Guide to Senior School

Welcome to Senior School

In entering this phase of your education you are enrolling in subjects in which the curriculum and assessment is specified by the Victorian Curriculum and Assessment Authority (VCAA), or the Victorian Qualifications Authority (VQA). This is the same for all Year 11 and 12 students across the state. These studies are detailed in the accompanying documents. You are able to choose studies from a wide range and you will find many studies of interest to you.

As the VCE and VCAL is controlled by the VCAA or VQA you will be enrolled with the VCAA and all results will be sent to them. Subsequently, certificates will be issued by the VCAA and VQA. These form a permanent, life long record of your results. For this reason it is vital that people realise the importance of these years. The College recognises the maturity of those who choose to undertake Years 11 & 12, and teach senior classes accordingly.

Enrolling in VCE or VCAL means you have made a conscious decision to fully engage in the studies you choose. Your teachers will do all they can to assist you to gain the most from your Senior School years.

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 VCAL
- Counselling in relation to tertiary study requirements and opportunities to visit Universities and TAFE Colleges
- Managed Individual Pathways for students
- Opportunities to engage with Headstart team to participate in apprenticeship and traineeship pathways whilst completing VCAL/VCE.

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.

If you have concerns about your ability to undertake a particular VCE or VCAL study ask your current teacher in that subject for advice.

The Senior School Team

The current Senior Coordination team is made up of five members. The 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.

Trevor Cox
Mini School Leader

Julie Jeffrey
Administration Assistant
Senior School

Sarah Giessler
VCAL Coordinator
Senior School

Norman Trewin
VCE Coordinator
Senior School

Emily Vernon
Student Advocate
Senior School

Table of Contents

Planning & Selecting your Course

In choosing which studies you will undertake you should:

- Have a future career or education pathway in mind.
- Have the correct advice - use the careers team to give you, or to ensure you have, factual information about future requirements.
- Be aware of the best pathway to achieve your chosen career; there are often a number of different pathways to the same career.
- Choose subjects which you enjoy, that you may need for future study or work, which maintain and develop your special skills and talents and meet the VCE requirements as detailed in the VCAA "Where to Now" booklet.
- Note any unit costs associated with any studies, as these must be paid to cover the costs of consumable materials.
- Be aware of what is involved in VET if this is of interest to you.
- Choose to enrol in the VCE or VCAL
- The careers team have found the best advice for students and parents is to:
  - Gather as much information as you possibly can now, to help make decisions for the future.
  - What may have begun as a desire to commence employment may change over the senior years. It is important to keep options open and select subjects that can lead you down other pathways.
  - Talk to people, use newspapers & TV; discuss income levels and changes in work.
  - List as many subjects as you think you might enjoy in completing your VCE - find out all you can about each subject from Teaching & Learning Coordinators or subject teachers (both year 10 and VCE).
  - Jobs change, people change, and towns and friends change but the issue that won't change is that the best-qualified person will get the job.
  - Visit the Careers Resource Centre and use the staff who can provide information that may make your decisions less complicated. Narrow the list down after you have spoken to them.
  - If you are applying for a Visual, Graphic or Performing Arts course remember the importance of a folio.
  - Work experience/placement is invaluable. The pay might not be the best but the rewards are reaped when you talk to employers about what the occupation involves, what the future holds and confidence is usually developed. Many employers consider work experience to be a valuable method of determining a student's potential when they decide to leave school and apply for their first job. Apply for part-time work; this remains one of the greatest personal development activities in assisting with career choice. However, you should assess your overall weekly commitments to obtain a sensible balance between school and out of school tasks.
  - Most University courses give students a selection of subjects as prerequisites. Choose wisely from those subjects you are most likely to do well in at Year 12.
  - The ATAR generally has little bearing on TAFE placements. Rather, greater emphasis is on individual success within subjects completed by the student at Years 11 and 12 and a desire to complete a vocational or "Job ready" program.

Where to get information

Where to get information

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

'WHERE TO NOW' BOOKLET:
Available to everyone as a digital download.

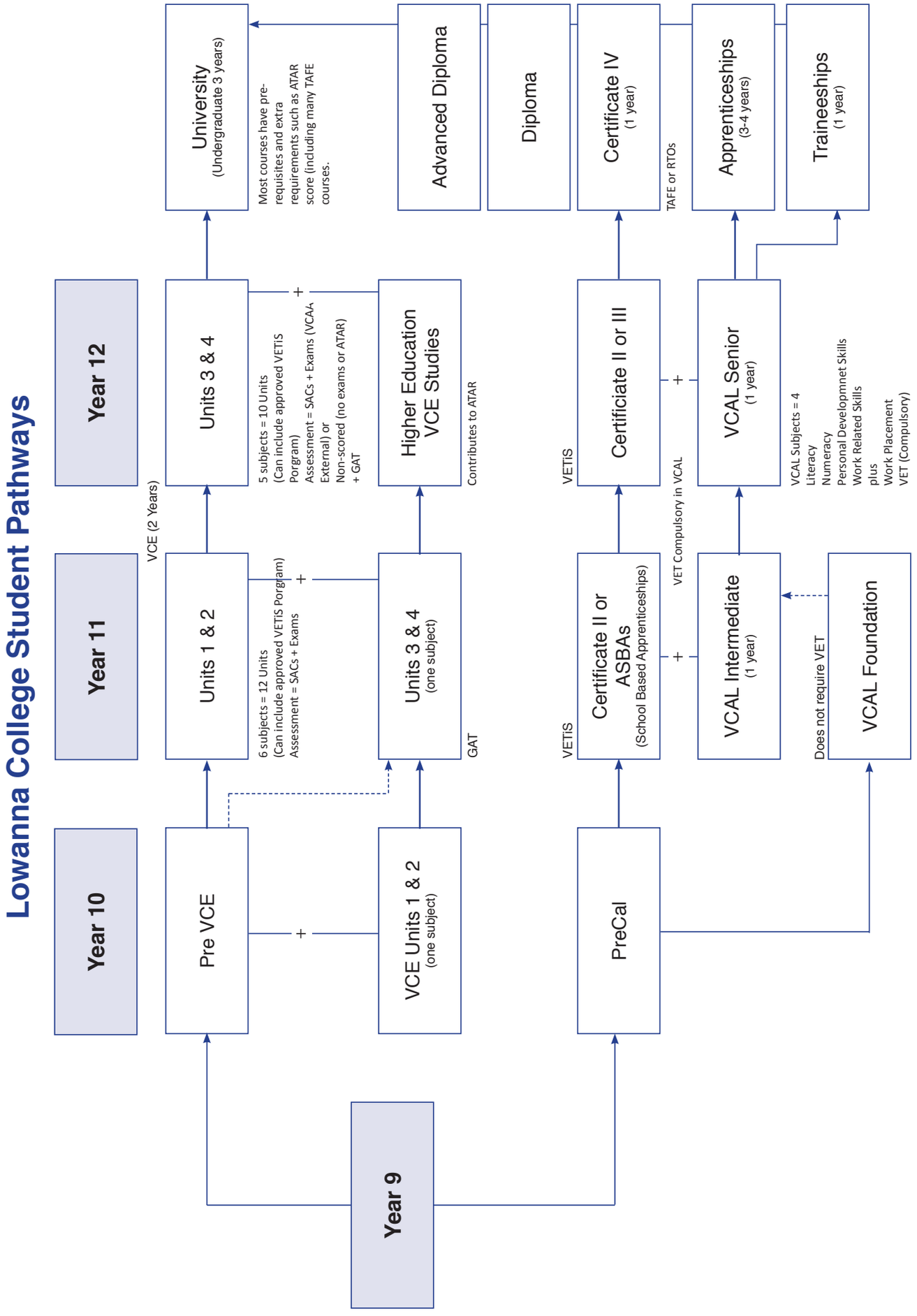
LOWANNA COLLEGE WEB SITE:
www.lowanna.vic.edu.au
Various information sources including the Senior School Handbook

VTAC GUIDE:
Tertiary and TAFE course listings for Victoria
www.vtac.edu.au - go to course link

ENTER INTO TERTIARY COURSES:
VTAC Publication — See the careers team (calculating your ATAR and subject scaling) about this publication.

VCAA WEB SITE:
www.vcaa.vic.edu.au, Ph 03 9651 4357

JOB GUIDE:
Available from Lowanna College Careers Resource Centre


Lowanna College Student Pathways
Year 10
Year 11
Year 12
Year 9
VCE (2 Years)
Pre VCE
Units 1 & 2
Units 3 & 4
6 subjects = 12 Units
(Can include approved VETiS Porgram)
Assessment = SACs + Exams
5 subjects = 10 Units
(Can include approved VETiS Porgram)
Assessment = SACs + Exams (VCAA External) or
Non-scored (no exams or ATAR)
+ GAT
VCE Units 1 & 2
(one subject)
Units 3 & 4
(one subject)
Higher Education
VCE Studies
Contributes to ATAR
GAT
University
(Undergraduate 3 years)
Most courses have pre-requisites and extra requirements such as ATAR score (including many TAFE courses.
Advanced Diploma
Diploma
PreCal
VETiS
Certificate II or
ASBAs
(School Based Apprenticeships)
Certificiate II or III
VETiS
VET Compulsory in VCAL
VCAL Intermediate
(1 year)
VCAL Senior
(1 year)
VCAL Subjects = 4
Literacy
Numeracy
Personal Developmnet Skills
Work Related Skills
plus
Work Placement
VET (Compulsory)
Does not require VET
VCAL Foundation
Certificate IV
(1 year)
TAFE or RTOs
Apprenticeships
(3-4 years)
Traineeships
(1 year)

Student Workload

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 Organizer 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

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 VCAL 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.

Years 10 - 12: As a general guide, students in these years would require 1-3 hours of homework and/or study per weekday, with up to 6 hours on weekends during peak VCE periods.

Head Start

What is Head Start?

Head Start is a new Apprenticeship and Traineeship pathway for school students aimed at giving them just that. Head Start allows students to undertake their VCE or VCAL up the three years so they can spend more time in paid, on-the-job training to develop skills employers need in growing industries.

Head Start students leave secondary school with their VCE or VCAL and the recognition for completing or near completed their 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/VCAL.

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 VCAL, 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.

How Head Start Works?

Depending on the needs of the employer, students attend schools some days and work on others. At a minimum, students will undertake paid employment for;

- One day per week in Year 10
- Two days per week in Year 11
- Three days per week in Year 12

Further Information?

For further information, call Amanda McMahon, Head Start Co-Ordinator, Inner Gippsland on 0428 197 919 or email amanda.mcmahon3@education.vic.gov.au

HEADSTART
APPRENTICESHIPS AND TRAINEESHIPS

Victorian Certificate of Education (VCE)

All Year 10 students will receive a Booklet prepared by the VCAA called **'Where to Now'** which has details about the VCE and VCAL. You must ensure you are aware of the rules governing the VCE and VCAL and the requirements for satisfactory completion of studies.

Remember that a major part of the VCE is the assessment of your performance. At Year 12 this is done using external exams, and school-based assessments called SATs (School Assessed Tasks) or SACs (School Assessed Course work). It is on the basis of these results that your ATAR Score is calculated for entry into University and some TAFE courses. The exam result is used to statistically moderate school-based results so that they are consistent with external exam results. It is therefore critical that students are prepared and do their best in the exams.

Your performance at Year 11 is determined by your teachers and recorded on your reports. How well you do will be seen by prospective employers, will have an impact upon future pathways and is a guide to the level of preparation for Units 3 & 4 studies.

Satisfactory completion of a unit (a Semester's work) is not based upon Work Requirements but on Learning Outcomes. A Learning Outcome defines what a student will know and be able to do as a result of undertaking a study. Each Outcome has key knowledge and skills and students will have to demonstrate the skills and knowledge to be awarded an 'S' (Satisfactory) for each Learning Outcome. Each study has between two and four Learning Outcomes and each Outcome must be met for an overall 'S' to be awarded.

Completion

Most students will complete the VCE in two years, though some students may take three years.

Number of Units per Semester

Lowanna College Senior School operates on a 5 period day. Each period will be approximately 60 minutes duration. All subjects will be timetabled for 4 periods per week. VCE students have a study period/s, which allows them to better handle the demands of VCE and enable them to perform their best on School Assessed Coursework (SACs) and exams. The study periods are outlined below:

Course	Day of Study Period
VCAL	No study period
VCE without VET subject	Wednesday period 5

The school provides rooms for the study periods and this time is also used for students to catch up on missed SACs due to illness etc.

The College reserves the right to cancel study leave if it is found that students are not using this time productively or their GPA (Grade Point Average) falls below 2.

Students are required to study six units per semester in their first year (Year 11) and a minimum of five units per semester in their second year (Year 12).

Some students may be counseled to undertake studies in specific interest areas, e.g. some TAFE courses or extension studies offered through universities.

The Order of the Units

It is possible to enrol in a Unit 3 & 4 study in your Year 11 year. This is often of benefit as it allows students to experience external assessment and has the potential to improve a student's ATAR score. Students should discuss choosing a Unit 3/4 study with their subject teacher, a Faculty Coordinator, Year Level Coordinator or a Careers Teacher.

It is possible to enrol in a Unit 1 or Unit 2 study in your Year 12 year. Units 1 and 2 may be studied independently.

One VCE requirement is for students to complete four sequences of Units 3 & 4, one of which must be from the English area. You must complete 3 Units of English or Literature (two fo which must be Unit 3 and 4) over 2 years to successfully receive your VCE certificate.

Extension Studies

Some students might wish to do a first year university subject during Year 11 or Year 12. You must have completed a related Unit 3 & 4 sequence before undertaking extension studies.

Potential benefits for students:

- Students who successfully complete the higher education course/s will receive credit for those courses towards prescribed undergraduate degree programs with the University.
- Experience studing in a university learning environment.
- Gain vital academic skills that will equip students for undergraduate study.
- Study higher education courses in vocational fields that directly relate to the students' career ambitions.
- Access to university content-rich resources and study support.
- Build confidence and aspirations for students to continue tertiary studies after VCE.

High achievement always takes place in the framework of high expectations.

Victorian Certificate of Applied Learning (VCAL)

VCAL is an alternative Certificate to the VCE for students in Years 11 & 12, accredited by the Victorian Qualifications Authority. The Program allows students to undertake some aspects of VCE, apply their learning in the workplace and undertake activities that assist in their personal development.

VCAL Program

- 5 day program [3 days at school and 2 out of school]
- 1 day VET subject
- 1 day Work placement
- 3 days Lowanna – timetabled classes for Literacy, Numeracy, Work Related Skills and Personal Development classes and Work Related Studies.

VCAL is available at 3 levels:

1. **Foundation Level** if students are unable or do not wish to access VET Programs and a full VCE program is not suitable.
2. **Intermediate Level** (Year 11) - students progressing from Year 10 to 11 who are intending to undertake a VET or School Based Apprenticeship & Traineeship (SBAT) Program.
3. **Senior Level** (Year 12) - students who have completed Intermediate Level.

At each Level students are required to undertake and complete 10 Units where each Unit has a nominal time of 100 hours.

A Victorian Certificate of Applied Learning (VCAL) program must include curriculum from each of the VCAL strands of Literacy and Numeracy, Work Related Skills, Personal Development Skills and Industry Specific Skills. While at first these may seem like discrete fields of study, many applied learning tasks, activities and projects will involve learning across several of these curriculum areas. This reflects the integration of skills that often occurs outside the school curriculum, in everyday life and the workplace.

Why integrate?

The principles of applied learning that underpin the VCAL emphasise the benefits of making learning more immediately relevant to the needs and interests of students and their future goals. This means providing students with a context for learning new skills that is not driven by tranditional curriculum divisions, but that reflects how those skills will be applied in the community and workplace or in their personal lives.

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

1. English

- **VCAL Literacy - Intermediate and Senior**
  The VCAL Literacy program includes both Intermediate and Senior levels. The learning outcomes cover personal and practical texts, research projects and issues relevant to the lives and interests of students. The units of work are designed to develop students' reading, writing and oral skills,. All learning outcomes must be completed at an appropriate standard to meet VCAL requirements.

2. Maths

- **Foundation Maths - Intermediate**
- **Numeracy - Senior**
  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. Industry Specific Skills

- VET Certificate Course — students can undertake any one of the alternatives offered; or
- School Based Apprenticeship & Traineeship (SBAT). Arranged by student/parent. SBATs have two days work placement.

Students undertaking VCAL at Intermediate and Senior level must complete one of the VET course options to meet the minimum requirements for the Industry Specific Skills Strand.

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

4. Work-Related Skills (VCE Subject)

Industry specific subjects. Examples may include:

- Industry & Enterprise
- Food Technology
- Design & Technology Wood/Metal
- Systems Engineering
- Studio Art
- Health & Human Development
- Outdoor Education
- Psychology

5. Personal 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 in participatory form.

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

6. Work Related Studies

Compulsory work placement.

Work placement is compulsory when completing any VCAL 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 VETis 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. VCAL 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

Art

Studio Arts

Year 11

Unit 1

This unit focuses on using sources of inspiration and individual ideas as the basis for developing artworks and exploring a wide range of materials and techniques as tools for communicating ideas, observations and experiences through art-making.

Students also explore and research the ways in which artists from different times and cultures have interpreted and expressed ideas, sourced inspiration and used materials and techniques in the production of artworks.

Unit 2

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

Students also develop skills in the visual analysis of artworks. Artworks made by artists from different times and cultures are analysed to understand the artists' ideas and how they have created aesthetic qualities and identifiable styles.

Year 12

Unit 3

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

For this study, the exploration proposal supports the student to identify a direction for their design process. Each student determines the design process individually. It records trialing, experimenting, analysing and evaluating the extent to which their art practices successfully communicate their aims and ideas.

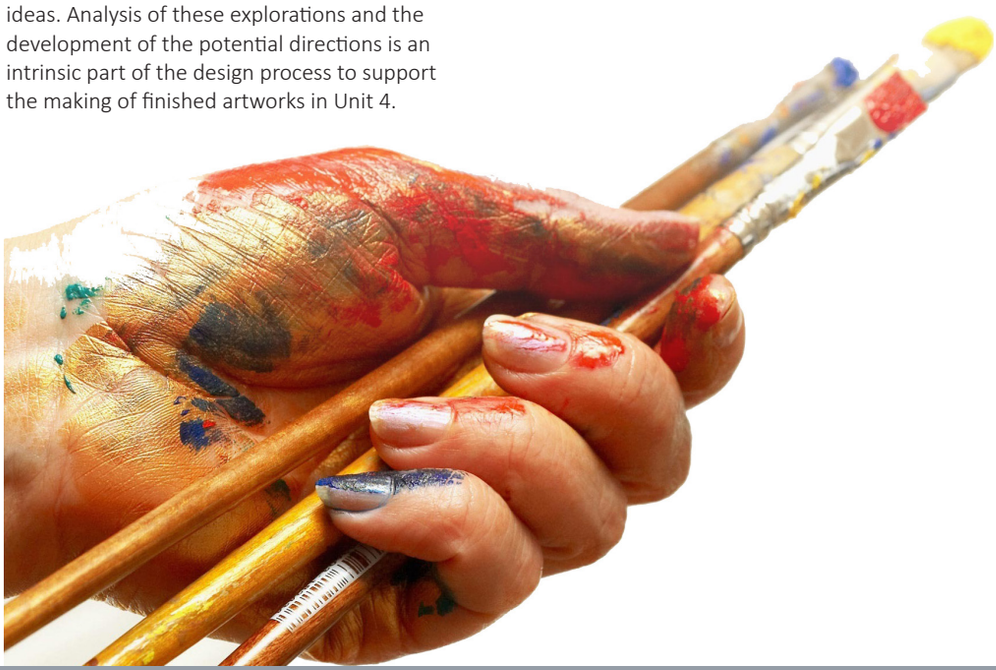
The study of artists and their work practices and processes may provide inspiration for students' own approaches to art making.

They explore professional art practices of artists in relation to particular artworks and art forms and identify the development of styles in artworks. Throughout their study of art processes, students also consider the issues that may arise from the use of other artists' work in the making of new artworks. Students are expected to visit at least two different exhibitions spaces in their current year of study.

Unit 4

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

This unit also investigates aspects of artists' involvement in the art industry, focusing on a variety of exhibition spaces and the methods and considerations involved in the preparation, presentation and conservation of artworks. Students examine a range of environments for the presentation of artworks exhibited in contemporary settings.



Visual Communication & Design

Year 11

Unit 1

This unit focuses on using visual language to communicate messages, ideas and concepts. This involves acquiring and applying design thinking skills as well as drawing skills to make messages, ideas and concepts visible and tangible. Students practice their ability to draw what they observe and they use visualization drawing methods to explore their own ideas and concepts. Students develop an understanding of the importance of presentation drawings to clearly communicate their final visual communications.

Through experimentation and exploration of the relationship between design elements and design principles, students develop an understanding of how design elements and principles affect the visual message and the way information and ideas are read and perceived. Students review the contextual background of visual communication through an investigation of design styles. This research introduces students to the broader context of the place and purpose of design.

Unit 2

This unit focuses on the application of visual communication design knowledge, design thinking skills and drawing methods to create visual communications to meet specific purposes in designated design fields.

Students use presentation drawing methods that incorporate the use of technical drawing conventions to communicate information and ideas associated with the environmental or industrial fields of design. They investigate how typography and imagery are used in visual communication design. They apply design thinking skills when exploring ways in which images and type can be manipulated to communicate ideas and concepts in different ways in the communication design field. In response to a brief, students engage in the stages of research, generation of ideas and development of concepts to create visual communications.

Year 12

Unit 3

In this unit students gain an understanding of the process designers employ to structure their thinking and communicate ideas with clients, target audiences, other designers and specialists. They investigate and experiment with the use of manual and digital methods, media and materials to make informed decisions when selecting suitable approaches for the development of their own design ideas and concepts.

Students use their research and analysis of visual communication designers to support the development of their own work. They establish a brief and apply design thinking skills through the design process and identify and describe a client, two distinctly different needs of that client, and the purpose, target audience, context and constraints relevant to each need.

Design from a variety of historical and contemporary design fields is considered by students to provide directions, themes or starting points for investigation and inspiration for their own work. The brief and investigation work underpin the developmental and refinement work undertaken in Unit 4.

Unit 4

The focus of this unit is the development of design concepts and two final presentations of visual communications to meet the requirements of the brief. This involves applying the design process twice to meet each of the stated needs. Having completed their brief and generated ideas in Unit 3, students continue the design process by developing and refining concepts for each need stated in the brief. They utilise a range of digital and manual two- and three-dimensional methods, media and materials. They investigate how the application of design elements and design principles creates different communication messages with their target audience.

Students refine and present two visual communications within the parameters of the brief. They reflect on the design process and the design decisions they took in the realisation of their ideas. They evaluate their visual communications and devise a pitch to communicate their design thinking and decision making to the client.

Drama

Year 11

Unit 1: Dramatic storytelling

This unit has been organised to distinguish between processes involved in creating drama and those involved in performing devised drama. Students create, present and analyse a devised performance that includes real or imagined characters, based on personal, cultural and/or community experience and stories.

Unit 2: Creating Australian Drama

This unit focuses on using a range of stimulus material to create a performance work with an Australian focus. Students then present and analyse the created performance. Students view and analyse a professional or non professional performance work written, adapted or devised by Australian writers or theatre-makers or theatre that reflects some aspects of the Australian identity.

Year 12

Units 3 & 4

In these units non-naturalistic drama from a diverse range of traditions is explored in the development of ensemble performance. The use of performance style, theatrical conventions and stimulus materials from a variety of cultural sources is explored in the development of a solo performance. Students will be required to look at their own performances critically and analyse a professional performance.

Sample study program for:

Performing Arts - Media

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	✕	✕	✕	✕
Drama	✕	✕	✕	✕
Music	✕	✕	✕	✕
Media	✕	✕	✕	✕
Additional Unit	✕	✕	✕	✕
Additional Unit	✕	✕		

Recommended additional units:
Design & Technology, Maths, Physical Education, Industry & Enterprise, Psychology, Studio Art, Computing, Informatics, English Literature, Music, Visual Communication.

TAFE

Certificate/Diploma courses in:
Social & Community Studies, Arts, Childcare, Media, Public Relations.

UNIVERSITY

Associate Diplomas/Bachelor Degrees in:
Arts/Cinema Studies, Arts/Media, Performing Arts, Drama, Social Sciences, Humanities, Welfare, Early Childhood Development, Education, VCA & NIDA

Possible employment outcomes after TAFE/ University:
Human Resource Management, Teaching, Service Industries, Acting, Welfare, Childcare, Film & Television, Production, Journalism.

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 unit focuses on building performance and musicianship skills. Student's present performances of selected group and solo music works using one or more instruments. They study the work of other performers and explore strategies to optimise their own approach to performance.

Unit 2

In this unit students build their performance and musicianship skills. They present performances of selected group and solo music works using one or more instruments. Students study the work of other performers through listening and analysis and use specific strategies to optimise their own approach to performance. Students also devise an original composition or improvisation.

Year 12

Music Performance

Unit 3

This unit prepares students to present convincing performances of group and solo works. Students continue to study ways in which Australian performers interpret works that have been created since 1910 by Australian composers/songwriters.

Unit 4

In this unit students refine their ability to present convincing performances of group and solo works. Students continue to study ways in which Australian performers interpret works that have been created since 1910 by Australian composers/songwriters.

Music Investigation

Unit 3

In this unit students select a work from a prescribed list as the basis for an investigation of a Focus Area.

Unit 4

In this unit students continue the exploration within the Focus Area they began in Unit 3. In Unit 4 the investigation involves the preparation of program notes to accompany their end-of-year performance program.

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

website: 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 Industry (CUA30915)

Music Performance Sound Production

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

BSBWHS201	Contribute to health and safety of self and others
CUACMP301	Implement copyright arrangements
CUAIND303	Work effectively in the music industry
CUAMLT302	Apply knowledge of style and genre to music industry practice
CUAMCP301	Compose simple songs or musical pieces
CUAMPF203	Develop ensemble skills for playing or singing music
CUAMPF301	Develop technical skills in performance
CUAMPF302	Prepare for performances
CUAMPF305	Develop improvisation skills
CUAMPF402	Develop and maintain stagecraft skills
CUAMPF404	Perform music as part of a group
CUAMPF406	Perform music as a soloist

Certificate III in Technical Production (CUS30209)

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

BSBWHS201	Contribute to health and safety of self and others
CUACMP301	Implement copyright arrangements
CUAIND303	Work effectively in the music industry
CUAMLT302	Apply knowledge of style and genre to music industry practice
CUASOU202	Perform basic sound editing
CUAMPF303	Repair and maintain audio equipment
CUASOU306	Operate sound reinforcement systems
CUASOU307	Record and mix a basic music demo
CUASOU308	Install and disassemble audio equipment
CUASOU311	Mix music in a studio environment
CUASOU402	Manage audio input services

Health & Physical Education

Outdoor & Environmental Studies

Year 11

Unit 1: Exploring Outdoor Experiences

Unit costs approximately: $250

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

Unit costs approximately: $250

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 activites and exploration.

Year 12

Unit 3: Relationships with Outdoor Environments

Unit costs approximately: $250

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 bushwalking & exploration.

Unit 4: Sustainable Outdoor Environments

Unit costs approximately: $250

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.

Practicial programs may include snow or water based activities.

Please note:

There are additional costs associated with Outdoor and 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.

Physical Education

Year 11

Unit 1: The Human Body in Motion

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. They explore how the capacity and functions of each system influences participation in physical activity. Students consider the implications of the use of legal and illegal practices to improve the performance of the musculoskeletal and cardiorespiratory systems. They also recommend and implement strategies to minimise the risk of illness or injury to each system.

Unit 2: Physical Activity, Sport & Society

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 behavior. They create and participate in an activity plan that meets the physical inactivity and sedentary behavior guidelines relevant to a particular population group. Students apply various methods to assess physical activity and sedentary behavior levels, and analyse the data in relation to physical activity and sedentary behavior guidelines. Students study and critique a range of strategies that are effective in promoting participation in physical activity.

Year 12

Unit 3: Physical Activity Participation and Physiological Performance

Students gain an understanding of physical activity and sedentary behaviour from a participatory and physiological perspective. Students apply various methods to assess physical activity and sedentary levels, and analyse the data in relation to adherence to the National Physical Activity Guidelines. Students study and apply the social-ecological model to identify a range of Australian strategies that are effective in promoting participation in physical activity.

Students investigate the contribution of energy systems to performance in physical activity. They investigate the characteristics of each system and the interplay of the systems during physical activity. Students explore the causes of fatigue and consider different strategies used to delay and manage fatigue and to promote recovery.

Unit 4: Enhancing Performance

Students undertake an activity analysis and use the results of the analysis to determine the required fitness components for the activity. Students then participate in a training program designed to improve or maintain selected fitness components.

Students evaluate different techniques and practices that can be used to enhance performance, and look at the rationale for the banning or inclusion of various practices from sporting competition.

VET VCE Sport and Recreation Certificate 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 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

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

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.

Health & Human Development

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 including age, culture, religion, gender and socioeconomic status. They 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. The social, cultural and political factors that influence the food practices of and food choices made by youth are explored.

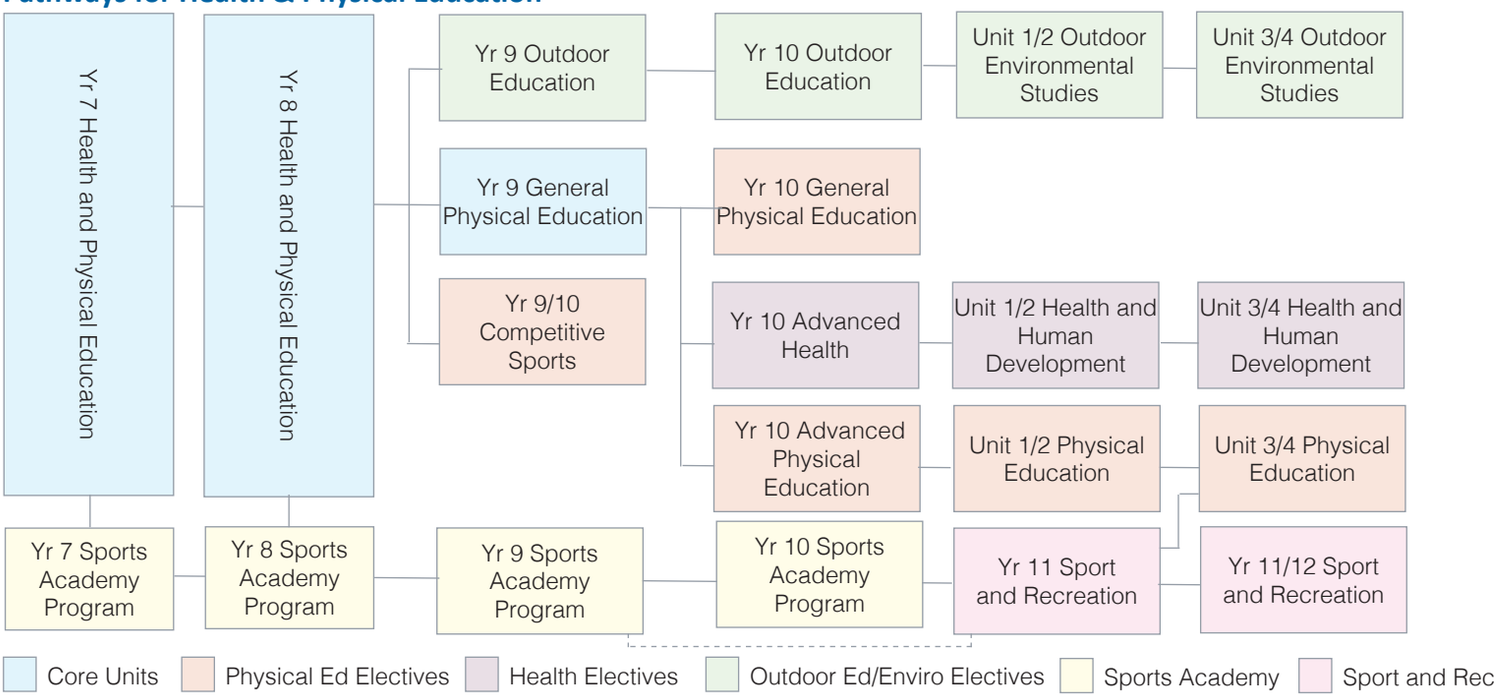
Unit 2: This area of study examines the developmental transitions from youth to adulthood. Students investigate factors that contribute to development, health and wellbeing during the prenatal, infancy and early childhood stages of the lifespan. Students investigate the health system in Australia, equity 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 begin to explore health and wellbeing as a global concept. They look at the conditions required for health improvement and use this knowledge as background to their analysis and evaluation of variations in the health status of Australians. The focus then moves to health promotion and improvements in population health over time. Students look at various health approaches and the models of health. They research how health of Australians can be improved by evaluating successful programs.

Unit 4: Students use data to investigate health status and burden of disease in different countries, exploring factors that contribute to health inequalities including the physical, social and economic conditions in which people live. They consider the health implications of increased globalisation and worldwide trends relating to climate change, digital technologies, world trade and the mass movement of people. Students focus on the work of the United nations sustainable development goals (SDG's) and the World health organisation(WHO). The role of non-government organisations and Australia's overseas aid program are also investigated. Students evaluate the effectiveness of health initiatives and programs in a global context.

Pathways for Health & Physical Education



Career Pathways:

VCAL: Sports Coach, Sports Instructor, Retail Sales, Community Coach, Communicty 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

Sports Academy

Lowanna College is offering students to be a part of the Sports Academy. This is a fully integrated academic and sporting program for students in years 7-12 specialising in the sports of AFL and Basketball. The program will be conducted by Mr Chandler (AFL) and Mr Santo (Basketball). All coaches are level 2 accredited. This is a specialist program and incurs additional fees.

The program aims to

- Provide diverse sporting and career pathways for students involved in the SEP 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 & sports injuries, nutrition for sport performance and recovery, 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 10

VET course Certificate III in Sport and Recreation. The theory component of the Sports Academy will be a VET course. The VET course itself will cost $300.

Students will develop the skills and knowledge required to support the operation of facilities and assist in conducting sport and recreation programs as well as a comprehensive understanding of the sport and recreation industry. This program is an examinable subject and students complete a VCAA exam at the end of the units 3 and 4 sequence.

Year 11 -12

Year 11-12 students will have the option of being part of the SEP. They will also be enrolled in, and complete VCE Physical Education as part of their VCE. Year 11s will have practical sessions in AFL and Basketball.

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 & 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

Possible employment outcomes after TAFE/ University:
Teaching, Recreation, Sports Administration, Parks & Wildlife, Youth Work, Ambulance Service, Sports Psychology, Journalism.

VCE English Options

Year 11	Year 12
VCE Foundation English Units 1 & 2 Foundation English is recommended for students who require a more vocationally orientated approach to English or who may plan to enter the workforce after completing their post-compulsory studies.	**VCAL Senior Literacy** Literacy focuses on reading and writing text, and responding to spoken language. Students develop their communication skills so that they will be able to respond in a manner appropriate to different situations.
English Units 1 & 2 Students study and are assessed on four outcomes: Reading and Comparing, Reading and Creating, Analysing Argument and Presenting Argument.	**English Units 3 & 4** Students further develop their skills and are assessed on four outcomes: Reading and Comparing, Reading and Creating, Analysing Argument and Presenting Argument.
Literature Units 1 & 2 Literature is recommended for students with ability in English who want to develop their appreciation of a range of texts and extend their own writing.	**Literature Units 3 & 4** Literature is the second option available to meet the VCE English requirements. Students who choose Literature need to have a desire to read texts and be open to looking at other cultures and time periods.

Students must complete one of the following:

1. Foundation English Units 1 & 2
2. English Units 1 & 2 **and/or**
3. Literature Units 1 & 2

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

Foundation English

Year 11

Units 1 & 2

Foundation English is designed for students who may require a more vocationally orientated approach to English or may be aiming to directly enter the workforce upon completing their post-compulsory secondary studies. It is recommended for students completing technically orientated courses, as well as providing an opportunity for students to develop stronger connections between the Employability Skills Framework and key Competencies and their English studies.

Students will develop literacy skills in how to read and write effectively as well as learning strategies designed to enhance achievement in English. They will read a range of texts, including literacy, factual, media, multimodal, visual and everyday texts, and develop oral and written responses. They will develop the ability to analyse the arguments of others, and the skills to structure a logical and supported argument of their own.

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

English

Year 11

Unit 1

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

Unit 2

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

Over the course of the year, students develop their skills in creating written, spoken and multimodal texts.

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

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 focus on the ways in which the interaction between text and reader creates meaning. Students' analysis of the features and conventions of texts help them develop increasingly discriminating responses to a range of literary forms and styles. Students respond critically, creatively and reflectively to the ideas and concerns of texts and gain insights into how texts function as representations of human experience. They develop familiarity with key terms, concepts and practices that equip them for further studies in literature. They develop an awareness of how the views and values that readers hold may influence the reading of a text.

Unit 2

In this unit, students explore the ways literary texts connect with each other and with the world. They deepen their examination of the ways their own culture and the cultures represented in texts can influence their interpretations and shape different meanings. Drawing on a range of literary texts, students consider the relationships between authors, audiences and contexts. Ideas, language and structures of different texts from past and present eras and/or cultures are compared and contrasted. Students analyse the similarities and differences across texts and establish connections between them. They engage in close reading of texts and create analytical responses that are evidence-based. By experimenting with textual structures and language features, students understand how imaginative texts are informed by close analysis.

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

English

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 12

Unit 3

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

Unit 4

In this unit students compare the presentation of ideas, issues and themes in texts. They create an oral presentation intended to position audiences about an issue currently debated in the media.

Students will sit a mid-year and end-of-year examinations.

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

Literature

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 suggested that students complete Unit 1 and 2 Literature to benefit the most from this study.

Unit 3

In this unit students consider how the form of a text affects meaning, and how writers construct their texts. They investigate ways writers adapt and transform texts and how meaning is affected as texts are adapted and transformed. They consider how the perspectives of those adapting texts may inform or influence the adaptations. Students draw on their study of adaptations and transformations to develop creative responses to texts. Students develop their skills in communicating ideas in both written and oral forms.

Unit 4

In this unit, students develop and analyse responses to texts. They consider the context of their responses to texts as well as the ideas explored in the texts, the style of the language and points of view. They investigate literary criticism informing both the reading and writing of texts. For the purposes of this unit, literary criticism is characterized by extended, informed and substantiated views on texts and may include reviews, peer-reviewed articles and transcripts of speeches. Students develop an informed and sustained interpretation supported by close textual analysis. They engage in close reading of texts and create analytical responses that are evidence-based.

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

Foundation Mathematics

Year 11

Units 1 & 2

In Foundation Mathematics there is a strong emphasis on using mathematics in practical contexts relating to everyday life, recreation, work and study. Students are encouraged to use appropriate technology in all areas of their study.

The areas of study for Units 1 and 2 of Foundation Mathematics are space, shape and design, patterns and number, data and measurement.

Students must have a scientific calculator. The calculators on mobile phones or other nonscientific calculators are not adequate.

Note: Foundation Mathematics does not lead to a Year 12 VCE Mathematics.

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 (CAS).

Note: Students require an approved graphics calculator, TI-nspire CX CAS.

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 student 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.

Note: Students require an approved graphics calculator, TI-nspire CX CAS.

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 prepation 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.

Note: Students require an approved graphics calculator, TI-nspire CX CAS.

Further 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.

Note: Students require an approved graphics calculator, TI-nspire CX CAS.

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.

Note: Students require an approved graphics calculator, TI-nspire CX CAS.

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.

Note: Students require an approved graphics calculator, TI-nspire CX CAS.

Calculators

Scientific Calculator (approx. $20)

- Foundation Mathematics Unit 1 and 2

TI-nspire CX CAS Calculator (approx. $200)

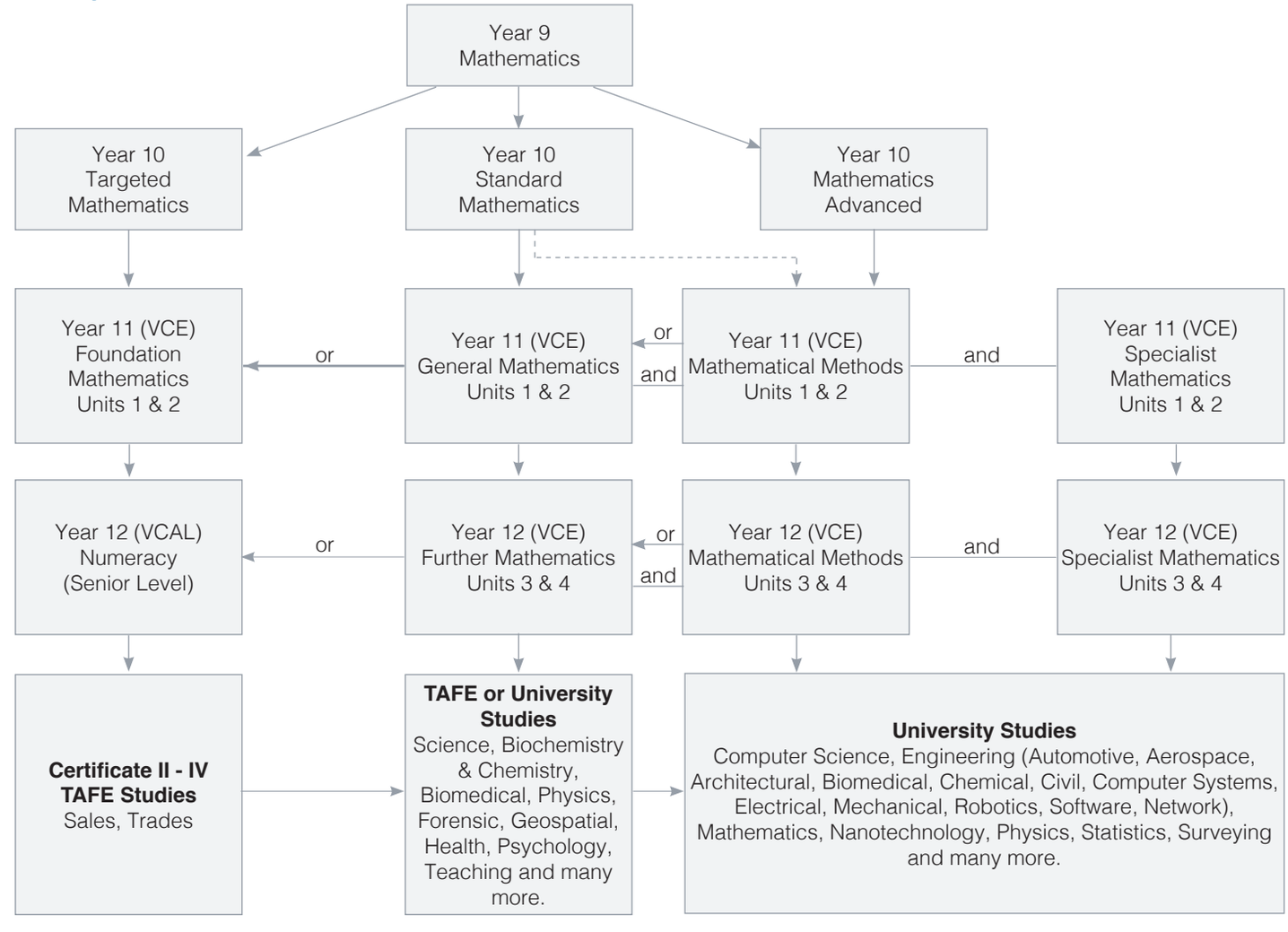
- General Mathematics Unit 1 and 2
- Specialist Mathematics Units 1 & 2
- Mathematical Methods (CAS) Unit 1 and 2
- Further Mathematics Unit 3 and 4
- Mathematical Methods Unit 3 and 4
- Specialist Mathematics Unit 3 and 4

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

The flow diagram below shows the possible pathways available to students.

- Arrows indicate the sequence direction normally taken.
- The dashed arrows indicate a possible sequence, which requires extra preparation work and must be approved by the Mathematics Teaching and Learning Leader in conjunction with the current Mathematics teacher.
- Specialist Mathematics must be taken in conjunction with Mathematical Methods. Specialist Mathematics complements and extends Mathematical Methods.

Pathways for Mathematics



Accounting

VCE Accounting involves recording, reporting, and decision-making processes of a sole proprietor small business. This information is communicated to both internal and external users of the business. It plays an integral role in the successful operation and management of businesses.

Students will study both theoretical and practical aspects of accounting. They will use both manual and computerized accounting packages to complete accounting tasks.

At the completion of the course students will have gained personal finance and computer skills. These skills will be beneficial for students intending to undertake a career in business and finance or to pursue studies in accounting.

There are no pre-requisites for entry to Units 1, 2 & 3. Students must undertake Unit 3 prior to undertaking Unit 4.

Year 11

Unit 1: Establishing and operating a service business

This unit focuses on the establishment of a small business and the accounting and financial management of the business and the role of accounting in the decision-making process for a sole proprietor of a service business. Using a cash basis, they will record and report accounting data using a single entry recording system.

Unit 2: Accounting for a trading business

This unit focuses on accounting for a sole proprietor of a single activity trading business. Students will use a single entry system for cash and credit transactions and accrual method for determining profit. They will use a computerized accounting package to establish, record and generate reports. These will be used to analyse and evaluate the performance of a business.

Year 12

Unit 3: Recording and reporting for a trading business

This unit focuses on financial accounting for a single activity trading business, operated by a sole trader. It emphasizes the role of accounting as an information system. Students use the double entry system of accounting to record information and the accrual basis of accounting to prepare reports. It uses the perpetual inventory recording system.

Unit 4: Control and analysis of business performance

This unit provides an extension of the recording, reporting, financial planning and decision-making from Unit 3. Students will investigate the role of budgeting for a business and then prepare budgets for a business. They will interpret accounting information, analyse the results and provide strategies to the owner of the business, on how to improve the performance of the business.

Sample study program for:

Commerce - Accounting

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.	✕	✕	✕	✕
Accounting	✕	✕	✕	✕
Additional Unit	✕	✕	✕	✕
Additional Unit	✕	✕		

Recommended additional units:
Legal Studies, Industry & Enterprise, Geography, 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, Marekting, Secretarial Work, Office Management, Retailing.

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 within 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.

Humanities

Industry & Enterprise

Work is very important in the Australian economy. This subject explores the world of work and its place in Australian industry and society. The subject recognises the vocational, economic, and social aspects of work in Australia today. There are opportunities for work placement in this subject as a practical way to apply the ideas covered in class. Lifelong and work related skills, including key competencies, employability skills and enterprise skills, are important elements of this subject.

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

Year 11

Unit 1: Workplace Participation

This unit explores a range of work settings and the skills and competencies required to be part of the world of work. Work is changing and there is an emphasis on the student examining their own career pathways. Issues that affect employees in the workplace are also examined. A work placement is part of this unit.

Unit 2: Enterprise and Leadership in Australian Industry

The importance of workplaces belonging to industries is explored in this unit. Changing job opportunities and the reason for these changes will be covered. The importance of enterprise and the development of enterprise skills are central to this unit. Future challenges facing Australian industries e.g. globalisation, technology and industry re-structuring, are explored as well as the role of leadership, entrepreneurs and the development of an enterprise culture in Australia.

Year 12

Unit 3 : Enterprise Culture in Australian Industry

Work competencies and enterprise skills and their importance are reinforced in this unit. The development of an Enterprise culture and leadership skills in Australia is a critical component of this unit. Forces for change affecting industries are explored, and there is a work placement in the unit for practical examination of these issues.

Unit 4: Change in Australian Industry

This unit focuses on the major areas of change affecting Australian industries, and the pressures causing these changes e.g. the role of government, international competitiveness, changing societal values and attitudes and environmental sustainability. The responses of Australian industries to these pressures are examined, as well as the opportunities that these pressures can open up. The growing importance of training and workplace learning is also examined in depth.

Legal Studies

Year 11

Unit 1: Guilt and liability

In this unit students develop an understanding of legal foundations, such as the different types and sources of law and the existence of a court hierarchy in Victoria. Students investigate key concepts of criminal law and civil law and apply these to actual and/or hypothetical scenarios to determine whether an accused may be found guilty of a crime, or liable in a civil dispute. In doing so, students develop an appreciation of the way in which legal principles and information are used in making reasoned judgments and conclusions about the culpability of an accused, and the liability of a party in a civil dispute.

Unit 2: Sanctions, remedies and rights

This unit focuses on the enforcement of criminal law and civil law, the methods and institutions that may be used to determine a criminal case or resolve a civil dispute, and the purposes and types of sanctions and remedies and their effectiveness. Students undertake a detailed investigation of two criminal cases and two civil cases from the past four years to form a judgment about the ability of sanctions and remedies to achieve the principles of justice. Students develop their understanding of the way rights are protected in Australia and in another country, and possible reforms to the protection of rights. They examine a significant case in relation to the protection of rights in Australia.

Year 12

Unit 3: Rights and Justice

In this unit students examine the methods and institutions in the justice system and consider their appropriateness in determining criminal cases and resolving civil disputes. Students consider the Magistrates' Court, County Court and Supreme Court within the Victorian court hierarchy, as well as other Victorian legal institutions and bodies available to assist with cases. Students explore matters such as the rights available to an accused and to victims in the criminal justice system, the roles of the judge, jury, legal practitioners and the parties, and the ability of sanctions and remedies to achieve their purposes. Students investigate the extent to which the principles of justice are upheld in the justice system. They discuss recent reforms from the past four years and recommended reforms to enhance the ability of the justice system to achieve the principles of justice. Throughout this unit, students apply legal reasoning and information to actual and/or hypothetical scenarios.

Unit 4: The people and law

In this unit, students explore how the Australian Constitution establishes the law-making powers of the Commonwealth and state parliaments, and protects the Australian people through structures that act as a check on parliament in law-making. Students develop an understanding of the significance of the High Court in protecting and interpreting the Australian Constitution. They investigate parliament and the courts, and the relationship between the two in law-making, and consider the roles of the individual, the media and law reform bodies in influencing law reform. Throughout this unit, students apply legal reasoning and information to actual scenarios.

Geography

Geography is the study of the Earth's environment including the natural features and human activities. VCE Geography focuses on different types of environments and the factors that effect and change environments including both natural and human factors. Students who study geography will develop skills helpful to those who wish to work in environmental areas, mining, agriculture, as resource managers, or in many other areas, which need an understanding of natural and human environments.

Year 11

Unit 1: Natural Environments

This unit is about natural environments. Students will learn about the geographic characteristics of places and look at how places change over time. The study also includes investigation of natural processes and human activities and how they are shaping and changing places around the world.

Unit 2: Human Environments

This unit is about the environments that have largely been shaped by human activities resulting in rural and urban areas. Students examine the dynamic nature of the human environment and evaluate how people manage and sustain these environments.

Year 12

Unit 3: Regional Resources

This unit is about the resources of the Earth. Students look at types and distribution of resources around the world and investigate the ways in which resources are used and managed by people. There will be a focus on use and management of water as a resource in Australia.

Unit 4: Global Perspectives

This unit focuses on natural and human environmental events that have a global impact. Some examples include natural disasters, global warming, international tourism, refugees and shared ocean resources. Students investigate how different societies contribute to and deal with such events.

History

History is the study of people and events that have shaped our society. At the VCE level History focuses on significant events and the ideas that have led to those events. Students will study people who promote ideas and are significant leaders and agents of change in their time and how people and ideas have impacted on the societies.

History builds on the ability of students to read and comprehend information, examine ideas, analyse change and use evidence in reasoned arguments.

Year 11

Unit 1: Twentieth Century History 1900-1945

This unit is about the major events, changes and developments (e.g. revolutions, civil conflicts and wars) that shaped the first half of the twentieth century. Students investigate the causes of these events and examine how they impacted and changed societies.

Unit 2: Twentieth Century History 1945-2000

The second half of the twentieth century saw the continuation of the international conflicts (e.g. Vietnam War, Cold War, etc.) and the emergence of the world superpowers. In this unit students investigate the major themes, events and challenges of the post-war era and consider how societies responded to the new challenges and developments.

Year 12

Units 3 & 4

Students as a group will study either Australian History or Revolutions.

Australian History

Unit 3: Imagining Australia

This unit focuses on the European experience in Australia from the early years of the Port Phillip district (later Victoria) through the nineteenth century and up to the eve of World War I. Students are introduced to the visions and ideas, which underpinned colonial society and will examine the ways in which they changed over the colonial period. The latter part of the unit focuses on the nature of Australian society around the turn of the twentieth century.

Unit 4: Australian History

This unit continues the exploration of the ideas and visions underpinning Australian society by offering students the opportunity to examine a time when these visions were under threat. The emphasis is on the ways in which Australians responded to particular threats and the impact of their experiences to change and social cohesion. Students will also study changing Australian attitudes in relation to a number of issues that have been debated in the latter decades of the twentieth century.

Revolutions

Units 3 & 4

Revolutions are major upheavals in human societies. They are deliberate attempts by people to challenge and destroy old regimes and replace them with new ones. With reference to revolutions in 16th century France (Unit 3) and 20th century Russia (Unit 4), students will investigate the causes and the course of revolutions in world history. Both units have the same areas of study.

Area of Study 1

Students will focus on the causes of revolutions and investigate how and why the old regimes collapsed.

Area of Study 2

Here students will examine the role of new ideas and the behaviour of people, individuals and leaders in bringing about the revolution. They will also evaluate the nature of the new societies that were created by the revolutions.

Languages

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.

Psychology

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

An important feature of VCE Psychology is the opportunity for students to undertake a range of inquiry tasks both collaboratively and independently. Inquiry methodologies can include laboratory experimentation, observational studies, self-reports, questionnaires, interviews, rating scales, simulations, animations, examination of case studies and literature reviews. Students pose questions, formulate research hypotheses, operationalise variables, collect and analyse data, evaluate methodologies and results, justify conclusions, make recommendations and communicate their findings.

Year 11

Unit 1: How are behaviour and mental processes shaped?

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

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

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

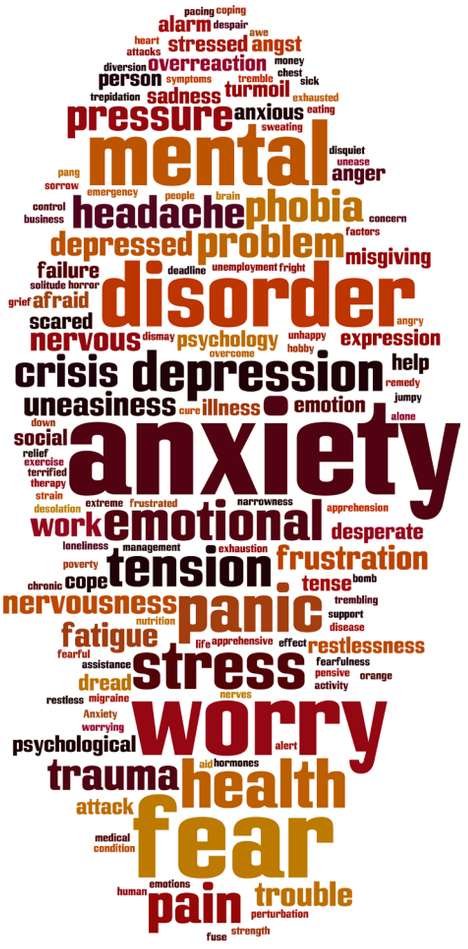
Year 12

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

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

Unit 4: How is wellbeing developed and maintained?

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



Sample study program for:

Community & Social 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	✕	✕	✕	✕
Psychology	✕	✕	✕	✕
Health	✕	✕	✕	✕
Maths	✕	✕	✕	✕
Additional Unit	✕	✕	✕	✕
Additional Unit	✕	✕		

Recommended additional units:
Design & Technology, Physical Education, Computing, Informatics, Biology, Accounting, History, Legal Studies, Geography, Business Management, Industry & Enterprise.

TAFE

Certificate/Diploma courses in:
Aged Care, Youth Work, Disability Studies, Childcare, Community Development etc.

UNIVERSITY

Associate Diplomas/Bachelor Degrees in:
Arts, Social Science, Social Work, Youth Affairs, Welfare Studies, Social & Community Services, Community Development, OH&S.

Possible employment outcomes after TAFE/ University:
Social Work, Social Welfare, Childcare, OH&S, Community Services, Youth Work, Aged Care.

Science

Biology

Biology is the study of living things from familiar, complex multicellular organisms that live in the many different habitats of our biosphere to single celled micro-organisms that live in seemingly inhospitable conditions. It is a study of the dynamic relationships between living things, and their environment and the challenges of survival. All living things have many structural and functional characteristics in common, which can be used to classify and group organisms.

Modern biology draws on biochemistry, neuroscience, genetics, evolutionary biology, behavioural science, and cell and molecular biology. It connects with physics, chemistry, earth and space sciences in exploring the nature of past and present life, and the possibility of life forms beyond our planet.

Students develop knowledge of bioscience and skills of science inquiry and the values and attributes that will help them to consider issues and implications associated with the application of biological techniques and technologies.

Year 11

Unit 1: How do living things stay alive?

Area of study 1: How do organisms function?

- Cell size structure and function
- Crossing the plasma membrane
- Energy Transformations
- Functioning systems

Area of Study 2: How do living systems sustain life?

- Survival through adaption and regulation
- Organising biodiversity
- Relationships between organisms within an ecosystem.

Area of study 3: Practical Investigation

- Design and conduct a practical investigation into the survival of an individual or species.

Unit 2: How is continuity of life maintained?

Area of study 1: How does reproduction maintain the continuity of life?

- The cell cycle
- Asexual Reproduction
- Sexual Reproduction
- Cell growth and cell differentiation

Area of Study 2: How is inheritance explained

- Genome, genes and alleles
- Chromosomes
- Genotypes and phenotypes
- Pedigree charts, genetic cross outcomes and genetic decision-making

Year 12

Unit 3: How do cells maintain life?

Outcome 1: How do cellular processes work?

- Plasma membranes
- Nucleic acids and proteins
- Gene structure and regulation
- Structure and regulation of biochemical pathways
- Photosynthesis
- Cellular respiration

Outcome 2: How do cells communicate?

- Cellular signals
- Responding to antigens
- Immunity

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

Outcome 1: How are species related?

- Changes in the genetic makeup of population
- Changes in biodiversity over time
- Determining relatedness between species
- Human change over time

Outcome 2: How do humans impact on biological processes?

- DNA manipulation
- Biological knowledge and society

Outcome 3: Practical investigation

- Design and undertake an investigation related to cellular processes and/or biological change and continuity over time, and present methodologies, findings and conclusions in a scientific poster.

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?

The story of chemistry begins with the building of the Periodic Table from speculation, debate and experimental evidence. We will also look at how the models of atoms changed over time as technology improved. The different types of bonding will be investigated as well as introducing you to the development and application of 'smart' materials.

Areas of Study

- The Periodic Table
- Materials
- Organic Compounds

Unit 2: What makes water such a unique chemical?

Is there life on Mars? In July 2008, water was found on this planet. Water is an essential ingredient of life. Living things on Earth have evolved to use water and the gases of the atmosphere in the chemical reactions that sustain them. Thus you will explore the special properties of water. You will investigate the concepts of solubility, concentration and pH. Principles of green chemistry will be studied.

Areas of Study

- Water - reactions and analysis
- The Atmosphere

Year 12

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

The global demand for energy and materials is increasing with world population growth. In this unit students explore energy options and the chemical production of materials with reference to efficiencies, renewability and the minimisation of their impact on the environment.

Students compare and evaluate different chemical energy resources and investigate the combustion of fuels. They consider the purpose, design and operating principles of galvanic cells, fuel cells and electrolytic cells and calculate quantities in electrolytic reactions. Students analyse manufacturing processes with reference to factors that influence their reaction rates and extent. They apply the equilibrium law and Le Chatelier's principle to predict and explain the conditions that will improve the efficiency and percentage yield of chemical processes.

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

Carbon is the basis of the diverse compounds found in living tissues and in the fuels, foods, medicines and many of the materials we use in everyday life. In this unit students investigate the structural features, bonding, reactions and uses of the major families of organic compounds including those found in food.

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

Physics

VCE Physics provides an introduction to the science of Physics, which is both theoretical and empirical, and contributes to our understanding of the physical universe from the minute building blocks of matter to the unimaginably broad expanses of the Universe. Knowledge in physics has led to innovations in medicine, electronics, energy use, telecommunications and materials science.

The curriculum is interesting, practical and challenging combining practical activities and learning the theory and models used to explain physical phenomena. Students learn the language, methods and major ideas of physics and develop a capacity to communicate their knowledge of physics effectively.

VCE Physics class work and assessment includes the use of a range of technologies, empirical techniques, mathematical methods and problem solving. Practical skills to investigate hypotheses collect and analyse data, and draw conclusions are developed to support students' understanding of theories and models and a significant part of the SAC is based on practical investigation.

The knowledge gained through studying VCE Physics will enhance students' ability to be innovative and contribute to the intelligent and careful use of resources. This knowledge can be used, for example, in industrial, medical, engineering and technical applications.

Year 11

Unit 1: Explaining the Physical World

How can thermal effects be explained?

- Thermodynamic Principles
- Climate Science
- Modelling Electricity
- Circuit Electricity
- Using electricity safely

What is matter and how is it formed?

- Origins of atoms
- Particles in the nucleus
- Energy from the atom

Unit 2: Experiments about the Physical World

How an motion be described and explained?

- Models of motion
- Force and motion
- Energy and motion

A detailed study chosen from: What are stars?; Is there life beyond Earth's solar system?; How do forces act on the human body?; How can AC electricity change a DC device?; How do heavy things fly?; Fusion vs fission; How is radiation used to maintain health?; How do particle accelerators work?; How can vision be enhanced?; How do instruments make music?; How can performance be improved in ball sports?; How does the human body use electricity?

A practical investigation.

Year 12

Unit 3: How do fields explain motion and electricity?

Students examine the similarities and differences between three fields: gravitational, electric and magnetic. Field models are used to explain the motion of objects when there is no apparent contact. Students explore how positions in fields determine the potential energy of an object and the force of an object. They investigate how concepts related to field models can be applied to construct motors, maintain satellite orbits and to accelerate particles.

Areas of study:

How do things move without contact?

- Fields and interactions
- Effects of fields
- Application of field concepts

How are fields used to move electrical energy?

- Generation of electricity
- Transmission of electricity

How fast can things go?

- Newton's laws of motion
- Einstein's theory of special relativity
- Relationship between force, energy and mass

Unit 4: How can two contradictory models explain both light and matter?

In this unit, students explore the use of wave and particle theories to model the properties of light and matter. They examine how the concept of the wave is used to explain the nature of light and explore its limitations in describing light behaviour. Students further investigate light by using a particle model to explain its behaviour. A wave model is also used to explain the behaviour of matter, which enables students to consider the relationship between light and matter. Students learn to think beyond the concepts experienced in everyday life to study the physical world from a new perspective. Students design and undertake investigations involving at least two continuous independent variables.

Areas of study:

How can waves explain the behaviour of light?

- Properties of mechanical waves
- Light as a wave

How are light and matter similar?

- Behaviour of light
- Matter as particles or waves
- Similarities between light and matter
- Production of light from matter

Practical investigation: The investigation requires the student to develop a question, formulate a hypothesis and plan a course of action to answer the question and that complies with safety and ethical guidelines. Students then undertake an experiment that involves the collection of primary quantitative data, analyse and evaluate the data, identify limitations of data and methods, link experimental results to science ideas, reach a conclusion in response to the question Unit 4: How can two contradictory models explain both light and matter? VCE Physics: Units 1 and 2: 2016–2021 Units 3 and 4: 2017–2021 45 and suggest further investigations that may be undertaken.

Food Studies

Year 11

Unit 1: Food origins

This unit focuses on food from historical and cultural perspectives. Students investigate the origins and roles of food through time and across the world. Students explore how humanity has historically sourced its 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 particular food-producing regions of the world.

Students also investigate Australian indigenous food prior to European settlement and how food patterns have changed over time. 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 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. 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.

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 and appreciating food. They also investigate the functional properties of food and the changes that occur during food preparation and cooking. 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. 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: Computing

In this unit students focus on how data, information and networked digital systems can be used to meet a range of users' current and future needs. The software featured include: Microsoft Excel, Adobe Fireworks CS6, Adobe Dreamweaver CS6 and Microsoft Visio.

Unit 2: Computing

In this unit students focus on data and how the application of computational, design and systems thinking skills support the creation of solutions that automate the processing of data. The software featured includes Visual Basic for programming, Microsoft Excel and Microsoft Access for data manipulation.

Year 12

Entry to Units 3 & 4

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

Unit 3: Informatics

In Unit 3 Informatics students consider data and how it is acquired, managed, manipulated and interpreted to meet a range of needs. The software featured includes Adobe Fireworks CS6, Adobe Dreamweaver CS6, Microsoft Access and Microsoft Visio.

Unit 4: Informatics

In Unit 4 students focus on strategies and techniques for manipulating, managing and securing data and information to meet a range of needs. The software featured includes Adobe Fireworks CS6, Adobe Dreamweaver CS6, Microsoft Access and Microsoft Visio.

Unit 3: Software Development

In Unit 3 students develop a detailed understanding of the analysis, design and development stages of solving a problem and use a programming language to create working software modules. The programming language C# will be the major software features.

Unit 4 Software Development

In this unit students focus on how the information needs of individuals and organisations are met through the creation of software solutions used in a networked environment. The programming language C# will be the major software featured. Legal issues and integrity of solutions will also be studied.

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	✕	✕	✕	✕
Software Development	✕	✕	✕	✕
IT Applications	✕	✕	✕	✕
Maths	✕	✕	✕	✕
Additional Unit	✕	✕	✕	✕
Additional Unit	✕	✕		

TAFE

Certificate/Diploma courses in:
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, 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: Product Re-design and Sustainability

This unit focuses on the analysis, modification and improvement of a product design with consideration of the materials used and issues of sustainability. Using the Design process students produce a re-designed product safely using tools, equipment, machines and materials and compare it with the original design.

Unit 2: Collaborative Design

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

Year 12

Unit 3: Applying the Product Design Process

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

Unit 4: Product Development and Evaluation

In this unit students continue to develop, manufacture and evaluate the product designed in Unit 3. Students learn that evaluations are made at various points of product design, development and production. In the role of designer, students judge the suitability and viability of design ideas and options referring to the design brief and evaluation criteria in collaboration with a client and/or an end-user.

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.

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 Electro technology Systems

In this unit, students study fundamental electro technology 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 electro technology systems and how they work, and construct a remote control planatory vehicle with suspension. The construction process draws heavily upon design and innovation.

Students study fundamental electro technology 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 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.

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, Electronics Technician, Auto Electrician, Motor Mechanic, Mechanical Fitter, Engineer.

VET in Schools

VET subjects allow students to undertake specific vocational training as part of their VCE or VCAL program.

Students who choose to do VET Programs are able to do so knowing that their training will :

- Generally give them credit towards their VCE, just like any other subject
- Lead to a Certificate being awarded which is recognised throughout Australia in that particular field of employment, if completed.

In addition, some Vocational Training Programs are offered at Lowanna, which do not give direct credit to a VCE program, but do provide students with a valuable introduction into a particular field of employment.

If you choose to do a VET subject, this counts as one (1) of your subject selections for your VCE Program.

VET at Lowanna

VET subjects offer an exciting opportunity to combine practical training with existing VCE studies.

Students interested in doing a VET course need to be aware of some important aspects of the way VET courses are organised.

The information here is general for most courses – specific and detailed information for each course will be available for those interested.

VET courses are conducted according to National requirements for that particular form of training. Training can only take place at institutions authorised to conduct the training for that particular course. These institutions are called Registered Training Organisations, or RTOs.

Lowanna is a member of the Latrobe VET Cluster, which is a collection of local schools and RTO's who co-operate to deliver VET Courses.

Students need to be aware, that if they choose to undertake a VET program, they will probably be studying that course away from Lowanna for one day per week over two years.

VET programs are delivered at Kurnai College (Churchill), Federation Training (Newborough/ Morwell/Warragul), Community College Gippsland (Warragul), Drouin Secondary College and Lowanna College.

How does it work?

VET Courses have generally been held on Wednesdays, and this means that students attend a RTO away from Lowanna on the day the course takes place.

It is the responsibility of the students to organise their own transport on these days, and to conduct themselves responsibly while attending these institutions.

Many VET courses also require students to undertake a Work Placement as part of the training, which may require additional travel.

For every course, there will be a mixture of students from other schools also undertaking the course. This can be a valuable experience in itself.

Students doing VET courses need to be fully committed to completing the course and to ensure that other studies are not adversely affected.

What does it cost?

The cost of undertaking a VET course is $300 per year. Whilst we acknowledge that $300 is a substantial amount of money, it is only a small proportion of the fees Lowanna contributes to funding VET courses. The material and administration fee will be payable yearly by all students commencing or completing VET courses.

The VET administration and consumable fee must be paid in full by Friday, February 12th, 2021, before your child's enrolment in the course is confirmed. If payment is not received, your child may be removed from the VET Course.

What is offered?

Refer to your VET in Schools handout.

How are students assessed?

VET training requires students to complete a series of Units of Competency (UOC's). All specified UOC's must be completed, to be awarded a Certificate at the end. Students who do not complete all UOC's will receive a Statement of Attainment, which lists those, which have been completed. Student can use this in the future to continue training in that field.

UOC's are judged on whether a student is Competent or Not Competent, not on a basis of grades as in other VCE subjects

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. It is not 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 VCAL 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.

Job Title						
Employment Opportunities						
Qualification required for job						
Education Requirements (secondary college)	**Year 10**	**Year 11**	**Year 12**	**VCE**	**VCAL**	**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?		

Career Planning

Job Title						
Employment Opportunities						
Qualification required for job						
Education Requirements (secondary college)	**Year 10**	**Year 11**	**Year 12**	**VCE**	**VCAL**	**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?		