



Box Hill High School
Handbook
Studies

2009

Year 8 (Accelerated)

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Subjects

No. of Periods

English	9 per fortnight
Mathematics	9 per fortnight
Science	4
Geography/History (1 semester each)	4
Physical Education	2
Sport/Health	<u>2</u>
	<u>21</u>

Elective subjects: 3 x 3 Periods; a total of 9 periods per week

Art
Basic Analogue Electronics
* LOTE - Chinese
* LOTE - German
* Extra English - E.S.L.
Visual Communication & Design
Food Technology
Information Technology
Business Technology
Music
Drama
3D – Design Studies
*Language – At least one must be selected.
** 3D- Design Studies must be selected

Parents are welcome to discuss any aspect of Year 8 studies with the Year Level Co-ordinator or with the coordinator of the Accelerated/Extended Learning Program (the Assistant Principal).

Note: a language course must be selected. These run for the full year and therefore reduce the number of electives available. If, for example, both Chinese and German are selected only one more elective in each semester can be taken.
An Art course is also compulsory for all students.

The electives which run will depend on the choices of the students.

The following course outlines have been developed in accordance with Level 5 of the Victorian Essential Learning Standards. Appropriate enrichment learning activities are provided for students achieving above this level.

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ENGLISH

Level 6 VELS - Year 9 and 10

LEARNING FOCUS

Through the study and discussion of texts, issues and themes, students develop their ability to express ideas both in writing and in oral activities. Texts include novels, plays, films, poems and articles from the print media. By reading and exploring these texts, students broaden their vocabulary, develop their appreciation of our language and become critical thinkers, imaginative writers and confident speakers who can present a point of view and use our language for personal and creative expression. Students are encouraged to improve the clarity and fluency of their writing. They compose narratives, personal writing, persuasive pieces and presentations such as plays, videos and formal speeches. Assessment includes a wide range of such tasks, including formal essays on texts; persuasive and analytical writing about issues and media articles; imaginative writing involving plot and character development; personal reflection; and oral presentations.

Domain	Dimension	Key Standards
English	Reading	<ul style="list-style-type: none">◆ Reflection on ideas and issues explored in imaginative texts◆ Reflection on ideas and issues relevant to students' lives that are explored in persuasive texts◆ Critical analysis of a wide range of persuasive texts◆ Understanding how texts are shaped by the time, place and cultural setting in which they are created◆ Using evidence from texts to support oral and written responses◆ Comparing themes from different texts◆ Synthesising information from different texts to form conclusions

	Writing	<ul style="list-style-type: none"> ◆ Effective use of vocabulary and sentence structures ◆ Proofreading and drafting for accuracy and coherence ◆ Arguing for a particular point of view ◆ Showing and evaluating alternative perspectives ◆ Using language to persuade readers ◆ Writing for a chosen audience and purpose ◆ Organising complex ideas ◆ Planning, drafting and writing sustained narratives ◆ Exploring and reflecting on complex themes and issues
	Speaking and Listening	<ul style="list-style-type: none"> ◆ Using evidence to justify and support opinions ◆ Selecting persuasive language to influence an audience ◆ Reaching conclusions that take into account different perspectives on an issue ◆ Using note-taking in planning oral communication ◆ Responsive listening to spoken texts with complex subject matter ◆ Presenting information imaginatively to interest an audience ◆ Planning, rehearsing and revising oral presentations for fluency and coherence ◆ Comparing ideas with others and building on others' ideas during discussion

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SCIENCE

Level 5 VELS - Year 7 and 8

LEARNING FOCUS

Students expand their knowledge of science to include abstract concepts, theories, principles and models drawn from biological, chemical, earth, environmental, physical and space sciences. They apply these ideas to particular situations. They explore how scientific work has led to the discovery of new knowledge and understanding about the natural world, and changed our understanding of ourselves and our possible destiny. Students develop their understanding through the use of science ideas in controlled studies using appropriate experimental tools including computer modelling and simulation. They prepare and present a report of their investigations in a variety of formats, using spreadsheets, graphs and diagrams. Basic sampling techniques are developed. Students practise safe, responsible and ethical behaviour when conducting investigations using standard equipment and chemicals. They develop ideas about the responsible use and disposal of materials.

DIMENSION	STANDARD
Science knowledge and understanding	Use the particle model to explain structure and properties of matter, chemical reactions and factors that influence rate
	Explain the structure and function of cells and how different cells work together
	Explain the relationships, past and present, in living and non-living systems, in particular ecosystems, and human impact on these systems
	Analyse what is needed for organisms to survive, thrive or adapt, now and in the future.
	Explain how the observed characteristics of living things are used to establish a classification system.
	Use everyday examples of machines, tools and appliances to show how the thermodynamic model describes energy and change, and force and motion.
	Use time scales to explain the changing Earth and its place in space.
	Distinguish ideas about the Universe that have a scientific basis from those that do not
	Use physical and theoretical models to investigate geological processes.
	Science at work
Demonstrate procedures for preparation and separation	
Design investigations that include measurement, using standard instruments and equipment.	
Make systematic observations and interpret recorded data appropriately.	
Justify choice of instruments and the accuracy of their measurements.	
Use appropriate diagrams and symbols when reporting ,	
Make and use computer models to explain observations.	
Demonstrate basic sampling procedures in field work.	
Work effectively in a group to use science ideas to make operating models of devices	
Identify, analyse and ask their own questions in relation to scientific ideas or issues of interest.	

CONTENT

Atomic Theory; Electricity; Light; Geology; Astronomy; Ecosystems; Respiration; Photosynthesis; Reproduction.

ASSESSMENT TASKS

Topic tests, written homework, assignments and practical work.

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MATHEMATICS

Level 5 VELS - Year 7& 8

LEARNING FOCUS

As students work towards the achievement of Level 5 standards in Mathematics, they construct mathematical models to explore and describe the physical world. They recognize the importance of mathematics in a technological society.

Dimensions

Number

The *Number* dimension focuses on developing students' understanding of counting, magnitude and order. The natural (counting) numbers with zero extend to positive and negative signed whole numbers (integers) and through part-whole relations and proportions of whole numbers to the rational numbers (fractions and finite decimals or infinite recurring decimals). Proportions of lengths involving sides and/or diagonals of right-angled triangles and rectangles and arcs of a circle lead to the introduction of certain irrational real numbers such as the square root of 2, the golden ratio *phi* and fractions or multiples of *pi*.

Space

The *Space* dimension focuses on developing students' understanding of shape and location. These are connected through forms of representation of two- and three-dimensional objects and the ways in which the shapes of these objects and their ideal representations can be moved or combined through transformations. Students learn about key spatial concepts including continuity, edge, surface, region, boundary, connectedness, symmetry, invariance, congruence and similarity..

Measurement, chance and data

The *Measurement, chance and data* dimension focuses on developing students' understanding of unit, measure and error, chance and likelihood and inference. Students learn important common measures relating to money, length, mass, time and temperature, and probability – the measure of the chance or likelihood of an event.

Other measures include area, volume and capacity, weight, angle, and derived rates such as density, concentration and speed.

Structure

The *Structure* dimension focuses on developing students' understanding of set, logic, function and algebra. Key elements of mathematical structure found in each of the dimensions of Mathematics are membership, operation, closure, identity, inverse, and the commutative, associative and distributive properties as well as other notions such as recursion and periodic behaviour.

Working Mathematically

Working mathematically focuses on developing students' sense of mathematical inquiry: problem posing and problem solving, modelling and investigation. It involves students in the application of principled reasoning in mathematics, in natural and symbolic language, through the mathematical processes of conjecture, formulation, solution and communication; and also engages them in the aesthetic aspects of mathematics.

ASSESSMENT TASKS

A variety of assessment methods and tasks are used to establish levels of student performance. These methods and tasks may include topic tests, assignments, problem solving tasks, workbook inspection, homework sheets, and major projects.

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GERMAN

LEVEL 5 VELS - Year 7 & 8

LEARNING FOCUS

Students develop an understanding that cultural diversity exists and learn the similarities and differences between languages. Students understand and use the language within the world of their own experience. Students are increasingly aware of the grammatical forms, they reflect on words, their function and place in a sentence. They make logical attempts to decipher meaning from written and spoken input, and use resources such as dictionaries effectively. Activities include a wide range of listening, speaking, reading and writing tasks as well as tasks that integrate these skills with intercultural understandings and language awareness. They learn strategies for retaining language information for later use in new applications, and understand how parts of the language system work. They also learn about the basic geography and history of the country.

STANDARDS

Students in this year level are expected to be working towards the achievement of Level 5 standards in German.

Communicating in German

At Level 5 students interact with a wide variety of texts, genres and digital media. They exchange personal information on topics like themselves, school, family, leisure activities, house, holidays, fitness, food and shopping.

Students identify words and read a range of short texts for meaning. They read aloud effectively, applying knowledge of pronunciation and punctuation.

Students write sentences and link them to form passages on the topics learnt. They apply basic word-processing skills using the language.

Intercultural knowledge and language awareness

At Level 5 students actively contribute to the establishment of a physical and language environment in the classroom that reflects the language and culture. Students work on a number of aspects of the country: cultural, geographical, historical, thus reflecting the relationship between the speakers of the language. They extend their knowledge of language and cultural understandings and use this knowledge to inform self expression in oral and written communication. They explore a range of communicative tools and technology in their own research and development of original language.

ASSESSMENT

Tests (oral and written), role plays, assignments on cultural and historical topics, dictations, classwork, and workbook.

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CHINESE

LEVEL 5 VELS - Year 7& 8

LEARNING FOCUS

Students develop an understanding that cultural diversity exists and learn the similarities and differences between languages. Students understand and use the language within the world of their own experience. Students are increasingly aware of the grammatical forms, they reflect on words, their function and place in a sentence. They make logical attempts to decipher meaning from written and spoken input, and use resources such as dictionaries effectively. Activities include a wide range of listening, speaking, reading and writing tasks as well as tasks that integrate these skills with intercultural understandings and language awareness. They learn strategies for retaining language information for later use in new applications, and understand how parts of the language system work. They also learn about the basic geography and history of the country.

STANDARDS

Students in this year level are expected to be working towards the achievement of Level 5 standards in Chinese.

Communicating in CHINESE

At Level 5 students discuss the differences between writing systems across languages. They read short, modified text for meaning. They read aloud effectively, applying knowledge of familiar characters and punctuation in a range of contexts. They write characters using appropriate conventions for producing them with accurate shape and stroke order. They write sentences using appropriate characters and form paragraphs by following modelled examples. They use pinyin for basic word processing. They use strategies including information and communication technology applications, for checking and self correcting their character use.

Intercultural knowledge and language awareness

At Level 5 students actively contribute to the establishment of a physical and language environment in the classroom that reflects the language and culture. Students work on a number of aspects of the country: cultural, geographical, historical, thus reflecting the relationship between the speakers of the language. They extend their knowledge of language and cultural understandings and use this knowledge to inform self expression in oral and written communication. They explore a range of communicative tools and technology in their own research and development of original language.

ASSESSMENT

Tests (oral and written), role plays, assignments on cultural and historical topics, dictations, classwork, and workbook.

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GEOGRAPHY

Level 5 VELS - Year 7 & 8

LEARNING FOCUS

Students use a variety of geographical tools and skills, together with an inquiry-approach, to investigate the characteristics of the regions of Australia and those surrounding it: Asia, the Pacific and Antarctica. Students explore how and why human and physical interactions produce changes to the characteristics of regions, for example, farming and fishing. Students extend their knowledge and understanding of physical phenomena, including natural disasters, and of the physical processes that produce them. They investigate environmental issues, such as forest use and global warming, and evaluate and design policies for management and sustainability.

This level focuses on the application of geographical techniques, including representation of data and use of mapping conventions, interpreting topographical maps. Students learn to represent earth in a variety of ways, and learn to draw overlay maps and use electronic media. Students undertake fieldwork to investigate the characteristics of a selected local region and the physical and human activities that form and transform it.

DOMAIN:	DIMENSION:	KEY ELEMENTS OF STANDARDS:
Humanities – Geography	Geographical knowledge & understanding	* Use a variety of geographical tools and skills to describe and investigate the characteristics of the Asia-Pacific region, including Australia
		* Explain, with examples from the Asia-Pacific region, how the interaction of physical processes and human activities change the characteristics of regions
		*Describe differences in culture, living conditions, outlook, and attitudes to environmental issues in the Asia-Pacific region (including those of indigenous peoples)
		*Construct overlay theme maps using map conventions of scale, legend, title, and north point.
	Geospatial skills	*Apply knowledge and understanding of scale, grid references
		*Use topographic maps, atlas maps and geographic information systems as sources of spatial information
		*Use a range of techniques (e.g. sketch maps, graphs) to collect, process, present and analyse data
		*Recognise that parts of the Earth's surface can be represented in various ways, at different scales, and from different perspectives

CONTENT:

Topics covered include advanced geospatial skills & topographic mapping, the hydrological cycle, human interaction with the water cycle (case study on Lake Victoria), climate change and global warming, and improving the quality of life on this planet. Students undertake field work at CERES.

ASSESSMENT TASKS

Assessment is based on investigation, communication and participation by means of workbooks, research tasks, tests, mapping exercises and participation in class discussions, role plays and activities.

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HISTORY

Level 5 VELS - Year 7 & 8

LEARNING FOCUS

Students develop knowledge and understanding about ancient and medieval societies and their role in providing the foundations of modern society. They consider why people at the end of the medieval period set out to discover the unknown world. Ancient societies can include civilisations of Egypt, Greece and Rome. Medieval societies include those from Europe, England and Islamic society. Students examine the influence of ancient and medieval societies on the present day, and make comparisons with contemporary Australia. They explore key concepts of democracy, governance, and the rule of law, justice, religion, liberty, authority, leadership, culture and feudalism. Students investigate daily life, the role and work of various groups, the division of labour between men and women, education, rituals and family. They examine the ways culture was expressed through art, music, literature, drama and education.

At this level students learn about the daily life of the people in ancient and medieval societies and how they made meaning of their world; how ancient societies organised their world through their social and political structures and the values reflected in them; the influences of the ancient world on modern society and on the development of democracy.

Topics covered include the Renaissance and the Reformation, and students explore some of the key people and ideas of this period. Students then investigate how Australia was settled by humans, early explorers of the Australian coast, the European arrival, convicts, gold and its legacy, the race for exploration, bushrangers and the development of law and order in Australia. Students also learn about daily life and famous Australians who lived during this period.

DOMAIN:	DIMENSION:	KEY ELEMENTS OF STANDARDS:
Humanities - History	Historical knowledge & understanding	*Analyse and describe key aspects of life in ancient and medieval societies
		*Compare key aspects of past present societies (e.g. social and political ideas and structures, and cultural

		values and beliefs)
		*Analyse change and continuity over time
		*Sequence events and develop timelines
		*Use a range of evidence to describe features of past societies
	Historical reasoning and interpretation	*Frame research questions to guide investigations, and report on findings
		*Investigate and use a variety of primary and secondary sources
		* Evaluate historical sources for meaning, point of view, values and attitudes
		*Identify some of the strengths and limitations of historical documents
		*Document sources in both written and visual forms, using historical conventions
		*Use relevant historical evidence, concepts and conventions to present a point of view and report on findings
		*Use historical concepts such as time, evidence and change

ASSESSMENT TASKS

Assessment is based on investigation, communication and participation by means of workbook exercises, tests, research assignments, contributions to discussions and participation in class activities.

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Information and Computer Technology (ICT)

VELS Level 5 Yr 7 & 8

LEARNING FOCUS

ICT is a year 8 elective. Students work with three MS products – Excel, FrontPage and Visual Basic. Students use MS Excel to advance their ability to solve more complex mathematical problems and exploit the graphical features for improved analysis and reporting of meaningful results.

The web component uses MS FrontPage. Students form virtual teams and use electronic methods to communicate with team members in order to design and produce the website.

The programming component uses Visual Basic as the development tool. Some of the basic elements of the Graphic User Interface are introduced, and simple programming constructs are used to provide functionality to the form. Flowcharts are introduced and used to help students design the logic of their programs.

Theory topics include computer theory basics, hardware devices and an introduction to networks.

Dimensions	Standards
ICT for visualising thinking	Students select and apply ICT tools and editing functions that support the filtering, classifying, representing, describing and organising of concepts, issues and ideas. They use rule-using software to assist with problem solving and decision making. Students retrieve and modify successful approaches to visualising thinking for use in new situations. Students use a range of data types, including still and moving images, to record the decisions made and actions taken when developing new understanding and problem solving. They evaluate the strengths and weaknesses of their decisions and actions in the given situations.
ICT for creating	Students independently use the operating system to manage their desktop workspace. They organise their folders logically, appropriately name and locate files for sharing with others and apply techniques to facilitate the easy handling of large files.

	<p>When creating information products, students prepare designs that identify the structure and layout of the products, the evaluation criteria, and the plans for managing collaborative projects. Students independently apply a range of processing skills, functions and equipment to solve problems and create IT products. During the processing stage of collaborative work, students monitor project plans and record reasons for adjusting them. They apply criteria to evaluate the extent to which their information products meet user needs and comply with intellectual property laws. They use ICT in a safe, efficient and effective manner.</p> <p>Students keep their bank of folders and files up to date, and ensure it is easy to navigate, complies with ICT presentation conventions and demonstrates a diversity of ICT skills and knowledge.</p>
<p style="text-align: center;">ICT for communicating</p>	<p>Students select the most appropriate search engines to locate information on websites. They use complex search strategies to refine their searches. They judge the integrity of the located information based on its credibility, accuracy, reliability and comprehensiveness. Students organise their email mailbox into a logical structure and maintain it. They evaluate the merits of contemporary communication tools, taking into account their security, ease of use, speed of communication and impact on individuals.</p>

ASSESSMENT TASKS

Assessment will be based on a weighted average of tests and electronic folios. Students will normally be expected to produce five spreadsheets, an appropriate contribution to one website, five Visual Basic windows applications and attempt least one test.

The precise weighting may vary from year to year and class to class depending upon the speed and overall ability of the group, but the weighting coefficients will be roughly proportional to the time spent on each task.

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FOOD TECHNOLOGY

LEVEL 5 VELs - Year 7 & 8

LEARNING FOCUS

Food Technology focuses on students working safely/hygienically with a range of tools and equipment, including some which are complex. Students use a range of materials/ingredients, components and processes to produce a variety of products.

Students consider the nutritional requirements for growth and activity at different stages of life, and learn to set nutritional goals using food-selection models. They learn how to analyse nutritional information provided in advertising and product labels, and to make decisions about how this information can be used by, or influence, individuals in their food choices.

Students learn the design process and carry out each stage to produce a product.

Strand	Domain	Dimension	Standards
Physical, Personal and Social Learning	Health and Physical Education	Health knowledge and promotion.	<ul style="list-style-type: none"> Students investigate food models and use them to improve their diet. Investigate key foods from the Healthy Living Pyramid and their nutritional value.
Interdisciplinary learning	Design, Creativity and Technology	Investigating and designing.	<ul style="list-style-type: none"> Investigate key foods from the Pyramid and their functional role in food preparation. Students design and produce basic products to fulfil the requirements of a design brief.
		Producing.	<ul style="list-style-type: none"> Evaluate behaviour that influences personal safety and that of others. Select and work safely and hygienically with the correct equipment to perform process accurately. Students are able to make modifications to improve product results.
		Analysing and evaluation.	<ul style="list-style-type: none"> Through the use of a practical log book students reflect on their production and end product using criteria they have developed.

ASSESSMENT TASKS

Based on participation in Practical activities and submission of assignments

Assignments	20%
Test and Bookwork:	30%
Practical work and Log book:	50%

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BUSINESS TECHNOLOGY

LEVEL 5 VELs - Year 7 & 8

LEARNING FOCUS

The aim of this unit is to develop effective keyboarding skills for students, concurrent with an introduction to a range of contemporary consumer education issues including money management, consumer awareness and consumers and the market place. As part of their study of markets and commerce all students in this unit are registered in the ASX Schools Sharemarket Game

Dimension	Standards
Economic knowledge and understanding	<ul style="list-style-type: none">• Demonstrate an understanding of personal and business financial management• Distinguish between needs and wants• Recognise that people's wants for goods and services is unlimited• Identify aspects of consumer culture including the impact of 'affluenza' on consumers• Examine the consumer within a global context including the issues of inequality in the consumption resources
Economic reasoning and interpretation	<ul style="list-style-type: none">• Plan economics investigations, analyse and interpret data, and form conclusions using supportive evidence.• Form and express opinions on economic issues.
ICT for communicating	<ul style="list-style-type: none">• Present ideas and understandings to audiences• Communicate with known and unknown audiences• Support knowledge-building among teams.

ASSESSMENT TASKS

Assessment will be based on individual class work including the students' maintenance of a written workbook/folder and their use of ICT to develop their keyboarding skills and knowledge of consumer education.

Students' will also complete a research assignment on personal financial management using ICT where appropriate.

Students will be tested on their knowledge of the Australian Securities Exchange (ASX)

MUSIC

LEVEL 5 VELLS - Year 7 & 8

LEARNING FOCUS

The students will be given the opportunity to take part in a variety of musical experiences. Performance opportunities will be encouraged, not only in class, but also in the wider school community. Students who play a musical instrument will be encouraged to use their instrument in the classroom setting.

CONTENT

Arts Practice

Students will rehearse, interpret and present music in a range of styles. Further development of guitar, keyboard, percussion and singing styles will be undertaken. Fluency in music reading, both rhythm and melody will be strongly encouraged. Aural recognition of rhythms, intervals and chords.

Responding To the Arts

A study will be made of early musical theatre, from opera and oratorio to the musical productions of the present day. Students will be encouraged to use appropriate musical terminology to describe musical compositions, their forms and styles.

LEARNING OUTCOMES

Arts Practice

Students are expected to be able to select, prepare, interpret and present musical works to the class. Improvise and compose works using given structures. Aurally recognise rhythms, intervals and chords.

Responding To the Arts

Students are expected to compare performances of the same works. Describe ways in which music is composed and performed to meet specific cultural and historical purposes. Use correct terminology to describe the music heard.

ASSESSMENT TASKS

OUTCOMES	
Arts Practice	Practical Tests
	Solo and Group performance
	Theory sheets, tests and exercises
Responding to the Arts	Listening exercises and Tests

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HEALTH/PHYSICAL EDUCATION

Level 5 VELS - Year 7 & 8

LEARNING FOCUS

Health and Physical Education provides students with knowledge, skills and behaviours enabling them to participate in healthy competitive and non-competitive situations. It enhances their physical, mental, social and emotional health. Students explore views about fitness and examine factors which influence participation. Students will be encouraged to build on their fundamental skills and will be introduced to a wide range of new activities and games. The aim is to promote an on-going interest in sport, active recreation and a sound knowledge of health related issues.

Strand	Domain	Dimension	Key elements of standards Students:
Physical, Personal and Social Learning	Health and Physical Education	Movement and physical activity	...combine motor skills, strategic thinking and tactical knowledge to improve individual and team performance.
		Health knowledge and promotion	...describe the physical, emotional and social changes that occur through adolescence. Identify health concerns and develop strategies to improve their health.
	Interpersonal Development	Working in teams	...reflect on individual and team outcomes and act to improve their own and their team's performance.
	Personal Learning	Managing personal learning	...set realistic short-term and long-term goals within a variety of tasks and describe their progress towards achieving these.

CONTENT

Sports and activities include: Fitness, Fundamental motor skills, Athletics, Hockey, Cricket, Football, Circuit training and Dance.

Theory work includes: Movement tasks and techniques, drugs and alcohol, nutrition, anatomy, relationships and sex education.

ASSESSMENT TASKS

- Level of participation
- Teamwork and cooperation
- Skill development
- Tests and assignments
- Workbook

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Design Studies

Level 5 VELS - Year 8

LEARNING FOCUS

Students will experience and apply decision making skills to achieve 3D outcomes using multimedia eg. wood, metal, glass, fabrics. They will be required to collect visual references demonstrating their ability to record, develop and refine design concepts which will take the form of a workbook which will illustrate and support their final 3D design construction/s. During the course students will further develop and demonstrate technical competence in the use of tools, machinery and equipment demonstrating safe workshop practices. In class we will discuss aspects of their own art work, as well as the way artist' in general communicate ideas and concepts.

VISUAL COMMUNICATION & DESIGN

Level 5 VELS - Year 8

LEARNING FOCUS

This VCD semester unit involves further developing technical skills and a basic introduction to computer aided designs. Students will continue to develop instrumental and free hand drawing techniques. Design solutions and supportive information will be recorded using their lay-out pad.

ELECTRICAL/ELECTRONIC TECHNOLOGY

Level 5 VELS - Year 8

LEARNING FOCUS

This elective covers basic electrical and electronic theory and practice and provides an introduction to how these devices and systems are used in the development of Robotic (Mechatronic) equipment.

Theoretical work includes the most commonly encountered electrical and electronic components, their structures, circuit symbols and characteristics and covers Ohms and Kirchoffs laws, basic circuit analysis, power systems and semiconductor devices.

Digital computer basics will be presented with an emphasis on system design using flowcharting. An introduction to microcontrollers (PIC) and logic will also be covered.

Practical work is based on developing safe work practices when assembling circuits and using a multimeter for fault finding.

This subject and Mechanical Technology are both prerequisites for undertaking the year 9 elective "Robotic Technology" which will be offered for the first time in 2010.

In order to participate in this subject, there is a levy.

Assessment will be through an examination of theory and practical work. [[Back to Contents](#)]

MECHANICAL TECHNOLOGY

Level 5 VELs - Year 8

LEARNING FOCUS

This elective covers basic mechanical theory and practice and provides an introduction to how mechanical devices and systems are used in the development of Robotic (Mechatronic) equipment.

Theoretical work includes the following areas: power systems, fixing systems, technical drafting, materials, machines for manufacture and hand tools.

Practical work is based on developing practical skills and knowledge focusing on safe use of both hand and machine tools.

This subject and Electrical/Electronic Technology are both prerequisites for undertaking the year 9 elective "Robotics technology" which will be offered for the first time in 2010.

In order to participate in this subject, there is a levy.

Assessment will be through an examination of theory and practical work.

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