

**Mallacoota P-12 College
Years 7 to 10
Vertical Unit System**

HANDBOOK 2013

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What is VUS?

VUS stands for Vertical Unit System. VUS structures are different from horizontal structures in which students study at year levels, for example years 7, 8, 9 and 10. In a vertical system, a mix of students from any year level (7, 8, 9 or 10) may be in the same class. This arises because in VUS students choose units from 2 levels in most Learning Areas. Students are guided into the level which is appropriate to their ability in a given subject area. VUS allows students to select units twice a year (each semester) although it is compulsory for them to do English and Mathematics.

By offering a VUS, students are given the opportunity to:

- work at a level appropriate to their abilities
- choose from a wide range of subjects
- pursue an area of interest
- choose specialist studies

Students' progress is monitored by Parents, Homegroup Teachers, Lead Teachers and the VUS Coordinator.

The aim of the VUS is to

- give students a broad and balanced range of subjects,
- increase student input and choice into their learning,
- create a wider peer group for students,
- keep a focus on literacy and numeracy,
- to cater for the needs, interests and learning rates of all students,
- to prepare students for and guide them through individual learning pathways.

Our Year 7 to 10 VUS offers a balanced and comprehensive curriculum based on school philosophy, policies and the Victorian Essential Learning Standards (VELS) the Australian Curriculum (AC).

Units are organised into the following Learning Areas:

- **E - English** (English, Drama, Media Studies, Languages, Communication)
- **H – Humanities** (History, Economics, Geography)
- **M – Mathematics** (Mathematics, Accounting, Bookkeeping, Information Technology)
- **P - Physical and Personal Development** (Physical Education, Health, Advance, Careers, Cooking, Personal Development)
- **A - Practical Studies, Art and Design** (Music, Multimedia, Art, Woodwork, Photography, Metalwork, Pottery)
- **S – Science** (Science, Chemistry, Physics, Geology, Biology)

Student Unit Selection

Students will do 6 units per term which run for 4 sessions a week.

There will be Homegroups for 1 session per week.

Year 7 students start their first VUS semester at Level 1. They may then consolidate at level 1 OR progress to level 2 in one or more units in year 8, depending on achievement and teacher recommendation.

Year 9 would be expected to do mainly level 2 units but could consolidate some level 1 units.

Year 10 can choose to fast track into VCE units and continue with level 2 units.

Considering individual differences, choices and our flexible curriculum, it is possible for a student to be at any stage along the VELS / AC continuum in any Learning Area level at any one time.

What unit selection rules apply?

Each semester:

1. Students must do the equivalent to a total of twelve term units (6 for each term).
2. Students will do an English and Mathematics unit in each term.
3. Students will do Personal Development and Sport each term.
4. Students must meet the requirements below.

For successful completion of VUS, over 4 years (16 terms, 96 units total):

1. Students must satisfactorily complete a minimum of **thirteen** units from each of the English and Mathematics Learning Areas.
2. Students must satisfactorily complete a minimum of **ten** units from each of the other LAs.
3. Students must satisfactorily complete 80% of their units (77 units).
4. Each semester VCE unit taken in year 10 will count as 2 VUS units in the appropriate LA.
5. If a student chooses to repeat a unit then a different curriculum will need to be negotiated by the student with the teacher of that unit.

Physically Active Friday

All students will complete two hours of fun physical activity. Categories will be Team Sports (eg. cricket, netball, baseball, softball, volleyball...), Individual Sports (eg. tennis, lawn bowls, golf, surfing.....), and Recreational Sports (eg. archery, fishing, bushwalking.....). This unit will allow students to develop skills and tactics related to major team, individual, and recreational sports. Students will get to choose from a number of options and student input is welcome.

How should students choose their units?

Students have the freedom to choose, within the rules and with counselling, the units which best suit their needs and interests. A satisfactorily completed unit entitles them to consider proceeding to the next level in that Learning Area, with teacher approval. If they do not satisfactorily complete a unit, they can either repeat the unit, or do another more suitable unit. Students are not held back in their other units while doing this. Some advantages of this scheme are:

1. Students can move ahead in each Learning Area as quickly as they are able, with teacher approval.
2. If students need to reinforce skills in a certain area, they do not have to repeat a year.
3. Students can concentrate more on subject areas that interest them.

Advice to students:

Be thoughtful when making your choices to see that they are right for you.

Do this by talking to your teachers and parents.

The unit system in the Middle School enables you to:

1. Better follow your particular interests.
2. Work at units suited to your capabilities.

When making your choice you should consider the following:

1. Am I interested in the unit?
2. Will it prepare me for senior classes that I want to take later on?
3. Will it prepare me for the career I choose? Do I need it for Apprenticeship, TAFE or University entrance?
4. Will it "broaden my horizons"?
5. Is the unit the right level for my capabilities?
6. Do my parents and teachers think it is a wise choice?

Note: Do not expect any unit to satisfy all of these considerations.

How does the unit selection process work?

Course selection will occur mid- year and at the end of the year for the following two terms units. Students are involved in two main steps when choosing units:

1. Green Sheet stage:

Students will be placed in one of 3 English levels and select from 3 Mathematics units each term. Other Learning Area offer a list of approximately 20 units per term (40 total for the semester) from the Handbook, which it is prepared to run in the following semester. These units all appear on the Green Sheet.

Students seek guidance from their parents, current classroom teachers and Homegroup teachers about units they may take in the following semester. Students indicate their first preferences and reserve preferences on the Green Sheet. This sheet requires the signatures of the student, parent and homegroup teacher.

The Green Sheets are then used to determine the popularity of units. Based on their popularity, some units will run the following semester, others will not. If a student's selected unit does not run, his/her reserve choice is automatically promoted as a first preference. Note that there may be unavoidable restrictions (means some units may not be able to be run) due to teacher and resource availability.

2. Sign Up:

The students sign onto a blocked timetable for the semester. At Sign Up, each student is individually counselled by their homegroup teacher and assisted to make the best selection possible from the available units. This sheet also requires the signatures of the student, parent and homegroup teacher.

Payment of Additional Subject Levies.

The cost of most units is covered by the annual school levies however some units require the student to pay an additional subject levy.

Additional subject levies are levied approximately three weeks into the semester and should be paid within two weeks.

How will units be assessed and reported?

The Assessment and Reporting policy at VUS level is consistent with the expectations of the VELS/AC. At the start of each term, teachers will provide students with the requirements of the unit. This will detail the required work necessary for satisfactory completion of the unit and tasks.

Work requirements:

In order to satisfactorily complete a unit, students are required to complete all work requirements by the due date (with reference to the school's "Due Date" policy). The end of unit report will indicate whether or not a student completed all required work. This is indicated by an S for Satisfactory completion or an N for Not Satisfactory.

Assessed Work:

Students will also be required to submit selected tasks for assessment. Students will be graded against the indicative VELS/AC standard for their stage of learning.

Reports:

Reports will occur at the end of each term based on that terms' units. A full Quick Vic report on the whole semesters' units will occur at the end of each semester.

ENGLISH

In English students develop their skills in **reading, writing, speaking and listening** through the study of a range of oral, written and multimedia text types. These include novels, short stories, poetry, plays and non-fiction, film, digital texts, media texts, information, commercial and workplace texts, everyday texts and personal writing.

By understanding and **working with texts**, students acquire the knowledge, skills and personal qualities that enable them to read, view and listen critically and to think, speak and write clearly and confidently. Understanding texts and recognising how language works within them is necessary for success in all areas at school and beyond.

Language study includes developing competence in the use of language and the development of knowledge about it. Students learn to appreciate, enjoy and use language to evoke feelings, as well as to form and convey ideas. Students develop an understanding of the way the structures and features of language are varied to suit different times and places, purposes and audiences. They apply this knowledge in their own reading, viewing, speaking and listening and produce their own texts in order to inform, to discuss, to entertain and to argue or persuade. They learn to control language by applying their understanding of the grammatical structures of Standard Australian English, by learning to spell accurately and use punctuation effectively, as well as by imitating good writers and speakers.

VUS Structure for English:

Unlike in other faculties which offer level 1 and 2 units, Year 7-10 students will study English in classes operating at 3 levels over the four years. This will involve students spending two years in one or other of these levels depending on a range of circumstances such as class size, individual needs and peer group considerations as determined by the English learning area. At each level students will be taught by the same teacher for at least a semester. There may be other one off special focus units offered by the English learning area outside this structure.

Level 1:

At this level Year 7 students will be introduced to some good habits for reading, writing, speaking and listening in secondary school to support their transition from primary classes.

- They will learn to use a reading record, theory book, writing checklist, spelling journal and oral record.
- There will be a focus on further developing reading comprehension through applying the highly reliable strategies to explore texts, including novels, short stories, film, plays, poetry and non-fiction.
- Students will develop skills in writing in a range of genres, including recount, narrative, report and exposition.
- The skills of spelling, punctuation and grammar will be explicitly taught in order to develop understanding and use of sound sentence structure.
- They will develop awareness of the qualities of effective oral communication and learn to how meet the needs of the audience in a range of oral responses to texts, themes and issues.

Level 2:

At this level students read and view a variety of imaginative, informative and persuasive texts on challenging topics, themes and issues and provide supporting evidence to justify their interpretations.

- They develop their listening skills by asking clarifying questions and taking notes to identify key ideas.
- They produce oral and written texts for a variety of purposes, including extended narratives, reports, arguments stating a personal viewpoint and using language persuasively and personal reflections on texts presenting challenging themes and issues.
- They build on their use of the standard conventions of English through editing and proofreading to polish structure and style including grammar, spelling and punctuation to ensure their writing is accurate, clear, consistent and appropriate for intended audience.

Level 3:

At this level students read, view, discuss and analyse informative and persuasive texts as well as contemporary and classical imaginative texts that explore issues of significance to their own lives.

- They compare and contrast the typical features and construction of particular texts eg film, novels, plays, news media and multimodal texts.
- Students draw on a range of strategies to listen to and present spoken texts, including note taking and summarising.
- They combine visual and spoken texts to present complex issues or information imaginatively to interest an audience.
- Students expand their knowledge of the structure and style of a wider range of written forms.
- They apply this to create texts for particular purposes and targeted audiences.
- They specifically learn to research, plan and use the writing process to produce formal essays and reports, including bibliography and footnotes, to prepare them for the demands of VCE studies.

MATHEMATICS

The Aims of the Mathematics Learning Area are to:

- Develop skills in arithmetic, algebraic and technological computation.
- Promote confident and creative users and communicators of Mathematics.
- Promote the use of mathematics in real life situations.
- Develop the ability to think logically.
- Develop ability in problem solving and spatial relations
- Develop skills in interpreting diagrams, tables and graphs.
- Provide students with depth and breadth of mathematical concepts.
- Allow students to study a course which meets their needs.
- Help students plan, control, increase and utilise their finances.
- Enable students to experience the decisions, problems and steps involved in being self-employed or an employee.

Over the duration of VUS, students will be exposed to many of the learning outcomes associated with the five main topic areas of mathematics: Space, Number, Measurement, Chance and Data, and Structure. These areas are called dimensions in accordance with the VELs document which sets out the expectations of teachers for student learning in Victoria. Another dimension entitled Working Mathematically addresses key elements of mathematical structure including the logical structure of mathematical reasoning, the use of mathematical language and problem solving strategies. A well balanced course will give students an excellent grounding in each dimension.

* Level 1 VUS units work towards VELs standard 5 and Level 2 towards VELs standard 6.

* We have audited our units against the Australian Curriculum.

* All students will take one unit of Maths every term.

LEVEL 1 Units

***M101 Number & M103 Geometry, Measurement and Shape**

- "Introduction to Secondary Maths" – Compulsory for Year 7 - Semester 1.

M104 Statistics and Chance

M105 Algebra and Linear Equations

M106 Integers and Graphs

M108 Topology and Networks / M110 Data Base and Spreadsheets (Combined Units – 1 term)

M114 Mastery Maths

LEVEL 2 Units

M201 Pythagoras' Theorem and Trigonometry

M203 The Power of Powers / Number 2

M204 Everyday and Business Maths

M205 Geometry 2: Plane and Solid

M206 Algebra 2, Linear Equations and Graphs

M207 Matrices

M208 Advanced Statistics

***M209 Quadratic Equations and Graphs & M213 Pre VCE Maths**

- Year 10 Maths – Compulsory for Year 10 - Semester 2.

M210 Variation

M211 Maths for Work

M212 Accounting and Bookkeeping

M214 Mastery Maths

*** Semester Units**

MATHS UNIT SEQUENCE				
	Semester 1		Semester 2	
	Term 1	Term 2	Term 3	Term 4
2012	Introduction to Secondary Maths – M101 Number Compulsory for Year 7	Introduction to Secondary Maths – M103 Geometry, Measurement and Shape Compulsory for Year 7	M106 <i>Integers and Graphs</i> OR	M108 & M110 <i>Topology and Networks & Data Base and Spreadsheets</i> OR
	M105 <i>Algebra and Linear Equations</i> OR	M104 <i>Statistics and Chance</i> OR	M204 <i>Everyday and Business Maths</i>	M210 <i>Variation &</i> M114(M214) <i>Mastery Maths</i>
	M203 <i>The Power of Powers / Number 2</i>	M205 <i>Geometry: Plane and Solid</i>	Yr10 Maths-Compulsory M209 <i>Quadratic Equations and Graphs</i> & M211 <i>Maths for Work</i>	Yr10 Maths-Compulsory M213 <i>Pre VCE Maths</i> & M211 <i>Maths for Work</i>
	Term 1	Term 2	Term 3	Term 4
2013	Introduction to Secondary Maths – M101 Number Compulsory for Year 7	Introduction to Secondary Maths – M103 Geometry, Measurement and Shape Compulsory for Year 7	M106 <i>Integers and Graphs</i> OR	M108 & M110 <i>Topology and Networks & Data Base and Spreadsheets</i> OR
	M105 <i>Algebra and Linear Equations</i> OR	M104 <i>Statistics and Chance</i> OR	M212 <i>Accounting and Bookkeeping</i> & M114(M214) <i>Mastery Maths</i>	M206 <i>Algebra 2, Linear Equations and Graphs</i>
	M201 <i>Pythagoras and Trigonometry</i>	M208 <i>Advanced Statistics and Probability</i>	Yr10 Maths-Compulsory M209 <i>Quadratic Equations and Graphs</i> & M211 <i>Maths for Work</i>	Yr10 Maths-Compulsory M213 <i>Pre VCE Maths</i> & M211 <i>Maths for Work</i>
	Term 1	Term 2	Term 3	Term 4
2014	Introduction to Secondary Maths – M101 Number Compulsory for Year 7	Introduction to Secondary Maths – M103 Geometry, Measurement and Shape Compulsory for Year 7	M106 <i>Integers and Graphs</i> OR	M108 & M110 <i>Topology and Networks & Data Base and Spreadsheets</i> OR
	M105 <i>Algebra and Linear Equations</i> OR	M104 <i>Statistics and Chance</i> OR	M204 <i>Everyday and Business Maths</i>	M210 <i>Variation &</i> M114(M214) <i>Mastery Maths</i>
	M203 <i>The Power of Powers / Number 2</i>	M205 <i>Geometry: Plane and Solid</i>	Yr10 Maths-Compulsory M209 <i>Quadratic Equations and Graphs</i> & M211 <i>Maths for Work</i>	Yr10 Maths-Compulsory M213 <i>Pre VCE Maths</i> & M211 <i>Maths for Work</i>

NOTE:

- Compulsory units are set for the first Semester of year 7 (Introduction to Secondary Maths) and second semester of year 10 (Pre VCE and Maths for work).
- Because of the sequential nature of Mathematics it is necessary to select the units very carefully. A sequence of units from Year 7 to 10 can be selected that will cover the whole Year 7 to 10 Australian Curriculum and more.

Below is a flow chart that indicates a possible sequence of units from Year 7 to 10.

Yr7	Intro to Sec M101 Number	Intro to Sec M103 Geometry	M106 Integers	M108/M110 Networks/Database
Yr8	M105 Algebra	M104 Stats&Chance	M114(M214)/M212 Mastery / Accounting	M206 Algebra 2
Yr9	M203 Powers/Number 2	M205 Geometry 2	M204 Business Maths	M114(M214)/M210 Mastery/Variation
Yr10	M201 Pythagoras/Trig	M208 Stats/Probability	Year 10 Maths M209 Quadratic Eqn M211 Math for Work	Year 10 Maths M213VCEMaths M211 MathforWork

LEVEL 1 Units**M101 Number**

Improve your mental arithmetic and recall of certain facts. Learn how to estimate and become expert at using a calculator. Learn the correct order of operations and do money problems involving real life money problems. Learn how to handle different Time Zones, Squares, Square Roots, Fractions, Decimals, and Percentages.

M103 Geometry, Measurement and Shape

Can you treat angles as rotations? Accurately master the protractor, learn how to estimate angles, construct and calculate angles knowing they are complementary, supplementary or vertically opposite. Draw both perpendicular and parallel lines. Learn how to make transformations, shapes, patterns and tessellations. Become an expert in measuring and creating angles and sides in a triangle, rectangle and regular polygons. Use real geometric constructions to calculate perimeter, area and some volumes. Learn how to name and recognise figures, prisms and circles. What are the tricks behind unit conversions and the decimalisation of units, such as converting a number of minutes into a fraction and a decimal fraction of an hour? Use real-life applications involving ratios and similar figures (e.g. from plans to buildings).

M104 Statistics and Chance

Learn how to collect and sort information then draw conclusions from data. Use nifty techniques to gather data and process it, recognising irrelevant and insufficient data, and present it in graphs, tables, histograms and pie graphs. Learn how to interpret information presented by others in these formats. Calculate mean, median, mode and range for sets of data. Learn how to calculate the odds of winning and use tree diagrams to find probabilities.

M105 Algebra and Linear Equations

Solve the mysteries of working with pronumerals and simplifying. Learn how to get answers from applications to real-world situations. Use brilliant techniques to substitute into equations to get answers. Extend your knowledge of algebra by solving and drawing graphs of linear equations. Master the basics of the Distributive Law and simple factorising. Learn the art of transposing formulae and linear equations, and how to use and apply linear inequations. Apply this knowledge to real life situations. Look at powers of pronumerals, simplifying expressions and simple Index Law problems.

M106 Integers and Graphs

Learn about positive and negative numbers (Integers), the number line and BODMAS. Construct graphs and plot co-ordinates on the number plane using integers. Sharpen your skills at adding, subtracting, multiplying and dividing integers and rational numbers.

M108 Topology and Networks / M110 Data Base and Spreadsheets

A fascinating look at surface area and networks. Study the various types of triangles and unravel the secret world of Set theory and Venn diagrams. Design and make interesting patterns through applying tessellation techniques.

This is a 'hands on' approach to Database and Worksheet/Spreadsheet applications. It complements the accounting-based units and revises word processing techniques.

M114 Mastery Maths

Students use this unit to revise their problem areas in Maths, and to also gain additional help with other Maths units they may concurrently be studying. We might have a look at ancient numeration systems, create our own number system and learn how chooks count!

LEVEL 2 Units

M201 Pythagoras' Theorem and Trigonometry

In this unit we look at the formula developed by an ancient Greek. It deals with the lengths of the sides a right angled triangle (the most important shape in all geometry and all building). To use it you need to learn how to square and square root numbers. Learn how to apply his theorem to real life situations. Learn real skills like calculating the height of an object from the ground without measuring it. We will look at the right angled triangle but this time at the ratio of the sides and the angles. Learn ways in trigonometry to investigate triangles by using sines, cosines and tangents and apply this to real-life situations. Such as coastal navigation techniques, using navigational instruments etc.

M203 The Power of Powers / Number 2

Extend your previous knowledge of the powers of pronumerals, use the Index laws and even extend into the worlds of negative powers, Scientific Notation, plotting index equations (x to the power of 2, 3, 4, -1, -2). Investigate irrational numbers such as Pi.

M204 Everyday and Business Maths

How is Maths used in everyday business? Do they really have to remember how to do fractions and decimals? Are percentages useful in calculating simple and compound interest? What type of arithmetic will I need to use for payroll, budget and taxation calculations?

M205 Geometry 2: Plane and Solid

Develop the conditions for the congruence of triangles. Learn how circle properties and problems can be solved using the sine and cosine rules. Construct and solve problems concerning parallel lines, rectangles in circles, arcs and angles in circles, tangents to circles, areas of sectors and using circle properties to create logos, solid figures and nets of solids. Many trades depend on knowing aspects of descriptive geometry and drawing. We progress into work on Plane Geometry, Solid Geometry and possibly transformations, projection and pictorial drawing. Find out how to understand weather and tide charts.

M206 Algebra 2, Linear Equations and Graphs

Apply the distributive law to the expansion of algebraic expressions and then factorise by taking out a common factor.

Revisit the study of drawing straight line graphs and recognise how these can be described by a linear equation. Solve and graph linear equations of the form

$y = mx + c$, and plot and sketch graphs, identify intercepts, calculate gradients and the distance between points.

Learn how to find the point of intersection of two straight lines. Solve advanced linear equations, inequations and simultaneous equations by a number of methods.

M207 Matrices

Matrices are a way of presenting large amounts of information. Learn how to use them along with set theory. Make sense of information science scenarios and apply Matrices to many other mathematical situations.

M208 Advanced Statistics and Probability

Construct Box plots, Dot plots, Histograms and Scatter plots. Look at measures of central tendency and spread and use stem and leaf plots, quartiles, variance and standard deviation. Use basic statistics to conduct, interpret and present the results of a “meaningful” survey. Apply aspects of probability, odds and chance including 2 or 3 step chance experiments with or without replacement and assign probabilities to various situations. Learn how to use and apply probability distribution statistics, hypotheses testing, logic, graphing, and sequences and series.

M209 Quadratic Equations and Graphs

See how simple quadratic expressions can be graphed, factorised and manipulated. Factorise complex algebraic expressions by extracting a common factor. Solve algebraic equations and inequations. Do calculations involving algebraic fractions and quadratic equations. Several methods of graphing will be examined. Study the behaviour of rational and irrational numbers, of polynomial expressions and of formulae. Look at surds and fractional powers.

M210 Variation

Calculate rates, ratios and proportions. These skills are very useful in everyday life and in many employment situations. It is also useful for senior science subjects like Chemistry and Physics as well. Learn how to apply direct, partial and inverse proportion and inverses in real life and scientific situations.

M211 Maths for Work

Tailor made for the person intending to work in a trade. For example this module could focus on calculations needed within the building industry where it would look at calculating and measuring wood, building materials (concrete, bricks, etc), costing jobs and working with measurements, plans and designs.

M212 Accounting and Bookkeeping

Intended for those who may need to maintain accurate and useful business records, this unit looks at business and personal transactions and how they can be recorded using simple computer accounting techniques and applications to produce accurate financial records.

M213 Pre VCE Maths

This unit makes sure that you have successfully done all the mathematics necessary and are well prepared to have success in VCE Maths studies. It will also include a study of graphing a variety of functions, Logarithms and the unit circle and trigonometry.

HUMANITIES

Humanities is a study of human progress, how people have organised themselves into societies over time and how they have interacted with their physical environment.

The aims of the Learning Area are for students to:

- Gain knowledge of Australian and global societies past and present and to develop an understanding of how ancient societies played a role in the foundations of modern societies.
- Have a better understanding and appreciation of the issues affecting society and the environment.
- Explore democracy, governance and the rule of law, justice, liberty, authority, leadership and culture.
- Understand physical phenomena, environmental issues and the operation of major natural systems.
- Participate as confident, responsible and active citizens with a sense of stewardship for the environment and commitment towards the society and wider world in which they live.
- Become financially literate, understand how government influences economic activity and understand scarcity, management of resources and standard of living.
- Develop their ability to research, process, organise, analyse and present information in a variety of ways.
- Better understand the state of humankind and gain skills and knowledge applicable to a range of post secondary school activities and careers.

Subjects included in this learning area: History, Economics, Careers and Geography

LEVEL 1 Units

H101 Countries of the World
H102 Money and Jobs
H103 Genealogy
H104 Ancient Civilisations
H105 Business Enterprise

H107 Australian History and Government
H108 Deserts and Rainforests
H109 Age of Empires
H110 The Elephant and the Dragon
H111 Lucky Country – Civics and Citizenship
H112 The Medieval Period
H113 The Terrible Tudors
H114 The Barbarian Raiders

LEVEL 2 Units

H201 Living in the Lucky Country
H202 Life Skills, Careers and Work
H203 South East Asia
H204 WW2 and the Invasion of Australia
H205 Business Enterprise
H206 Springwood
H207 Ideas and Movements
H208 Food and Farming
H209 Da Vinci Code
H210 Middle East Politics
H211 Trouble Spots and Migration
H212 American History
H213 The Industrial Revolution
H214 The Reign of the Shogans
H215 Rights and Freedoms

LEVEL 1 Units

H101 Countries of the World

In this unit you will discover the amazing cultures to be found on our globe. You will become an efficient user of maps and atlases, follow a grid reference and use compasses/GPS to find your way. At the end of the unit you will know your geography, where you come from and where you are going.

H102 Money and Jobs

Where are the main industries in your town? Get to know your regional economy by creating a folio of information highlighting the attractions, businesses and thriving industries in the surrounding area. Use your mapping skills to pinpoint places of physical and cultural significance. Publish your guidebook and organise a tour of the places you have identified.

H103 Genealogy

In this unit you will research your family history and develop an understanding of methods of historical analysis. This will include a range of mapping styles such as family trees and chronological lines, oral histories, photographic collections, mementos and relics of the past.

H104 Ancient Civilisations

Put yourself in the place of people thousands of years ago. Make the things that they wore. Compare their customs, problems and diet with ours. Learn their dances, philosophies, religions and hardships. Compare the various classes in their society. Enact their way of life from their festive ceremonies to taking part in warfare.

H105 Business Enterprise

Students learn the skills to run a small business enterprise. Preparing, cooking and selling lunches 1 day per week. The enterprise would involve surveying, planning and purchasing appropriate items. Students would develop the basic skills to keep financial records.

H107 Australian History and Government

Look at the many different chapters of Australia's history and examine how our government works. Beginning with the Aboriginal nations, this unit is an overview of European settlement, including highlights such as the Eureka Stockade, the Rum Rebellion, Gallipoli and the Whitlam dismissal. This unit finishes with an end of term excursion to Canberra to visit our Parliament Houses and the Australian War Memorial.

H108 Deserts and Rainforests

This unit looks at ecological and anthropological aspects of Australia's environment. Using Mallacoota's unique ecosystem as a starting point, we examine the question of how we can ensure the survival of our deserts and rainforests. We also look at who lives in these environments and how the traditional land owners survived and flourished.

H109 Age of Empires:

What do Christopher Columbus and Marco Polo have in common? New technologies enabled the European powers to flex their muscle as they raced to expand their empires. Learn about the Spanish Conquistadors and their brutal escapades in the New World. Discover how wars were waged over territory and resources.

H110 The Elephant and the Dragon

This unit will cover the history of India and China from ancient economies to British colonies. These two mighty nations represent the future of world power and together represent nearly half the world's population. You will learn about Ghandi, the man who lead the people in peaceful rebellion in India, and the Opium wars and Boxer Rebellion in China.

H111 Lucky Country – Civics and Citizenship

Learn about Australia's political system, federation and democracy. We are the Lucky Country for more than one reason, including that we all will have the right to vote when we turn 18. Visit Canberra on a fun-filled excursion to visit the nation's capital and see how the system really works.

H112 The Medieval Period

What happened after the decline of the Roman Empire and before the blossoming of the Renaissance? Did history really vanish? No! Did anything actually happen? Yes! The Medieval Period, or the Middle Ages, were a tumultuous time of feudalism, chivalry and knights in shining armour.

H113 The Terrible Tudors:

In this unit you will examine an exciting and tumultuous period of history when the Tudor Kings and Queens ruled in a time of religious and political conflict. Learn about the personalities and fate of the major people of the times and the events that shaped their lives.

H114 The Barbarian Raiders:

This unit looks at two civilisations, the Vikings and the Mongols (and perhaps others), who made a name for themselves raiding, looting and striking fear into the hearts of all who were unfortunate enough to stand in their way.

LEVEL 2 Units

H201 Living in the lucky country

Is there really justice or is it just us? What do you know about the history of human rights in our country? How does Australia compare to the rest of the world? Are there still groups in our society that are disadvantaged? You will investigate important legal decisions that have influenced the way we live today. Do we need a bill of rights in Australia - you decide.

H202 Life Skills, Careers and Work

Your first step towards finding out what careers will work for you. Learn how to manage your finances responsibly. Will setting and keeping to a budget really make a difference to your lifestyle? How can you best start saving for a car or a house? What are your rights and responsibilities as a citizen, as a teenager, and later as a worker, parent and driver?

H203 South East Asia

This unit will focus on the rivers, mountains, forests, cities and weather patterns within South East Asia. You will choose one country from this region and research the human and physical environment. We will investigate the concept of development and the problems faced by developing countries in this region. What are these countries like? Here is an opportunity for you to learn more about our neighbouring countries.

H204 WW2 and the Invasion of Australia

You will investigate Australian involvement in WW2. Where is the Kokoda trail? What happened there? Did submarines really enter Sydney Harbour? Using your historical skills you will critically examine evidence from a variety of sources.

H205 Business Enterprise

You will learn how to run a small business enterprise. This will involve market research, planning and decision making. Students would manage the day to day operations of a business including keeping financial records, management of staff, communication with customers and wholesalers, as well as applying marketing, advertising and public relations techniques you will learn.

H206 Springwood 2013

In this unit students will be preparing for their trip to Springwood in 2013. Activities will include, but not be confined to, getting your Passport, making your short film, fund raising, researching aspects of the trip and generally getting ready. Whilst this unit is not compulsory for students attending the trip, it may be a good idea.

H207 Ideas and Movements:

Want to know what communism is? Or capitalism? What does socialism mean and how does it differ from other 'isms'? How does Judaism compare with Catholicism? In this unit you will examine many of the beliefs that shape the world today, both religious and political ideals. You will learn about where these ideas took shape and what impact they have had on the story of the human race.

H208/S215 Food and Farming

This is a practical unit involving the propagation and cultivation of varieties of plants. It explores what we eat from agro-industrial through to organic community gardens. Get your hands dirty in the garden and discover what fresh food really tastes like!

H209 Da Vinci Code

Learn about the Renaissance in the wealthy city of Florence, Italy, in the 1400s. See how the revival of Classical Greek and Roman culture transformed the city and its inhabitants. Discover how reason took precedence over superstition and secular powers wrested control of education from the church.

H210 Middle East Politics

The end of WWII transpired in the creation of Israel, a homeland for the Jewish people, to the exclusion of the Palestinian people. Ever since, the region has been a hotbed of terrorism, occupation, war and misery. Learn about the conflict and the main players, the roadmap for peace and prospects for a two state solution.

H211 Trouble Spots and Migration

Why do boat people arrive? What are Australia's obligations to take refugees as a member of the global community? Continuing wars in Iraq and Afghanistan propel the global refugee problem. Civil wars in Burma and Sri Lanka also contribute. How should Australia react to the ongoing crisis?

H212 American History

From the arrival of the first Pilgrims, the British Colony, wars with the Spanish, through to the French, Irish Catholics, Italians fleeing Fascism and a whole assortment of odds and ends, America has always been a land of hope and glory. Learn about this fascinating continent, culminating in the rise of the USA as the No 1 world superpower.

H213 The Industrial Revolution:

In this unit you will investigate the enormous changes brought about by the industrial revolution by focusing on its impact in Britain. You will find out what those changes were and how it impacted on the lives of ordinary people, particularly children. You will learn about the conditions people lived in, the formation of the trade union movement and the changing patterns of towns, work, families and education.

H214 The Reign of the Shoguns:

Until 1853 Japan was a closed world. Shoguns ruled supreme with the samurai as their warriors, locked into a feudal system of governance. Then the Americans came knocking, forcing the Japanese to engage with the modern world.

H215 Rights and Freedoms:

WWII proved to be a catalyst for change which resulted in the creation of the UN and promoted the formation of independence and civil rights movements around the world, including the US and Australia. Students will examine the causes and outcomes of these decisive struggles.

PHYSICAL AND PERSONAL DEVELOPMENT

Studies in this learning area promote understanding of physical activity and movements, food and nutrition, health, safety, human development and human relations. Within this context, the area examines personal action; beliefs, attitudes and values held by families, cultural groups and the wider community; public policies affecting health and physical activity; and the settings and contexts of activities in the area. The units assist students to:

- develop the knowledge and skills that promote participation in physical activity, fitness, effective relationships and the safety and health of individuals and groups
- take an active part in creating environments that support health and participation in physical activity and contribute to community discussion on these issues.
- develop an understanding of the use of food to provide nutrients for energy, growth, repair and regulation of the body's physical functions by studying nutrition and diet.
- develop an understanding of the causes of illness and injury and the responsibility of individuals and community to create environments conducive to health and safety
- develop an understanding of the balance of physical, social, spiritual and mental aspects of health in the effective functioning of individuals
- promote their own and others' worth, dignity, and rights as individuals and as members of groups and respecting other people's decisions and opinions
- appreciate the impact of human behaviour and endeavour on the environment and the consequences for the health of individuals and populations
- use and evaluate services, products and facilities that promote health and participation in physical activity, and understand consumers' rights & responsibilities

Traditional subjects included in this learning area:

Health, Physical Education, SES Advance, Cooking, Dance and Music.

LEVEL 1 Units

P101 Around the World with a Knife and Fork
P102 Cooking up a Pyramid
P103 Fitness
P104 Health (Compulsory for years 7&8)
P 105 Dance
P106 On the Ball
P107 Surfing and Surf Safety
P108 The Band 1
P109 Who Listens to the Radio
P111 Yachting
P112 Stick Sports
P113 Minor Games
P114 Lets Be Active
P115 Recreational Sport
P116 Racquet Sports

LEVEL 2 Units

P201 Tucker for Teenagers
P202 Cooking for Special Occasions
P203 Fitness
P204 Health Cont. (Compulsory for 9&10)
P205 Dance continued
P206 On the Ball
P207 Surfing and Surf Safety
P208 The Band 2
P209 Aviation
P210 Advance: Term3
P211 Advance: Term4
P212 Advance: Term1
P213 Advance: Term2
P214 Lets Be Active
P215 Recreational Sport
P216 Racquet Sports
P217 Intro to Educational Support

LEVEL 1 Units

P101 Around the World with a Knife and Fork

In this unit we will study different eating patterns, food and social habits around the world. Some of the countries we will look at include France, Italy, Greece, America, Middle Eastern countries and China.

P102 Cooking up a Pyramid

This unit concentrates on choosing, preparing and serving nutritious food using a variety of cooking methods. All activities will keep in mind the diet pyramid and dietary guidelines.

P103 Fitness

This unit will aim to assess and improve components of physical fitness, looking at catering for the needs of the individual and their particular sport. There will be a physical and theory component. Some areas included will be, sports medicine, nutrition for sport, training methods and pre game preparation.

P104 Health (Compulsory for 7/8)

This unit will focus on the peer group, influences on decision making, risk taking and harm minimisation. It explores a range of health services available to teens in our community

P105 Dance

This unit will explore different types of dance from around the world. Students will be choreographing a dance piece by the end of the unit.

P106 On the Ball

This unit will introduce a variety of ball games. Skills, rules and tactics will be developed in football, netball, European handball, basketball, volleyball and soccer.

P107 Surfing and Surf Safety

This unit is about learning to surf, primarily, riding a surfboard. We will be looking at learning and improving surfing skills as well as learning surf awareness and surf safety. Students will need to demonstrate that they can swim 200m before commencing this unit.

P108 The Band 1

This unit will require you to have a basic knowledge of an instrument so that you could participate in a band. It will focus on making music in a modern band situation.

P109 Who Listens to the Radio

Using the latest technology to script and record a show for broadcasting on the radio.

P111 Yachting

This unit is about how to sail yachts. Using the school Minnows, we will be covering basic yachting skills including the parts of the boat, rigging steering, tacking and gibing. Students will need to demonstrate that they can swim 200m before commencing this unit.

P112 Stick Sports

This unit will introduce a variety of stick sports including cricket, hockey, baseball and Lacrosse. Skills, rules and tactics will be developed.

P113 Minor Games

This unit will look at skills, rules and tactics of a variety of minor games such as Ultimate Frisbee, Dodgeball, capture the flag, handball and rounders. There will also be a games making component.

P114 Lets Be Active

This unit will allow students to develop skills and tactics related to major team games.

P115 Recreational Sport

This unit will introduce a variety of low energy, recreational sports such as lawn bowls, carpet bowls, golf and croquet. Rules, tactics and skills will be developed.

P116 Racquet Sports

This unit will introduce a variety of racquet sports. Skills, tactics and rules will be developed in sports such as tennis and badminton.

LEVEL 2 Units

P201 Tucker for Teenagers

We will look at influences on the food choices of adolescents, dietary patterns and concerns of this age group. We will look at the link between diet, exercise, health, fast food, health food, food labels, additives, dieting, anorexia and obesity.

P202 Cooking for Special Occasions

This unit will require practical and theoretical work centred around varying themes eg. christmas, easter, birthdays etc.

P203 Fitness

This unit will aim to assess and improve components of physical fitness, looking at catering for the needs of the individual and their particular sport. There will be a physical and theory component. Some areas included will be, sports medicine, nutrition for sport, training methods and pre game preparation.

P204 Health continued (Compulsory for 9/10)

This unit continues on from Health (P104). Issues raised in Health will continue to be explored and it will also bring attention to sexual health, nutrition, issues during adolescence and mental health.

P205 Dance continued

This unit will explore different types of dance from around the world. Students will be choreographing a dance piece by the end of the unit.

P206 On the Ball

This unit will introduce a variety of ball games. Skills, rules and tactics will be developed in football, netball, European handball, basketball, volleyball and soccer.

P207 Surfing and Surf Safety

This unit is about learning to surf, primarily, riding a surfboard. We will be looking at learning and improving surfing skills as well as learning surf awareness and surf safety. Students will need to demonstrate that they can swim 200m before commencing this unit.

P208 The Band 2

This unit will further develop skills in making music in a modern band situation. Extend your music instrument skills by playing in a band, decide what you play and work towards a performance. Students should already know how to sing or play an instrument.

P209 Aviation

This is a two term course that introduces students to flying. Students will enrol in a formal programme of flight instruction to gain their aircraft pilots licence. The learning is one practical lesson (flying the plane) taught over a double and lunchtime, one theory and study session and one simulator lesson per week. The coordinator of the program is Chris Mills and the instructor is the chief Pilot of Merimbula Air Services – Alan Lindsay. The cost will be \$150 per week for the flight and also approximately \$200 for text books.

Advance Semester 1: Term 1: P212 Advance & Term 2: P213 Advance

Advance is a program about creating opportunities for Year 8- 10 students beyond the four walls of a classroom. It is about personal and skill development through learning activities, especially in the outdoors. There will be a focus on developing team work, it is preferred that students complete a semester, however enrolling in a term may be negotiated. The focus of **term one (P212)** will be depend on student interest but is likely to include water, boats & surf life-saving, snorkelling. An overnight sea-kayak expedition or other expedition will be conducted as part of the program. **Term two (P213)** has the most settled weather for sea-kayaking, but again the focus will depend on student interest. During term two there will be some CFA training and there is the opportunity to do SES training as well. Planning and preparation for, and participation in an overnight expedition are a part of the Advance program.

Advance Semester 2: Term 3: P210 Advance & Term 4: P211 Advance

Advance is a program about creating opportunities for Year 8- 10 students beyond the four walls of a classroom. It is about personal and skill development through learning activities, especially in the outdoors. There will be a focus on developing team work, so preference will be given to students who enrol in both P210 & 211, however there may be opportunity to enrol for one term. The focus of **Term 3 (P210)** will be depend on student interest but could include involvement with SES and level two first aid certification. A white water rafting trip on the Snowy River has been organised for the end of term. **Term 4 (P211)** will focus on developing and extending surf life-saving skills. Students will have the opportunity to prepare for their Surf Bronze or Surf Rescue Certificates. Less confident swimmers are encouraged to enrol and will have the opportunity to develop their confidence and water skills.

P214 Lets be Active

This unit will allow students to develop skills and tactics related to various major team games.

P215 Recreational Sport

This unit will introduce a variety of low energy, recreational sports such as lawn bowls, carpet bowls, golf and croquet. Rules, tactics and skills will be developed.

P216 Racquet Sports

This unit will introduce a variety of racquet sports. Skills, tactics and rules will be developed in sports such as tennis and badminton.

P217 Introduction to Educational Support

Students are required to actively support classroom teachers in the primary school in a range of year levels and subject areas. This involves students assisting the teacher with demonstrations, leading groups, helping individual students and preparing equipment etc. Students are expected to act in a professional manner and to use language and levels of behaviour that have a positive impact on the primary school students.

PRACTICAL STUDIES, ART AND DESIGN

The aims of this learning area are to develop and encourage:

- An understanding and appreciation of the aesthetic qualities associated with the visual and performing Arts.
- An appreciation of the role of the Arts in self-expression, self-awareness and personal communication.
- The skills which enable students to experience the Arts.
- A sense of achievement and enjoyment from participation in the Arts.
- Managing and manipulating materials and resources using a range of tools, equipment and machines to make functional physical products or systems.
- Application of imagination and lateral and critical thinking throughout design and development processes.
- To gain knowledge and skills in the safe use of a variety of technological equipment

Traditional subjects included in this learning area are:

Art, Pottery, Jewellery, Photography, Textiles, Woodwork, Multimedia, IT and Metalwork.

AA units are Arts based and AT units are Technology based and students are advised to select a balance of both types of units particularly at level 1.

AA102 Make Shape Paint is a compulsory unit.

A minimum of two AA and AT units at both level 1 and 2 are required.

LEVEL 1 Units

AT101 Basic Garment Construction
AA102 Make Shape and Paint
AA103 Introduction to Ceramics
AT104 Video Making
AT105 Into the Foundry
AT106 Introduction to Wood work
AT107 Introduction to Metalwork
AT108 Jewellery Making
AT109 Who listens to the Radio
AT110 Garage Band
AT111 Information Technology and Me
AA112 Photography
AA113 Print Making
AT114 Introduction to Woodwork 2
AT115 Introduction to Metalwork 2
AT116 Touch Typing
AA117 Introduction to Art
AT120 Gamemaker

LEVEL 2 Units

AA201 Fashion
AA202 Open Art
AA203 Sculpture and Ceramics
AT204 Preparatory Trade Drawing
AA205 Advanced Photography
AT206 Movie making
AA207 Intro to Visual Communication and Design
AT208 Lets go Fishing
AT209 Fibreglass
AT210 Advanced Technology 1
AT211 Advanced Technology 2
AT212 Advanced Information Technology
AT213 Multimedia / Radio
AT214 Metal Fabrication
AT215 Advanced Computer Technology
AT216 Game On
AT217 Sheet Metal / Measurement and Shape
AT218 Motors
AA219 Art
AT220 Gamemaker

LEVEL 1 Units

AT101 Basic Garment Construction

This unit will involve learning how to follow a pattern to produce an article of clothing. The basic techniques will be covered and you will put them into practice by making your own garment.

AA102 Make Shape and Paint (will run every second year)

Students will explore a variety of art based activities including drawing, printing, painting and design. This is a compulsory unit.

AA103 Introduction to Ceramics

This unit will look at basic skills and techniques in making things out of clay, including various different techniques of construction, firing and glazing.

AA104 Video Making

Students will be involved in the making and production of videos. Students will develop skills in script writing, filming, and computer editing to create short films.

AT105 Into the Foundry

Student will be introduced to metal working skills including bending, twisting and shaping metal to fabricate products.

AT106 Introduction to Woodwork

This unit introduces you to the basic skills, knowledge and practice of working with wood. The unit aims, through a combination of theory, practical work and a number of projects, to develop these areas with emphasis placed on safety, perseverance, craftsmanship and cooperation.

AT107 Introduction to Metalwork

This unit is an introduction to metalworking and will cover the use of setting out tools, cutting and shaping tools and methods of joining metals. You will be expected to construct a number of models and complete some written work relating to the projects.

AT108 Jewellery Making

An introduction to the processes in making jewellery, in precious metals and plastics.

AT109 Who listens to the radio?

Program your own show on 3MGB.

AT110 Garage Band

Using computer technology to make music on the computer.

AT111 Information Technology and Me

Do you want to learn more about how computers work and what they can do? In this subject you will develop your understanding of computers and computer networks. You will learn about file management, core application tasks, words processing and spreadsheets.

AA112 Beginner Photography

This is an Art based unit. Students will be introduced to digital photography, and single reflex cameras. Editing and printing photos will also be covered.

AA113 Print Making

Students will explore various forms of print making in creating Art images. This may include, linocuts, screen printing, mono prints and etchings. Both colour and black and white prints will be explored. A variety of ways of developing imagery will also be covered.

AT 114 Introduction to Woodwork 2

This unit is a further introduction to the basic skills, knowledge and practice of working with wood.

AT115 Introduction to Metalwork 2

This unit is a further introduction to metalworking.

AT116 Touch Typing (Faster than Facebook)

Type faster than you can talk. Learn to type using all of your fingers, without needing to look at either the Keyboard or the screen. It's easier than you think. Simple drills will help you pick up simple skills that you can use to increase your efficiency on the computer.

AA117 Introduction to Art

This unit introduces students to Art and Design practices and principles. There is a focus on drawing to provide a foundation for further exploration in Art, Design and Practical Studies.

AT120 Gamemaker

Students will delve into the world of computer programming using Game Maker- a software program that has been designed to make it easier for people to design and make their own computer games. Students will be creating, playing, sharing, de-constructing, re-working, collaborating, analysing, de-bugging and having fun making computer games.

LEVEL 2 Units**AA201 Fashion**

You will be producing high quality clothing of your choice using the practical skills learned in the class. The emphasis will be on practical work.

AA202 Open Art

Pursue the area of your interest in any art related area or explore a variety of interests. Past areas have included animation, jewellery, painting, graphics and textile wall hangings. If you are interested in art in general or a specific creative area, this is the unit for you.

AA203 Sculpture and Ceramics

Explore 3 dimensional expression in a variety of materials including ceramic technology. Environmental sculpture will take you outside the school.

AT204 Preparatory Trade Drawing

This is a preparatory course for teaching the basics of trade drawing that may lead to graphic design, drafting or engineering graphics.

AA205 Advanced Photography

This unit will further explore digital photography. You will be developing skills in taking pictures and printing using Photoshop.

AT206 Movie making

Do want to develop your editing skills while making short films? Would you like to see your video on television or the internet through websites like Youtube one day? In this subject you will watch films, take photographs and use video cameras and computers to edit your project. You will make your own short films and record and reflect on your projects in your media journal. This unit will look at developing ideas and making movies suitable for exhibition using the latest software.

AA207 Introduction to Visual Communication and Design

For those of you interested in modern design and techniques in various graphic processes. We will be looking at contemporary advertising and the role of graphics in the media.

AT208 Lets Go Fishing

This unit is about the construction and casting of fishing lures and jewellery with lost wax casting.

AT209 Fibreglass

Learn how to use fibreglass and resin to make a range of items. This unit involves the construction and manufacture of projects using fibreglass. Construct surfboards, canoes, sailboards and other negotiated projects.

AT210 Advanced Technology 1

This unit is an intro to VCE Technology and will generally be taught in conjunction with a VCE Technology class. Students will further develop skills in wood, metal and plastics.

AT211 Advanced Technology 2

This unit is an introduction to VCE Technology and is an extension of Advanced Technology 1. It may also be taught in conjunction with a VCE technology class. Students will further extend skills in wood, metal and plastics.

AT212 Advanced Computer studies

Develop your research skills using the internet. Investigate the impact of copyright and learn how to protect your privacy online. Discover how to create databases and use a range of graphics and multimedia programs.

AT213 Multimedia / Radio

Do you want to know the secret of how to get a backstage pass in to see your favourite band? Here you will learn how to podcast your own program for the internet or to broadcast on 3MGB. You will develop interview techniques, gain experience at using recording equipment and how to use different computer programs to edit radio projects.

AT214 Metal Fabrication

Making and constructing a range of objects in steel by folding, shaping, forging and welding.

AT215 Advanced Computer Technology

Study net books, wireless networking, backups, file cleaning, ghosting, physical cleaning, software installation, downloading and installing drivers, disassembling and recycling computers, hardware installation, computer logistics, power measurements, performance testing and more....

AT216 Game On:

We will be delving into the world of computer games, looking at different genres and what makes a good game. The focus of this unit will go from playing games to creating games. Games platforms that have been used in the past are Scratch and Game Maker. This unit is not just for gamers, it is also for anyone who has an interest in learning programming. There will be the opportunity for people who participate to use this unit as an introduction or to build on skills they have already developed.

AT217(M102) Sheet Metal / Measurement and Shape

Students will be involved in fabricating and soldering a range of objects from sheet metal. This will also involve developing skills in solid geometry calculations and doing drawings.

AT218 Motors

You will look at how engines work with Mr Hobson. This unit has both practical and written parts and would be a good lead into a VET Auto class. It will be a small class and entry is based on an interview.

AA219 Art

Students in Art can expect to cover a wide range of Art making practices. While drawing will remain as the foundation of the unit, students will get the chance to explore a variety of art making activities. This may include: painting, printmaking, computer art, ceramics.....

AT220 Gamemaker

Students will delve into the world of computer programming using Game Maker- a software program that has been designed to make it easier for people to design and make their own computer games. Students will be creating, playing, sharing, de-constructing, re-working, collaborating, analysing, de-debugging and having fun making computer games.

SCIENCE

Science education develops students' abilities to ask questions and find answers about the natural and physical world that they live in. It provides insights into the way science is applied and how scientists work in the community. It helps students make informed decisions about scientific issues and further study.

The aims of Science are to:

- Develop knowledge, skills and language central to the sciences.
- Apply knowledge of science and understanding of some key scientific theories, principles and ideas to explain and predict events in the natural and physical world.
- Develop the use of skills of scientific investigation, reasoning and analysis to generate or refine knowledge, find solutions and ask questions.
- Develop scientific attitudes such as flexibility, curiosity, respect for evidence and critical reflection.
- Communicate scientific understanding in appropriate scientific language.

Subjects included in this Learning Area:Biology, Chemistry, Geology, Physics and Psychology.

LEVEL 1 Units

S101 Science Skills (Compulsory for Year 7)
S102 Mallacoota's Ecosystems
S103 Human Anatomy 1a
S104 Machines
S105 Electricity
S106 Astronomy
S107 Earth Science / Geology
S108 In the Garden
S109 Pigments and Acidity
S110 The Animal World
S111 Human Anatomy 1b
S112 Electronics
S113 Robotics

LEVEL 2 Units

S201 Evolution and Genetics
S202 Microbiology
S203 Human Anatomy 2
S204 Introductory Physics
S205 Introductory Chemistry
S206 Marine Ecology and Resource Management
S207 Water and Waste Everywhere
S208 Everyday Chemistry
S209 Electronics
S210 Forensic Science
S211 Sound and Light
S212 Energy Use in Society and Sustainability
S213 Building and Engineering
S214 Sustainability and Agriculture
S215/H208 In the Garden
S216 Psychology
S217 Robotics

LEVEL 1 Units

S101 Introduction to Secondary Science (Compulsory for Year 7)

This unit is an introduction to the science laboratory, its equipment and how to use it safely. Learn how to write experimental reports and drawings and how to make scientific observations. Learn what is a fair test and scientific methodology. Study the classification of organisms and their interactions. Investigate mixtures, including solutions that contain a combination of pure substances and how they can be separated using a range of techniques. . Investigate the particle theory of matter (solids, liquids, gases). Investigate the effects of applying different forces to familiar objects.

S102 Mallacoota's Ecosystems

This unit looks at the environment and ecosystems that exist in and around Mallacoota. It looks at the inter-relationships between living things, and between living things and their non-living environment. It includes local investigations & reports on such things as the intertidal zone, marine environments, the bat colony, the Betka River, local shore/forest birds, forest systems etc.

S103 Human Anatomy 1a

This unit looks at the structure and function of a number of the body's systems, including the circulatory and skeletal systems. Theoretical knowledge will be applied to the practical setting of first-aid treatments. Students will develop first aid skills and will be visiting the local ambulance station to become familiar with first aid treatments.

S104 Machines

A practical and theoretical study of the 5 basic machines – the lever, inclined plane, hydraulic press, pulley and wheel and axle machine. Simple machines make work easier and this study shows why. This unit may include visits to local industry to see machines in action. Theory topics included are force, energy, work and friction.

S105 Electricity

Get a charge out of this unit. It investigates static electricity and basic electrical circuits to gain an understanding of electrical components. The properties of magnets and how they can be made is investigated. Learn how an electric generator and an electric motor work and can be made. How household electrical appliances work is investigated. Switch on to electricity.

S106 Astronomy

This unit focuses on the universe and our place in it. It examines the nature of the universe, looks at the methods used by scientists to study and explore the universe, and relates these observations to current theories about its origin. The motion of the earth in space is compared to the moon and other planets in the solar system. It shows the links between the formation of our solar system, the movements of the sun and planets and the conditions which those movements create. This unit also includes: Distance in space, Constellations, star types and life cycles, Gravity, bodies of the solar system, space technology and the search for extra-terrestrial life.

S107 Earth Science / Geology

How did that mountain get there? Where did that river come from? What is a glacier? These questions and many more will be answered during this unit. In this unit students will study the structure and history of the earth, learn about continental drift, types of rock and minerals and how they are formed. Visits will be made to local rock formations and no stone will be left unturned!

S108 In the garden

The important role plants play in our survival is examined before looking at their classification. The structural features of plants, their germination, photosynthetic ability and reproductive methods are all examined and discussed. Work on the school's garden beds and veggie garden could become part of this unit if there was student interest.

S109 Pigments and Acidity

This unit looks at the properties of acids and bases and how they can be identified. Pigments from plants and man-made indicators are used and their uses and properties investigated. The reactions of acids and bases with some common materials are studied along with how acids are made and used in everyday life and industry.

S110 The Animal World

This unit provides a detailed survey of the animal kingdom. By comparing different 'kinds' of animals, it introduces students to a number of concepts which are fundamental to biology:

- The unity and diversity among living things
- Classification
- Cells and cellular respiration
- Animals and their environment
- The relationship between animal structure and function
- Adaptations
- Endangered animals

S111 Human Anatomy 1b

This unit looks at the structure and function of a number of the body's systems, including the respiratory, nervous and digestive systems. Theoretical knowledge will be applied to the practical setting of first-aid treatments. Students will develop first aid skills and will be visiting the local ambulance station to become familiar with first aid treatments.

S112 Electronics

Students learn basic electrical theory, soldering for electronics, recognition and uses of components and build screw together and soldered kits. Students who have done an electronics unit before will be able to extend their knowledge with more theory, more components, more kits and learn to etch their own circuit boards.

S113 Robotics

This unit will involve some internet research into robots and their uses in the modern world and practical building and programming with Lego "Mindstorms" gear. With this new Lego students are able to construct and program robots to perform set "dance" routines, follow white lines, navigate mazes and even play robot soccer. Students taking on this unit will be working in teams and looking forward to a challenge (not playing with toys!)

LEVEL 2 Units

S201 Evolution and Genetics

This unit examines the history of life on earth, evolution of species on Earth, the theory of Natural Selection, and the methods used to develop evolutionary theory including fossil analysis and dating and comparative biochemistry. It also looks at Genetics and how characteristics can be inherited from the previous generation. The following topics will be introduced:

- DNA; its structure and function and role in the synthesis of proteins
- Chromosomes and the growth of new cells, mitosis and meiosis
- Physical characteristics of offspring
- Genetic diseases
- Genetic engineering

S202 Nanotechnology

Enter the world of nano. What is nanotechnology, what are the advances and future potential in this science that area emerging to shape some of the important challenges of this century. Study and investigate nanotechnology in health and medicine. Investigate social issues associated with nanotechnology. Time permitting nanotechnology may also lead to investigating bio-nano technology.

S203 Human Anatomy 2

This unit looks the human body's reproductive system and at the control systems focusing on the nervous & hormonal systems and the body's senses. Include is a study of cells and cell structure.

S204 Introductory Physics

This unit aims to give students an understanding of the physical world around them. The study of Motion covers distance versus displacement, average speed versus instantaneous speed, velocity, acceleration and Newton's three laws of motion. Energy types, conversions and sources of energy will also be studied. A useful introduction to VCE Physics.

S205 Introductory Chemistry

This unit introduces students to fundamental Chemistry ideas such as Atom structure, the periodic table, Metals, Non-metals and Noble Gases and Bonding (the forces between particles) – Ionic, Covalent and Metallic. It investigates the properties of Elements and Compounds and Chemical reactions including writing chemical equations. It also investigates the mining industry and metal extraction. A useful introduction to VCE Chemistry.

S206 Marine Ecology

This unit focuses on investigating our local marine environment. Hidden in our local beaches and rock pools are many examples of diverse members of the animal kingdom. Biological classification will be studied both in the classroom and in the field. Be prepared to immerse yourself in the watery world where all life began. Some of the basics of biology will also be part of the story – how did life evolve, what are cells, how did more complex organisms evolve – it all happened in the sea!

S207 Water and Waste Everywhere

Water is a precious resource and is often taken for granted when we can just turn on the tap and there it is. This unit investigates water management at a local level including reticulation and treatment, water quality and testing, waste water and water properties. It also looks at Waste – industrial and domestic, disposal and recycling methods, gas emissions and environmental impact locally and globally especially global warming.

S208 Everyday Chemistry

Every day we use chemicals without blinking an eye - unless the shampoo drips in. Washing the dishes, taking a photograph or replacing a battery, all involve Chemistry. Some chemical reactions happen without us realising, such as rust on your bike or a cake rising in the oven.

This unit looks at Plastics, Acids, Bases, Compounds and Mixtures in the home. It includes a study of indicators, pH, reactions and writing equations for reactions investigated.

Food Chemistry including the role of and tests for Carbohydrates, Glucose, Starch, Fat, Protein, Vitamins and Minerals and the energy in food are also investigated.

The chemistry and preparation of Cosmetics will also be studied if there is time.

S209 Electronics

Students learn basic electrical theory, soldering for electronics, recognition and uses of components and build screw together and soldered kits. Students who have done an electronics unit before will be able to extend their knowledge with more theory, more components, more kits and learn to etch their own circuit boards.

S210 Forensic Science

In this challenging unit, students will learn and undertake skills used by forensic scientists to help solve crimes. There is potential for students to choose much of the syllabus in this subject. These choices will include the ability to scientifically match specimens (hair, fibres, fingerprints, blood type and DNA) to those of suspects. They will also learn to interpret blood spatter patterns, tyre marks, projectile motion, handwriting and the insect larvae found in decaying flesh. A major theme of the unit will be the use of maths and science to understand patterns in samples of known origin, in order to interpret evidence of unknown origin.

S211 Sound and Light

Included in this unit will be:

- Light and colour - reflection of light, mixing the colours of the spectrum
- Refraction - lenses and cameras
- Human eye - how it works, defects and corrective measures, colour blindness
- Sound - what is it and how does it travel?
- How the ear works, Sensor nerves
- Sound storage and reproduction - tapes, records, microphones, speakers, etc
- Noise, protection from noise
- Uses of sound

S212 Renewable Energy

New energy sources such as biogas, alcohol, plant oils, wind generators, solar panels, tidal power etc will be investigated and scale model built and tested. This unit introduces students to the production and uses of different energy sources used in the world – wood, coal, petrol, gas, nuclear, hydro-electric etc and whether they are sustainable. The types of energy and how energy is transformed will also be studied. In particular you will look at how to make the school and your homes more sustainable.

S213 Building and Engineering

This unit investigates the design and construction of buildings and bridges. It looks at building materials and how they are used and incorporated into building design. A detailed investigation into bridge construction will involve the design, construction and testing of columns, trusses and beams with the ultimate aim of building a bridge and testing it to destruction.

S214 Sustainability and Agriculture

Students will be looking at what creates a sustainable environment and society. You will look at how our agricultural practices need to become more sustainable, what current farming practices are, what is permaculture and much more.

S215/H208 In the Garden

The important role plants play in our survival is examined before looking at their classification. The structural features of plants, their germination, photosynthetic ability and reproductive methods are all examined and discussed. Work on the school's garden beds and vegie garden could become part of this unit if there was student interest.

S216 Introduction to Psychology

Psychology is the scientific study of behaviour and the mind. A focus will be positive Psychology which can be applied to many aspects of life. Topics covered may also include: Mental health, criminal profiling, sports psychology and psychological assessment.

S217 Robotics

This unit will involve some internet research into robots and their uses in the modern world and practical building and programming with Lego "Mindstorms" gear. With this new Lego students are able to construct and program robots to perform set "dance" routines, follow white lines, navigate mazes and even play robot soccer. Students taking on this unit will be working in teams and looking forward to a challenge (not playing with toys!)