions in the global marketplace against multilingual applicants. With approximately 94% of the world's population speaking a language other than English

Lowanna College offers two languages through to VCE: Italian and Indonesian

## Italian

### Unit 1:

Students develop an understanding of the language and culture/s of Italian-speaking communities through the study of three or more topics from prescribed themes. Students access and share information on the topics and subtopics through Italian and consolidate and extend vocabulary and grammar knowledge and language skills. They focus on analysing cultural practices from stories, poems, plays, novels, songs, films, photographs, artworks, architecture, technology, food, clothing, sports and festivals.

### Unit 2:

Students develop an understanding of aspects of language and culture through the study of three or more topics from prescribed themes. Students analyse visual, spoken and written texts. They access and share information on the topics and subtopics through Italian and consolidate and extend vocabulary, grammar knowledge and language skills.

### Unit 3:

Students investigate the way Italian speakers interpret and express ideas, and negotiate and persuade in Italian through the study of three or more subtopics from the prescribed themes and topics. Students interpret information, inform others, and reflect upon and develop persuasive arguments. They access and share information on the subtopics through Italian, and consolidate and extend vocabulary and grammar knowledge and language skills. Students consider the influence of language and culture in shaping meaning and reflect on the practices, products and perspectives of the cultures of Italian-speaking communities. They reflect on how knowledge of Italian and Italian-speaking communities can be applied in a range of contexts and endeavours, such as further study, travel, business or community involvement.

### Unit 4:

Students investigate aspects of culture through the study of two or more subtopics from the prescribed themes and topics. Students build on their knowledge of Italian-speaking communities, considering cultural perspectives and language and explaining personal observations. Students consolidate and extend vocabulary, grammar knowledge and language skills to investigate the topics through Italian. Students reflect on the ways culture, place and time influence values, attitudes and behaviours. They consider how knowledge of more than one culture can influence the ways individuals relate to each other and function in the world.

## Indonesian

### Unit 1:

Students develop an understanding of the language and culture/s of Indonesian-speaking communities through the study of three or more topics from prescribed themes. Students access and share information on the topics and subtopics through Indonesian and consolidate and extend vocabulary and grammar knowledge and language skills. They focus on analysing cultural practices including visual, spoken or written texts from a diverse range of texts, activities and creations. These may include stories, poems, plays, novels, songs, films, photographs, artworks, architecture, technology, food, clothing, sports and festivals.

### Unit 2:

Students develop an understanding of aspects of language and culture through the study of three or more topics from prescribed themes. Students analyse visual, spoken and written texts. They access and share information on the topics and subtopics through Indonesian and consolidate and extend vocabulary, grammar knowledge and language skills.

### Unit 3:

Students investigate the way Indonesian speakers interpret and express ideas, and negotiate and persuade in Indonesian through the study of three or more subtopics from the prescribed themes and topics. Students interpret information, inform others, and reflect upon and develop persuasive arguments. They access and share information on the subtopics

through Indonesian, and consolidate and extend vocabulary and grammar knowledge and language skills. Students consider the influence of language and culture in shaping meaning and reflect on the practices, products and perspectives of the cultures of Indonesian-speaking communities. They reflect on how knowledge of Indonesian and Indonesian-speaking communities can be applied in a range of contexts and endeavours, such as further study, travel, business or community involvement.

### Unit 4:

Students investigate aspects of culture through the study of two or more subtopics from the prescribed themes and topics. Students build on their knowledge of Indonesian-speaking communities, considering cultural perspectives and language and explaining personal observations. Students consolidate and extend vocabulary, grammar knowledge and language skills to investigate the topics through Indonesian. Students identify and reflect on cultural products or practices that provide insights into Indonesian-speaking communities. Students reflect on the ways culture, place and time influence values, attitudes and behaviours. They consider how knowledge of more than one culture can influence the ways individuals relate to each other and function in the world.

**Note:** If there are not enough students for any language class to proceed, students will be provided with the option of studying their selected language via distance education through the Victorian School of Languages.



Year 11

## Unit 1:

In this unit students will:

- Explore how psychological development happens and what might affect it when it doesn't follow the usual pattern.
- Learn how both Western and non-Western knowledge – including insights from Aboriginal and Torres Strait Islander peoples – have contributed to our understanding of how people think, feel and behave.
- Study the structure and function of the human brain, how it affects mental processes and behaviour and examine how the brain can change and adapt (brain plasticity), especially after brain injury.

## Unit 2:

In this unit students will:

- Examine how social thinking (social cognition) affects people's attitudes, self-perception and relationships.
- Explore how individual and group behaviour is influenced by different factors, contexts and cultural values, including the unique experiences of Aboriginal and Torres Strait Islander peoples in Australian society.
- Learn how classical and modern research has helped us understand human perception and behaviour.
- Investigate how we perceive and make sense of the world through our senses and how this perception can sometimes be distorted.

Year 12

## Unit 3:

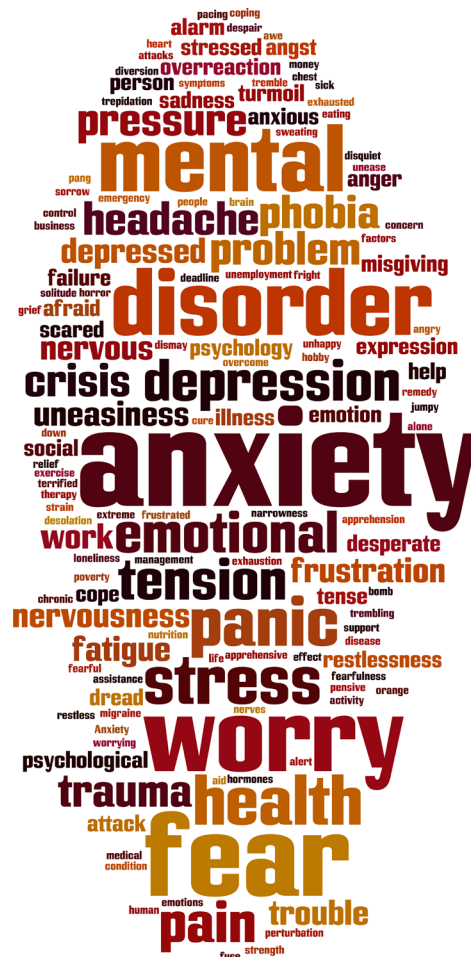
In this unit students will:

- Explore how research has deepened our understanding of the nervous system and how biological, psychological and social factors affect learning and memory.
- Learn how the nervous system helps people interact with their environment.
- Investigate how stress impacts psychological functioning, including the mind–body connection such as the gut–brain relationship.
- Examine how learning and memory work and how they help us gain knowledge and change behaviour.
- Study models that explain learning and memory and how different parts of the brain work together in memory.
- Look at strategies like mnemonics to improve memory, including how Aboriginal and Torres Strait Islander peoples use place as a way to store and remember information.

## Unit 4:

In this unit students will:

- Explore the importance of sleep and how it affects mental wellbeing.
- Learn about the biological processes that control sleep, including REM and NREM sleep, and how sleep changes across the lifespan.
- Study how disruptions to sleep and poor sleep habits can impact psychological functioning, supported by research.
- Examine different ways to understand mental wellbeing, including the social and emotional wellbeing (SEWB) framework.
- View mental wellbeing as a continuum and use the biopsychosocial model to understand conditions like specific phobia.
- Learn how protective factors and cultural influences—especially for Aboriginal and Torres Strait Islander peoples—support mental wellbeing.





## Biology

Biology is the study of living organisms and their interactions with each other and the environment. It covers everything from microscopic life to complex multicellular organisms, exploring shared structures, functions and classification. Modern biology draws on multiple sciences and considers both Earth and potential life beyond our planet. Students build scientific knowledge, inquiry skills and awareness of the ethical implications of biological technologies.

### Year 11

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

##### Area of study 1: How do organisms regulate their functions?

In this unit students will:

- ▷ Study the cell as the basic building block of life, from single-celled to multicellular organisms, and learn what cells need to stay alive and function.
- ▷ Explore how cells grow, divide and die, and learn about the role of stem cells in cell differentiation, specialisation and renewal.
- ▷ Learn how body systems work through specialised cells in both plants and animals, and how homeostasis helps animals keep a stable internal environment.
- ▷ Carry out a scientific investigation (either adapted or designed by the student) based on the function or regulation of cells or systems, using key science skills and knowledge learned earlier in the unit.

#### Unit 2: How does inheritance impact on diversity?

In this unit students will:

- ▷ Learn about reproduction and how biological information is passed from one generation to the next and how this affects species diversity.
- ▷ Study chromosomes and meiosis, and how genes, the environment and epigenetics influence how traits (phenotypes) are expressed.
- ▷ Investigate inheritance patterns, including pedigree charts and genetic crosses, to explain how characteristics are passed on.
- ▷ Compare asexual and sexual reproduction, including the pros and cons of reproductive cloning technologies.
- ▷ Explore how structural, physiological and behavioural adaptations help organisms survive.
- ▷ Examine how species interact, especially the role of keystone species and top predators in shaping ecosystems and consider Aboriginal and Torres Strait Islander knowledge about organism survival in Australian environments.
- ▷ Complete a student-led research investigation on a current ethical issue related to genetics, reproduction, inheritance or survival adaptations and interdependence.

### Year 12

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

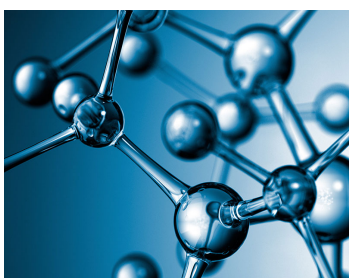
In this unit students will:

- ▷ Investigate how cells function, focusing on different aspects of cell biology.
- ▷ Study the roles of nucleic acids and proteins in cellular processes.
- ▷ Analyse the structure and function of DNA and RNA, how genes are expressed and how proteins perform a wide range of functions in both prokaryotic and eukaryotic cells.
- ▷ Examine the effects of manipulating DNA and the use of biotechnologies.
- ▷ Learn about biochemical pathways, such as photosynthesis and cellular respiration, including how they are regulated and how fast they occur.
- ▷ Explore how biotechnology applied to these pathways can improve agriculture.
- ▷ Apply their understanding by investigating a case study, analysing data or exploring a bioethical issue related to cellular processes.

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

In this unit students will:

- ▷ Explore how life on Earth constantly changes and faces ongoing challenges.
- ▷ Study the human immune system and how its parts work together to fight off specific pathogens.
- ▷ Consider how biological knowledge can be used to address bioethical issues, especially those related to disease.
- ▷ Learn how evolutionary biology is supported by evidence collected over time.
- ▷ Investigate how changes in a population's gene pool and allele frequencies affect evolution.
- ▷ Examine evidence for species relatedness and evolutionary change, using data from fossils, structures, DNA and genomes.
- ▷ Study human evolution, focusing on structural trends in fossils, and understand that interpretations can change with new evidence.
- ▷ Apply their knowledge through a case study, data analysis or by exploring a bioethical issue related to how life adapts and evolves.



## 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. Chemistry is a perfect platform from which you can launch into many different career paths.

Many people develop 'applied' knowledge of chemistry through their careers and day-to-day pursuits. This includes agriculture, photography, forensic science, medicine, sports science and environmental studies.

### Year 11

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

In this unit students will:

- ▷ Explore the chemical structures and properties of different types of materials, including covalent compounds, metals, ionic compounds and polymers.
- ▷ Carry out practical investigations such as:
  - the reactivity series of metals
  - chromatography to separate mixtures
  - using precipitation reactions to identify ionic compounds
  - finding empirical formulas
  - synthesising polymers
- ▷ Use correct chemistry language, including symbols, formulas, names and equations to explain their own experiments and evaluate others' chemical claims.
- ▷ Learn how to measure chemical quantities.
- ▷ Consider how innovative manufacturing and renewable materials can help create sustainable products and how society can move from a linear economy to a circular economy.

#### Unit 2: How do chemical reactions shape the natural world?

In this unit students will:

- ▷ Analyse and compare substances dissolved in water and identify gases produced during chemical reactions.
- ▷ Explore how acid-base and redox reactions are used in real-world applications.
- ▷ Carry out practical investigations involving:
  - Specific heat capacity of water
  - Acid-base and redox reactions
  - Solubility
  - Molar volume of gases
  - Volumetric analysis
  - Calibration curves

Year 12

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

In this unit students will:

- Explore energy sources and how materials are chemically produced, focusing on efficiency, renewability and reducing environmental impact.
- Compare energy resources such as fossil fuels, biofuels, galvanic cells and fuel cells.
- Investigate fuel combustion, including energy transformations, stoichiometry and energy calculations.
- Study how galvanic, fuel and electrolytic cells work, using the electrochemical series and applying Faraday’s laws to redox reactions.
- Analyse manufacturing processes, considering what affects reaction rates and how far reactions go (extent).
- Use Le Chatelier’s principle and the equilibrium law to predict how to improve reaction efficiency and yield.
- Communicate using correct chemical language, including symbols, units, formulas and equations.
- Complete a practical investigation related to energy and/or food, assessed in Unit 4 Outcome 3.

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

In this unit students will:

- Investigate the structure, bonding, reactions and uses of major organic compounds, including those found in food.
- Learn how organic molecules are represented and named.
- Explore hydrolysis (breaking down molecules) and condensation reactions (building new molecules), including the role of enzymes and coenzymes in these processes.
- Use calorimetry to measure the energy released from food combustion.
- Analyse instrumental data to confirm or identify organic structures and use volumetric analysis to measure concentrations of organic substances.
- Predict products of organic reaction pathways and design synthetic routes for producing specific compounds.
- Examine the chemical structure and reactions of key food molecules like carbohydrates, proteins and lipids.

Physics

VCE Physics explores the principles that govern the physical universe, from subatomic particles to cosmic phenomena. It combines theory with hands-on investigation, using models, mathematics and problem-solving to explain physical phenomena. Students develop practical and analytical skills through experiments and research, learning to communicate scientific ideas effectively. Physics knowledge supports innovation in fields such as medicine,

engineering, energy and technology and prepares students to contribute to responsible use of resources.

Unit 1: Explaining the Physical World

In this unit students will:

- Explore how physics explains phenomena at both very small and very large scales—often beyond what the eye can see.
- Examine key ideas and models used by physicists to understand the natural world.
- Study thermal energy, including heat transfer, and use thermodynamic principles to explain energy changes.
- Investigate electricity through analogies and explore the motion of electrons and how it is used in technology.
- Consider the origins of matter and explore accepted theories about how matter and energy have changed since the Universe began.
- Apply thermal laws to analyse energy transfer and reflect on how human energy use affects the environment.
- Conduct quantitative experiments involving at least one independent, continuous variable.

Unit 2: Experiments about the Physical World

In this unit students will:

- Explore how experiments help develop models and theories in physics.
- Investigate different phenomena by making observations and asking scientific questions.
- Learn how to study invisible or hard-to-see phenomena through indirect observations.
- Examine how forces affect motion and how they are also responsible for keeping objects still.
- Students can select a strand of Physics to investigate further. Students design and undertake investigations involving at least one independent, continuous variable.

Year 12

Unit 3: How do fields explain motion and electricity?

In this unit students will:

- Use Newton’s laws to study motion in one and two dimensions.
- Explore fields (gravitational, magnetic and electric) as models to explain how objects move without direct contact.
- Compare how these three fundamental fields operate and affect particle motion.
- Investigate how electricity is produced and transmitted, including over large distances.
- Examine how fields are used in technologies such as particle accelerators.
- Complete a student-designed practical investigation (related to fields, motion or light) that involves collecting primary data and is assessed in Unit 4 Outcome 2 through a scientific poster.

Unit 4: How have creative ideas and investigation revolutionised thinking in Physics?

In this unit students will:

- Explore major shifts in physics thinking that have transformed our understanding of the Universe.
- Investigate the limitations of the wave model of light and how a particle model can better explain some behaviours.
- Learn how matter, once described as particles, can also be understood using a wave model.
- Discover the concepts of relativity, including length contraction and time dilation, when objects move near the speed of light.
- Understand how Einstein’s theories led to modern technologies like GPS.
- Complete a student-designed practical investigation (related to fields, motion or light) involving primary data collection, with findings presented in a scientific poster for Unit 4, Outcome 2.

Sample study program for:

Science

A traditional course. Each tertiary institution has their own criteria- make sure you seek advice from your careers teacher.

Subject	Units			
	1	2	3	4
English	×	×	×	×
Math Methods	×	×	×	×
Physics	×	×	×	×
Chemistry	×	×	×	×
General Maths	×	×	×	×
Additional Unit	×	×		

TAFE

Certificate/Diploma courses in:

Air Traffic Controller, Pilot, Sound Technician, Draftsperson, Cartographer, Marine Engineer, Survey Drafter, Laboratory Technician, Refrigeration Mechanic and many more...

UNIVERSITY

Associate Diplomas/Bachelor Degrees in:

Aerospace Engineer, Agricultural Scientist, Astronomer, Medical Practitioner, Nuclear Medicine Technologist, Pharmacist, Veterinarian, Ship’s Captain and Forensic Scientist.

## Food Studies

### Year 11

#### Unit 1: Food origins

This unit focuses on food from historical and cultural perspectives and investigates the origins and roles of food through time and across the world. Students explore how humans have historically sourced their food, examining the general progression from hunter-gatherer to rural-based agriculture, to today's urban living global trade in food. Students consider the origins and significance of food through inquiry into one food-producing region of the world.

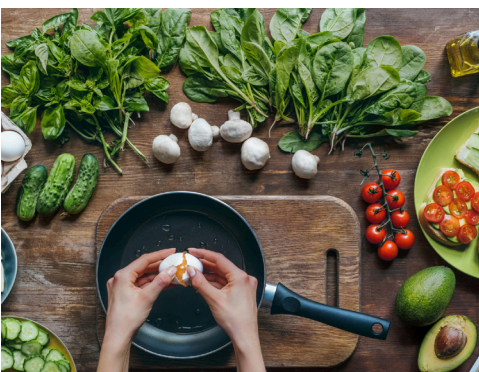
Students also investigate Australian indigenous food prior to European settlement and how food patterns have changed since, particularly through the influence of food production, processing and manufacturing industries and immigration. Students investigate cuisines that are part of Australia's culinary identity today and reflect on the concept of an Australian cuisine. They consider the influence of innovations, technology and globalisation on food patterns.

#### Unit 2: Food makers

In this unit students investigate food systems in contemporary Australia, exploring both commercial food production industries and food production in small-scale domestic settings, as both a comparison and complement to commercial production.

Students gain insight into the significance of food industries to the Australian economy and investigate the capacity of industry to provide safe, high-quality food that meets the needs of consumers.

Students produce foods and consider a range of evaluation measures to compare their foods to commercial products. They consider the effective provision and preparation of food in the home and analyse the benefits and challenges of developing and using practical food skills in daily life. Students design new food products and adapt recipes to suit particular needs and circumstances. They consider the possible extension of their role as small-scale food producers by exploring potential entrepreneurial opportunities.



### Year 12

#### Unit 3: Food in daily life

This unit investigates the many roles and everyday influences of food. Students explore the science of food – they consider the physiology of eating, the microbiology of digestion, the role of diet on gut health and appreciating food.

Students analyse the scientific rationale behind the Australian Dietary Guidelines and the Australian Guide to Healthy Eating and develop their understanding of diverse nutrient requirements.

Students also investigate how communities, families and individuals change their eating patterns over time and how our food values and behaviours develop within social environments. Students inquire into the role of food in shaping and expressing identity and connectedness and the ways in which food information can be filtered and manipulated. They investigate behavioural principles that assist in the establishment of lifelong, healthy dietary patterns. The practical component of this unit enables students to understand food science terminology and to apply specific techniques to the production of everyday food that facilitates the establishment of nutritious and sustainable meal patterns.

#### Unit 4: Food issues, challenges and futures

In this unit students examine debates about global and Australian food systems and describe key issues relating to the challenge of adequately feeding a rising world population. Students focus on issues related to the environment, ecology, ethics, farming practices, the development and application of technologies, and the challenges of food security, food safety, food wastage, and the use and management of water and land.

Students also investigate individual responses to food information and misinformation and the development of food knowledge, skills and habits to empower consumers to make discerning food choices. Students consider how to assess information and draw evidence-based conclusions, and apply this methodology to navigate contemporary food fads, trends and diets. Students' food production repertoire reflects the Australian Dietary Guidelines and the Australian Guide to Healthy Eating.

#### Sample study program for:

### Food Studies

A traditional course. Each tertiary institution has their own criteria, make sure you seek advice from your careers teacher.

Subject	Units			
	1	2	3	4
English	×	×	×	×
Food Studies	×	×	×	×
Maths	×	×	×	×
Health	×	×	×	×
Additional Unit	×	×	×	×
Additional Unit	×	×		

#### Recommended additional units:

PE, Psychology, Business Management, Biology, VET Hospitality, Chemistry, Industry & Enterprise.

#### TAFE

##### Certificate/Diploma courses in:

Hospitality Courses, Certificate II in Kitchen Operations, Certificate IV in Hospitality.

#### UNIVERSITY

##### Associate Diplomas/Bachelor Degrees in:

Bachelor of Home Economics, Bachelor of Food Science, Bachelor of Dietetics, Bachelor of Nutrition.

##### Possible employment outcomes after TAFE/University:

Apprenticeships: Chef, Baker, Pastry Chef, Cook, Butcher, Kitchenhand, Bar Work, Food Technology Teacher, Food Technician, Food Scientist, Dietician, Food Photographer.



## Computing

### Year 11

#### Unit 1: Applied Computing

In this unit students are introduced to the stages of the problem-solving methodology. Students focus on how data can be used within software tools such as databases and spreadsheets to create data visualisations, and the use of an object-oriented programming (OOP) language to develop a working software solution.

#### Unit 2: Applied Computing

In this unit students focus on developing an innovative solution to a problem, need or opportunity that they have identified utilising emerging technologies such as AI, Robotics and Virtual Reality, and develop an understanding of network environments, cyber security risks, threats to networks and strategies to reduce the risks to data and information.

### Year 12

#### Entry to Units 3 & 4

It is highly recommended students have studied Units 1 & 2 Applied Computing prior to undertaking Units 3 & 4.

#### Unit 3: Data Analytics

In this unit students apply the problem-solving methodology to analyse data using software tools such as database, spreadsheet and data visualisation software to create data visualisations. Students develop an understanding of the analysis, design and development stages of the problem-solving methodology

#### Unit 4: Data Analytics

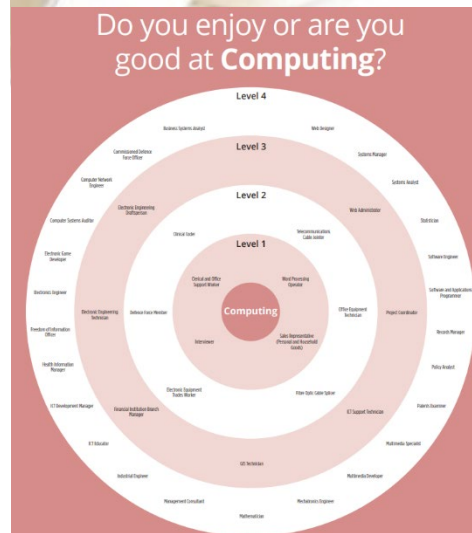
In this unit students focus on determining the findings of a research question by developing infographics and/or dynamic data visualisations based on large complex data sets, consider data breaches and investigate the security strategies used by an organisation to protect data and information from cyber security threats.

#### Unit 3: Software Development

In this unit students apply the problem-solving methodology to develop working software modules using an object-oriented programming (OOP) language. Students develop an understanding of the analysis, design and development stages of the problem-solving methodology.

#### Unit 4 Software Development

In this unit, students focus on how the needs of individuals and organisations are met through the development of software solutions using an object-oriented programming (OOP) language and consider the cyber security risks to organisations as a result of insecure software development practices.



Sample study program for:

### Computing

A traditional course. Each tertiary institution has their own criteria, make sure you seek advice from your careers teacher.

Subject	Units			
	1	2	3	4
English	X	X	X	X
VCE Computing	X	X	X	X
VET IT	X	X	X	X
Maths	X	X	X	X
Additional Unit	X	X	X	X
Additional Unit	X	X		

### VET Information Technology (Certificate III)

This 2-year course qualifies students for employment in a range of Information and Communications Technology (ICT) roles, such as computer construction and repair, digital media production, generalist IT support services, networking, and programming.

Students will learn to apply a broad set of skills, including foundational knowledge in critical thinking, teamwork and customer service skills, to support a range of technologies, processes, procedures, policies, people and clients in a variety of work contexts.

#### Units studied:

BSBCRT301	Develop and extend critical and creative thinking skills
BSBXCS303	Securely manage personally identifiable information and workplace information
BSBXTW301	Work in a team
ICTICT313	Identify IP, ethics and privacy policies in ICT environments
ICTPRG302	Apply introductory programming techniques
ICTSAS305	Provide ICT advice to clients
Plus 6 Computing Electives TBA	

#### TAFE

##### Certificate/Diploma courses in:

Cyber Security, Computer Systems Engineering, ICT, Information Systems/Networking, Software Development/Engineering, Computer Science, Games and Graphic Programming, Games Design.

#### UNIVERSITY

##### Associate Diplomas/Bachelor Degrees in:

Digital Media Technology, Digital and Interactive Games, Cyber Security, Computer Science, Games Design/Development, Games Programming, Information Technology.

## Product Design & Technology

These units can have a focus on wood or metal areas but cover the same syllabus.

### Year 11

#### Unit 1: Design Practices

In this unit, students analyse and evaluate existing products and current technological innovations in product design. They achieve this through understanding the importance of a design brief, learning about factors that influence design and using the Double Diamond design approach as a framework. In their practical work, students explore and test materials, tools and processes available to them in order to work technologically and they practise safe skill development when creating an innovative product

#### Unit 2: Positive Impacts for End Users

In this unit, students specifically examine social and/or physical influences on design. They formulate a profile of an end user(s), research and explore the specific needs or opportunities of the end user(s) and make an inclusive product that has a positive impact on belonging, access, usability and/or equity.

### Year 12

#### Unit 3: Ethical Product Design and Development

In this unit students research a real personal, local or global need or opportunity with explicit links to ethical considerations. They conduct research to generate product concepts and a final proof of concept for a product solution that addresses the need(s) or opportunities of the end user(s).

#### Unit 4: Production and Evaluation of Ethical Designs

In this unit students continue to make the product designed in Unit 3, using materials, tools and processes safely and responsibly. Throughout the production process, they monitor and record their progress during implementation of their scheduled production plan.

School fees provide for a basic model only. If a student chooses to make a model other than the basic model, they will need to provide their own materials or pay for the extra materials prior to ordering.



Sample study program for:

### Product Design & Technology

A traditional course. Each tertiary institution has their own criteria, make sure you seek advice from your careers teacher.

Subject	Units			
	1	2	3	4
English	×	×	×	×
Maths	×	×	×	×
Product Design & Technology	×	×	×	×
Physics	×	×	×	×
VET Course in Wood or Metal or Carpentry	×	×	×	×
Additional Unit	×	×		

#### TAFE

**Certificate/Diploma courses in:**  
Building, Metal, Design, Development.

#### Apprenticeships

Carpentry, Building, Cabinet Maker, Pattern Maker, Welding, Metal Industry, Boilermaker, Fitter & Turner

#### Possible employment outcomes after TAFE/University:

Apprenticeships- Technicians, Pattern making design options, Boiler maker, Specialist Welder, Panel Beater, Fitter and Turner, CNC Production

## Systems Engineering

### Year 11

#### 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 simple to more complex mechanical devices.

This unit contains the fundamental physics and theoretical understanding of mechanical systems and how they work, the main focus is on the construction of a system such as a lifting device like a crane. The construction process draws heavily upon design and innovation.

All systems require some form of energy to function. Through research, students explore and quantify how systems use or convert the energy supplied to them.

In this unit, students are introduced to the Systems Engineering Process. They are introduced to the fundamental mechanical engineering principles, including recognition of mechanical subsystems and devices, their motions, the elementary applied physics, and the related mathematical calculations that can be applied to define and explain the physical characteristics of these systems.

#### Unit 2: Introduction to Electrotechnology Systems

In this unit, students study fundamental electrotechnology engineering principles. Through the application of their knowledge and the Systems Engineering Process, students produce operational systems that may also include mechanical components. Students explore electrotechnology systems and how they work, and construct a remote control planetary vehicle with suspension. The construction process draws heavily upon design and innovation.

Students study fundamental electrotechnology principles including applied electrical theory, representation of electronic components and devices, elementary applied physics in electrical circuits, and mathematical calculations that can be applied to define and explain electrical characteristics of circuits. The unit offers opportunities for students to apply their knowledge in the design, construction, testing and evaluation of an operational system. The system should be predominately electro-technically based, but would generally have electro-mechanical components within the system.

### Year 12

#### Unit 3: Integrated Systems Engineering and Energy

In this unit students study the engineering principles that are used to explain the physical properties of integrated systems and how they work. Through the application of their knowledge, student's design and plan an operational, mechanical-electro technology integrated and controlled system. They learn about the technologies used to harness energy sources to provide power for engineered systems.

Students commence work on the designing and planning of one substantial controlled integrated system. This project has a strong emphasis on designing, testing and innovation of their integrated system.

Students learn about sources and types of energy that enable engineered technological systems to function. Comparisons are made between the impacts of the use of renewable and non-renewable energy sources. Students learn about the technological systems developed to capture and store renewable energy and technological developments to improve the credentials of non-renewables.



#### Unit 4: Systems Control and New and Emerging Technologies

In this unit students produce, test and evaluate the integrated controlled system they designed in Unit 3. Students investigate new and emerging technologies, consider reasons for their development and analyse their impacts.

Students use their investigations, design and planning to continue the fabrication of their mechanical-electro technology integrated and controlled system using the Systems Engineering Process. They use project and risk management methods through the construction of the system and use a range of materials, tools, equipment, and components. Students test, diagnose and analyse the performance of the system as well as evaluate the processes and the system.

Students expand their knowledge of new and emerging technology developments through their investigation and analysis of a range of engineered systems. They analyse a specific new or emerging technology, including its impacts.

**School fees provide for a basic model only. If a student chooses to make a model other than the basic model, they will need to provide their own materials or pay for the extra materials prior to ordering.**



Logan Ouchirenko (2024 Year 12 student).

Sample study program for:

### Systems Engineering

A traditional course- each tertiary institution has their own criteria- make sure you seek advice from your careers teacher.

Subject	Units			
	1	2	3	4
English	×	×	×	×
Maths	×	×	×	×
Systems Eng.	×	×	×	×
Physics	×	×	×	×
VET Course in Electrical, Automotive or Electronics	×	×	×	×
Additional Unit	×	×		

#### TAFE

**Certificate/Diploma courses in:**  
Electronics, Engineering, Automotive.

#### UNIVERSITY

**Associate Diplomas/Bachelor Degrees in:**  
Engineering.

#### Possible employment outcomes after TAFE/University:

Apprenticeships- Electrician, Electronical Engineer, Automation, Transport, Renewable Energies, Mechatronics, Telecommunications.



# Career Planning

<b>Job Title</b>						
<b>Employment Opportunities</b>						
<b>Qualification required for job</b>						
<b>Education Requirements (secondary college)</b>	<b>Year 10</b>	<b>Year 11</b>	<b>Year 12</b>	<b>VCE</b>	<b>VCE-VM</b>	<b>VET</b>
<b>Post Secondary Education Required:</b>	<b>None</b>	<b>TAFE</b>	<b>University</b>	<b>Other</b>		
<b>Course Title</b>						
<b>Institutions that offer this course are:</b>	<b>1</b>					
	<b>2</b>					
	<b>3</b>					
<b>ATAR Score</b>						
<b>Application Procedures</b>						
<b>Additional Prerequisites</b>						
<b>Secondary College Preparation:</b>	<b>Subjects that are required/recommended for this job/course:</b>					
	<b>1</b>					
	<b>2</b>					
	<b>3</b>					
	<b>4</b>					
	<b>5</b>					
	<b>6</b>					

## Review

<b>Questions to consider</b>	<b>Yes</b>	<b>No</b>
Have I selected the appropriate subjects to help me achieve my goal?		
Are the subjects required for the job/course available to me?		
Are my school results good enough to achieve my goal?		
Do I need to modify my behaviour/actions in order to achieve my goal?		
Is the course I need to do to achieve my goal available locally?		
If not, is attending an institution elsewhere a viable alternative?		
Does this career offer the salary and benefits I need?		
Is the career I am considering really what I want?		
If necessary, am I willing to leave the region to find employment in my area of interest?		
Do any of the related occupations interest me?		

Job Title						
Employment Opportunities						
Qualification required for job						
Education Requirements (secondary college)	Year 10	Year 11	Year 12	VCE	VCE-VM	VET
Post Secondary Education Required:	None	TAFE	University	Other		
Course Title						
Institutions that offer this course are:	1					
	2					
	3					
ATAR Score						
Application Procedures						
Additional Prerequisites						
Secondary College Preparation:	Subjects that are required/recommended for this job/course:					
	1					
	2					
	3					
	4					
	5					
	6					

## Review

Questions to consider	Yes	No
Have I selected the appropriate subjects to help me achieve my goal?		
Are the subjects required for the job/course available to me?		
Are my school results good enough to achieve my goal?		
Do I need to modify my behaviour/actions in order to achieve my goal?		
Is the course I need to do to achieve my goal available locally?		
If not, is attending an institution elsewhere a viable alternative?		
Does this career offer the salary and benefits I need?		
Is the career I am considering really what I want?		
If necessary, am I willing to leave the region to find employment in my area of interest?		
Do any of the related occupations interest me?		