## CONTENTS

YEAR 9 CURRICULUM 2020 .......................................................... 3

COMPULSORY SUBJECTS ......................................................... 4

ENGLISH .................................................................................. 4

ENGLISH AS AN ADDITIONAL LANGUAGE (EAL) ..................... 5

MATHEMATICS ........................................................................ 5

9/10 JUMPSTART MATHEMATICS ........................................... 5

SCIENCE .................................................................................. 6

HISTORY .................................................................................. 7

GEOGRAPHY ........................................................................... 8

COMMERCE ............................................................................ 8

CAREERS .................................................................................. 9

CHRISTIAN LIFE STUDIES ....................................................... 9

PHYSICAL EDUCATION .......................................................... 9

HEALTH ................................................................................... 10

ACADEMIC ELECTIVES ........................................................... 11

LANGUAGES (French, Chinese, Latin) ........................................ 11

FRENCH .................................................................................. 11

LATIN ........................................................................................ 11

CHINESE (VET Certificate II) .................................................... 12

CULTURAL COMMUNICATION .................................................. 12

ARTS & TECHNOLOGIES ELECTIVES ...................................... 14

ART .......................................................................................... 14

COMPUTING ............................................................................ 14

DRAMA .................................................................................... 15

VISUAL COMMUNICATION DESIGN ........................................ 16

DESIGN & TECHNOLOGY - FOOD ........................................... 16

DESIGN & TECHNOLOGY – FURNITURE MAKING .................... 17

DESIGN & TECHNOLOGY - TEXTILES .................................... 17

DESIGN & TECHNOLOGY – ENGINEERING SYSTEMS & PRINCIPLES ........................................... 18

MUSIC ..................................................................................... 19

OUTDOOR EDUCATION ........................................................... 19
YEAR 9 CURRICULUM 2020

Heathdale Christian College is committed to providing a curriculum that not only provides for the academic development of students, but also for student’s spiritual and social development.

Year 9 is the first year of Senior School and students undertake study in both compulsory key learning areas as well as having opportunity to further develop their own interests through elective subjects.

As students enter the Senior School they begin to make choices in their curriculum which reflect their interests and gifts. This Handbook details those subjects where students have a choice and subjects with which students may not be familiar.

Compulsory Subjects:

- English
- Mathematics
- Science
- History
- Geography
- Commerce
- Christian Life Studies
- Physical Education
- Careers
- Health

Academic Electives:

- French
- VET Applied Language - Chinese
- Cultural Communication
- Latin

Arts & Technologies Electives:

- Art
- Drama
- Music
- Computing
- Visual Communication Design
- Design & Technology - Furniture
- Design & Technology – Engineering Systems & Principles
- Design & Technology – Food
- Design & Technology – Textiles
- Outdoor Education
ENGLISH

The aim
The study of English in Year 9 is designed to develop students' abilities to think creatively and respond to art, music and other creative stimuli to produce their own work. Students will both read high-quality literature and seek to emulate the style and language features of exceptional authors in their own writing. They will also engage in regular discussion to develop their ability to express complex and original thought in response to literature and art.

Text study throughout the year will be divided into themes. Creative writing tasks will also be completed in response to these themes:

- Power and Corruption:
  - Animal Farm, by George Orwell
  - Antigone, by Sophocles
  - Students' analysis of famous maxims and proverbs relating to the theme, including Biblical sayings and other works by the authors studied
  - Wider reading of texts related to the theme, including comparison between texts.

- Landscape and Memory:
  - Colonial Australian literature: an anthology of poetry and short stories
  - Unpolished Gem, by Alice Pung
  - Selected excerpts from literary memoirs
  - Students' own memoir and descriptive writing in response to excerpts and visual/musical prompts
  - Oral presentation of student work, including poetry and drama.

Students will also develop the mechanics of writing through regular grammatical and stylistic exercises.

Assessment Tasks:

- Major and minor creative writing tasks: including proof-reading and editing of work, and reflecting on the creative writing process
- Oral presentations: poetry and drama
- Analysis and reflection on literary texts: including text response essays and oral presentations
- Analysis of maxims and the moral ideas presented in narratives
- Group discussion of wider reading and student reflections on their discussions

Examinations

There will be a two hour examination per semester, including both creative and analytical writing.

Requirements:

Students will be required to:

- complete all assessment tasks and course work in a timely manner;
- display, in written and oral responses, expected competencies in all areas of English.
ENGLISH AS AN ADDITIONAL LANGUAGE (EAL)

Students with a language background other than English and identified as needing additional support in developing their English skills have the opportunity to study English in a small group. Their teacher is a qualified specialist in linguistics and the teaching of English as an Additional Language (EAL).

In Years 9 & 10, the emphasis is on developing the skills and competences required in academic, technical and informal situations. Students develop knowledge and skills in speaking, listening, reading, viewing, writing and thinking, and progress from informal use of language to more formal, academic and technical language use. Oral and aural skills are emphasised, along with the study of linguistic features, structures and meaning in Standard Australian English, and in literary and non-literary texts. Students develop their confidence, fluency and ability in English language while engaging with a variety of spoken, written and multimodal texts.

MATHEMATICS

Year 9 Mathematics develops the skills required to use Pythagoras’ Theorem, Trigonometry, Linear \non Linear equations and graphs, measurement, and probability using both traditional and CAS methods in routine type questions and extending these skills to application questions.

Areas of Study:

- Number Skills
- Pythagoras’ Theorem & Trigonometry
- Linear and non-linear equations and graphs
- Indices
- Measurement
- Quadratic equations and graphs
- Probability

Assessment Tasks:

- Topic tests
- Analysis and Application tasks
- Modelling real life situations
- Maintenance of workbook and completion of coursework
- End of semester exam:- technology active.

Requirements:

Being a very sequential subject, students are required to practice their skills often and to maintain a high level of attendance in order to build on previous knowledge.

A CAS calculator (Classpad II fx-CP400) is a required piece of equipment for this course and is available for order through the College.

9/10 JUMPSTART MATHEMATICS

This course challenges students to appreciate Mathematics and to see how Mathematics helps explain the world we live in.

The course develops the student’s algebraic, graphical, technological and problem solving skills by
studying the plethora of functions which model real life phenomena.

The course prepares the students for Mathematical Methods Unit1/2.

Topics include:

1. Number Systems and Algebraic Techniques.
2. Linear and Non Linear functions and relations.
4. Exponential, Logarithmic and Trigonometric Rules.
5. Exponential and Trigonometric Modelling.
6. Introduction to Probability.

Areas of Study:

- Number Systems
- Algebraic Techniques
- Linear functions
- Quadratic Functions
- Matrix Operations
- Surds, Indices & Logarithmic Rules
- Exponential and Trigonometric Modelling
- Introduction to Probability.

Assessment Tasks:

- Topic tests
- Analysis and Application tasks
- Modelling real life situations
- Maintenance of workbook and completion of coursework
- End of semester exam:- technology active.

Requirements:

Being a very sequential subject, students are required to practice their skills often and to maintain a high level of attendance in order to build on previous knowledge.

A CAS calculator (Classpad II fx-CP400) is a required piece of equipment for this course and is available for order through the College.

SCIENCE

The main focus of Year 9 Science is to engage and challenge students to think scientifically as well to help them to appreciate the complex world and the ecosystems in which they live. They study topics which engage them in learning about how their body systems are controlled and coordinated by their brain and the importance of remaining healthy so that this coordination is effective. They also learn about Chemical and Physical processes that help them understand about their Macro and Micro world. They learn to appreciate how all of this comes under God’s amazing direction and Design. The course, in line with the Australian Curriculum, is structured in order to prepare the students for VCE Physics, Biology, Chemistry and Psychology.
Areas of Study:

Semester 1:
- The Brain and Central Nervous System
- Heat and Electricity
- Atomic Structure

Semester 2:
- Chemical Reactions.
- Energy Transmission (Light and Sound)
- Human Body Systems and Nutrition

Requirements:
Students will be required to complete all assessment tasks, practical reports and course work in a timely and engaging manner and at a satisfactory standard.

Assessment Tasks:
- Topic Tests
- Research Assignments
- Practical Reports
- Semester Examinations

HISTORY

Year Nine History covers world history from 1750 to 1918, with a particular focus on Australia. The beginnings of the modern world are examined through an investigation of the Industrial Revolution, with its key economic, social and political consequences. This study is set in the context of the emerging global empires being won by European powers. The line is then drawn from the Industrial Revolution to the settlement and development of Australia up to Federation in 1901. The final unit of study is the First World War, which sums up the themes examined throughout the year, as well as marking the pivotal moment for Australia's developing sense of nationhood.

Areas of Study:
- Making of the Modern World
- Industrial Revolution
- Australia: Making a Nation
- The First World War

Assessment Tasks:
- Essays
- Assignments
- Oral Presentations
- Document Interpretation
- Tests
- Examinations
GEOGRAPHY

Year 9 Geography is a semester subject that examines the biomes of the world, their alteration and significance as a source of food and fibre, and the environmental challenges and constraints on expanding food production in the future. Students will investigate how people, through their choices and actions, are connected to places throughout the world in a wide variety of ways, and how these connections help to make and change places and their environments. They will examine the interconnections between people and places through the products people buy and the effects of their production on the places that make them.

Areas of Study:

- Biomes and food security
- Geographies of interconnections

Assessment Tasks:

- Research tasks
- Field Trip investigation report
- Exam

COMMERCE

Commerce is a semester subject which includes Civics and Citizenship and Economics and Business.

Economics and Business:

The focus in Year 9 will be on: Australia as a trading nation and its place within the Asia Pacific region, global economic dependence, managing financial risks and rewards, innovation and the changing roles in the workplace.

Civics and Citizenship:

The focus in Year 9 will be on Government and democracy; including the role of political parties, political choices, role of Prime Minister and Cabinet. They will also study the key features of Australia’s court system, justice system and right of appeal, and investigate how individuals and groups contribute to civic life, diversity and Australian identity.

Assessment Tasks:

- Research Assignments
- Class Tests
- Semester Exams

Requirements:

Students must be willing to develop important skills in research, communication, technology, problem-solving and working as a member of a team.
CAREERS

This semester subject explores the world of work that is a seemingly complex and confusing place to a young person. However, it is only the beginning of a lifelong career journey in which we will begin to explore career options and pathways for the future.

It also focuses on preparing for the Work Experience Program in Year 10 and ensures students commence their exciting yet mandatory occupational health and safety training. This subject is fully accessible online and aims to build workplace ICT and communication skills while helping students access the best career information in a timely and efficient way. This is a great chance to explore Careers Tools at www.heathdalecareers.com and become comfortable using this great career resource.

Areas of Study

- The Changing Nature and Future of the Workplace
- Researching Career Pathways
- Preparing for Work Experience
- Expectations of Employers and the Workplace

Assessment Tasks

- Careers Survey – What are my strengths and interests?
- Career Research – Identifying a Career of Interest and Exploring It.
- Preparation for Work Experience: Workplace Portfolio – Cover Letter and Resume
- Safe @ Work Program – Compulsory Occupational Health and Safety Modules

Requirements

- Students are required to display a positive attitude, submit all activities via the Canvas LMS at www.heathdale.instructure.com and to complete all set tasks to the best of each student's ability in a timely manner.

CHRISTIAN LIFE STUDIES

Year 9 Christian Life Studies takes students through a three part course titled ‘A Sneaking Suspicion’. In Part 1 it examines some of the things that our society tells us about beauty and morality. It shows how our world has got it wrong and that God's perspective is so much better. In Part 2 it deals with a number of stumbling blocks which sometimes prevent people from trusting God such as: Didn't science get rid of God? How can I trust the Bible? Where is God when it hurts? What about other religions? Won't God accept me if I'm good enough? In Part 3, it looks at the 'guts of it all'—life, death, God and forgiveness. Time is also given to exploring answers to questions raised by students in the process of studying this course. There is one assessment task each semester.

PHYSICAL EDUCATION

The Year 9 PE Curriculum supports students to refine and apply strategies for maintaining a positive outlook and evaluating behavioural expectations in different leisure, social, movement and online situations. Students learn to critically analyse and apply health and physical activity information to
devise and implement personalised plans for maintaining healthy and active habits. They also experience different roles that contribute to successful participation in physical activity, and propose strategies to support the development of preventive health practices that build and optimise community health and wellbeing. Physical activity is a significant aspect of young people’s lives in their physical, social and emotional development. The Health and Physical Education program facilitates participation in a variety of physical activities, provides opportunities for recreation, fitness, social interaction and competition. The experience also provides challenge, personal growth, enjoyment and the development of movement competence through the promotion of lifelong participation in physical activity.

**Areas of Study:**

- Fitness Testing
- Athletics
- Cycling
- Volleyball
- Badminton
- Softball
- Soccer

**HEALTH**

Health involves the exploration of issues. Year 9 Health is a semester subject designed to equip students with coping strategies for overcoming the many challenges and difficulties they may face in life. Reference is made to smoking, drugs, alcohol and sex education as examples of issues that will require coping strategies to avoid or overcome.

It is very much a discussion based subject aimed at allowing students to participate in and listen to discussions on health related topics and how we can effectively cope with them.

**Areas of Study:**

- Smoking
- Drugs
- Alcohol
- Relationships education is delivered externally to students via the ‘No Regrets’ course.

**Assessment Tasks:**

- Students research, develop and create an anti-smoking advertisement to be shown to peers and the school community.
- Students must complete all work requirements to receive a satisfactory overall grade.

**Requirements:**

- Journal kept up to date.
- Participation in class discussions.
- Completion of all set tasks including successfully completing the “No Regrets” course.
ACADEMIC ELECTIVES

LANGUAGES (French, Chinese, Latin)

Students choosing language study will naturally continue with the language they have studied in Year 8. Students should not lightly drop the study of a second language and it is expected that parents will discuss this matter with students who are currently coping well with language study. Apart from an enhanced Tertiary Entrance Score for students who pass a LOTE in Year 12, the intellectual development and cultural skills gained from such study are well recognised and appreciated. In addition, students who undertake a VCE Unit 3 and Unit 4 sequence in French and/or Latin with a higher level mathematics such as Mathematics Methods (CAS) or Specialist Mathematics shall be eligible for the award of the VCE (Baccalaureate). Tertiary institutions have indicated that they strongly support initiatives that encourage students to study a higher level mathematics and a language in the final years of schooling.

FRENCH

The study of Year 9 French seeks enables students to consolidate the fundamental structures of language. Students obtain a greater confidence in their listening comprehension and speaking skills, and they also extend their knowledge of verb conjugations.

Areas of Study:

- France and other countries
- Entertainment and advertising
- Technology
- Issues for teenagers
- Understanding the formation of the present and perfect tenses (le passé composé)

Assessment Tasks:

- Unit tests
- Vocabulary tests
- Grammar tests
- Role-play performances
- Cultural assignments

Requirements:

- All students taking Year 9 French need to have successfully completed Year 8 French.

LATIN

Students choosing to take Latin will not take Geography and Commerce in Year 9 (they are still able to take these subjects in Year 10 or VCE if they wish to do so).

Students will be consolidating their knowledge of basic Latin grammar and vocabulary, before going on to more complex topics such as the meanings of the ablative case, comparative and superlatives,
and the use of participles. They will also be engaged in more challenging translation work. In addition, students will continue to build their cultural and historical understanding of the Roman world through stories and accounts of the murder of Julius Caesar and the tumultuous Civil Wars which followed.

**Areas of Study**

- Grammar
- Vocabulary
- Translation skills
- Cultural context - turning points in Roman history

**Assessment Tasks**

- Vocabulary tests
- Grammar Analysis tests
- Seen and unseen passage translation
- Oral reading

**CHINESE (VET Certificate II)**

"The VET Certificate II in Languages (Chinese) is studied over 2 years in Years 9 and 10. Successful completion of the certificate gives students an equivalent of Units 1 and 2 VCE Chinese. It is a practical course for students who are at a beginning or pre-intermediate level of Chinese. As a VET subject it is assessed according to outcomes. There is no examination for the Certificate although students do still participate in the Heathdale internal examinations at the end of each Semester."

1. **Oral communication for social purposes**
   *Listening Comprehension:* Listening to a conversation about personal information, school subjects and food. *Speaking:* Holding a conversation with a new student about their personal information, school subjects, hobbies and food

2. **Reading for social purposes**
   *Reading:* Understanding the social conventions and meaning of a variety of social invitations.

3. **Writing for social purposes**
   *Writing:* Recording events and feelings about a day out with the family in a blog.

**CULTURAL COMMUNICATION**

Cultural Communication aims to develop students’ awareness and deepen their understanding of the significance of culture in Australia and around the world. The course provides valuable ideas and skills which link in with a broad range of other subjects e.g. English, History, Geography, Psychology, Philosophy and Legal Studies. The curriculum has the flexibility to be modified according to current issues and students’ interests.
In Cultural Communication students will look at the diversity of Australian culture and draw on the students’ own cultural experiences to help them understand and appreciate the depth and richness of our culture. Despite this diversity there is a unity in the knowledge that the Christian faith transcends all cultures and that we may be all one in Christ Jesus.

Coursework in Cultural Communication will cover a variety of skills, knowledge and practical activities. The study will be helpful for students as it will introduce them to a number of skills related to courses available in later VCE study.

**Areas of Study:**

- What is culture? …From a personal, community and global perspective. Influences on culture and how culture changes over time.
- Major influences on cultural change on global scale.

**Case studies:**

- The growth and expansion of the British Empire,
- The Industrial Revolution and change.
- Slavery and the slave trade.
- Migration and multiculturalism
- Genocide (Cambodia)
- Individuals who have made a significant difference (positive and negative) in the world – their motivations and backgrounds e.g. Martin Luther, Gandhi, William Wilberforce and Hitler.
- The impact of religion on culture – comparing religious beliefs with Christianity.
- Contemporary ‘Australian’ culture, particularly how it is communicated by/reflected in and shaped by: media, religion, family background, music, fashion, sport, peer groups etc. Rather than passively digesting contemporary culture, students will critically analyse it and consider: What messages are communicated? How effectively? How is the influence of this form of cultural communication evident in our society? What is a Christian perspective and how can we counter the often unrecognised negative influence that they have on our thinking?

**Assessment Tasks:**

- Semester Examinations

And may include:

- Poster
- Report/Essay
- Intercultural Interview
- Research Task
- Media File
ARTS & TECHNOLOGIES ELECTIVES

Students will study four different subjects over two semesters. Music may be taken in both semesters.

ART

In Year 9 Art, students will explore the design process and engage in learning experiences that encompass art history, analysis, criticism, aesthetics and production.

Areas of Study:

- Street art and Skateboard art
- Art History
- Art analysis, criticism and aesthetics
- Painting
- Mixed Media
- Printmaking
- Drawing

Assessment Tasks:

- Research Assignment
- Drawings using various media
- Folio containing observational drawings, development of ideas and written reflections
- Skateboard-deck painting
- Printmaking Task

Requirements:

Students will need to be self-motivated and show a keen interest in Art Theory and Art making processes using a variety of materials. They must be willing to practice their skills regularly and invest extra time for research and development of ideas.

COMPUTING

The Computing course will give students opportunities to analyse problems and design, implement and test a range of digital solutions.

Students plan and manage individual and team projects with some independence.

- Projects include the following activities:
- Identifying the input, output, data characteristics and processing methods used.
- Design and validate algorithms and programs through desk checking and test cases.
- Implement modular programs, applying selected algorithms and data structures.
- Design and implement user interfaces incorporating buttons, text boxes, input / output forms and reports.
DRAMA

“You can kill the King without a sword, and you can light the fire without a match. What needs to burn is your imagination.”

_Constantin Stanislavski, An Actor Prepares_

Drama is a semester subject that develops lifelong skills. It is not just for students who want to develop as a performer. It develops your confidence, communication, imagination, problem solving and your ability to empathise with others. Students who study Drama become critical thinkers and innovators and it helps them better understand themselves and view the world around them with greater sensitivity.

In Year 9 Drama students continue to develop their dramatic skills by exploring Comedy and Realism. Through practical workshops and performance work students are exposed to a variety of techniques and skills. Students will have the opportunity to attend a professional Theatre Production and will write a review on the show.

Unit Description:

In the first study, students will undertake a study of Realism, exploring Stanislavski’s acting style and apply it to scene work. In this unit, students will explore extracts from the Australian play, _Away_ written by Michael Gow. For their assessment piece, in groups, students choose a scene to present to an audience. Students will have the opportunity to develop skills in script analysis, given circumstances, subtext, emotional memory, character development and apply these techniques to create believable and credible characters for performance.

The second study will focus on Comedy and will include the following styles; Slapstick, Farce and Satire. Students will work in groups to script their own comedy performance, applying a chosen comedy style and presenting their piece to an audience.

Students will have the opportunity to see a professional theatre production in this unit and will write a theatre review on the show.

Assessment Tasks:

1. Comedy Performance
2. Realism Performance
3. Written Tasks (Reflections + Theatre Review)
4. Participation

Requirements:

Students must be willing to explore new styles of Drama and apply themselves enthusiastically and diligently to the development of their dramatic skills and the creation of performance work.

In Year 9, Drama students continue to develop their dramatic skills by exploring the theatre styles of Comedy and Realism. Through practical workshops and performance work students are exposed to a variety of techniques and skills. Students will work collaboratively to devise their own performances as well as work from pre-existing scripts.
VISUAL COMMUNICATION DESIGN

Year 9 Visual Communication Design explores the many ways in which objects can be represented on a two dimensional surface. The Visual Design process is introduced along with elements and principles explored throughout. The subject builds upon skills learnt in previous years and where possible students will be introduced to Design software. This study is directly related to VCE Visual Communication Design.

Areas of Study:

- Visual Design Process
- Design Elements and Principles
- Product Design
- Developmental Drawing

Assessment Tasks:

Students will complete both formal exercises and tasks which require the creative application of the skills taught. Assessment tasks include:

- Logo and brand design
- Typography and Surface Graphics
- 3D Instrumental Drawing
- Packaging
- Promotion

Requirements:

Students should be willing to extend themselves in the use of a variety of media and enjoy the challenge offered in the creative tasks. Please note that Visual Design requires the observance of standard conventions in drawing, as well as exploration of design elements and principles and do not have the same freedom as in Art.

DESIGN & TECHNOLOGY - FOOD

The focus of this unit will be on the development of skills and related knowledge in the preparation and presentation of food. Students will develop a knowledge and understanding on cultural differences and the influence it has had shaping the Australian culinary world. Students will use the design process to plan, select, produce and evaluate a variety of recipes.

Areas of Study:

- Grains are great
- Baking (Bread/Cake making)
- Meal preparation
- Cultural foods

Assessment Tasks:

- Skill Development
• Safety and Hygiene in the Kitchen
• Design assignments
• Research

Requirements:

Students will be expected to come to class prepared and to participate in production work in a safe and hygienic manner. They will be expected to be co-operative and use their time efficiently to produce a variety of tasty products. Written research tasks and activity work will assist student’s understanding and learning.

DESIGN & TECHNOLOGY – FURNITURE MAKING

Year 9 Design & Technology – Furniture Making is an extension of the preceding year’s studies. The STEM based course introduces students to powered hand tools, jigs and fixtures and the more complex joint making and finishing techniques used in modern manufacturing. It also builds on the principles used in the Design Process.

The students make a bedside table from hardwood using machine produced joints, they are required to design a given piece of household furniture which follows the Design Process. The course is one semester in length.

Areas of Study:

• Workshop safety.
• Hand powered woodworking tools
• Furniture grade Mortice and Tenon timber jointing techniques
• Furniture grade finishing techniques
• Design methodology
• 3D CAD design.

Assessment Tasks:

• A handmade Mortise & Tenon joint.
• A Bedside Table.
• A Portfolio on the design process of the household furniture item.
• Written assignment on woodworking tools
• Written assignment on Knock-down furniture

Future Studies:

This study is foundational for YR10 Design & Technology - Furniture Making and a pathway for those interested in pursuing VCE/VET Furniture Making.

DESIGN & TECHNOLOGY - TEXTILES

Unit Description:
Year 9 Textiles introduces students to a range of sewing techniques and processes including hand sewing, machine sewing, garment design, pattern drafting and embellishing. Students will also maintain a folio which will document their design and production process of their choice of a skirt or pair of shorts. Students will be able to express their individual style through a variety of design choices and will produce their own unique garment to keep.

**Assessment Tasks:**

- Sewing Samples (Machine and Hand Sewing)
- Demonstration of safe sewing practices
- Garment Design
- Finished Skirt/Shorts
- Production Planning, Journaling and Evaluating

**Requirements:**

Students will need an interest in Textiles and a willingness to try and practise new skills and techniques. Some students may bring pre-existing skills in machine and/or hand sewing, in which case, they will have the opportunity to challenges themselves further with more complex design choices depending on their ability level.

**DESIGN & TECHNOLOGY – ENGINEERING SYSTEMS & PRINCIPLES**

Year 9 Design & Technology - Engineering Systems & Principles is an extension of the preceding year’s studies. The STEM based course introduces students to compound gears, low voltage electric motors and the principles of mechanical advantage, force, torque and velocity. It also builds on the principles learnt in the Design Process.

In the first term students build a series of Lego models to examine and report on a number of geared systems. They then begin the manufacture of a chassis, motor and gearbox for their battery operated vehicle. The second term sees students complete the chassis, and then design and manufacture a plastic motor vehicle body shell using CAD for design. The course is one semester in length.

**Areas of Study:**

- Workshop safety
- Geared Mechanisms and ratios
- Mechanical advantage, force, torque and velocity
- Modern design using CAD
- Design methodology

**Assessment:**

- The geared mechanism exercise
- A test on gears and ratios.
- A portfolio on the design process of the vehicle body.
- A written assignment on fasteners
- A written assignment on mechanisms
**Future Studies:**

This study is foundational for YR10 Design & Technology - Engineering Principles & Systems and a pathway for those interested in pursuing VCE Systems Engineering.

**MUSIC**

In Year 9 students continue to build on the knowledge and skills acquired in Middle School. Each area of study forms part of a framework designed to integrate a Christian world view which incorporates:

- Music making – performing instrumentally and vocally in solo and/or group contexts.
- Aural perception – recognising the elements of music through listening and analysing musical characteristics of works.
- Music Language – using the musical elements and notation to develop a basic understanding of how music works.
- Music Composition and Technology – having achieved an understanding of the basic principles of music and of how music works all this knowledge will be translated into the process of music making.

**Areas of Study and Assessment:**

These will be determined at the beginning of each semester in relation to the unit of work being studied.

Tasks for each semester will include:

- Solo performance
- Group performance
- Theory
- Aural
- Music Composition & Technology

**Requirements:**

There are no pre-requisites for studying Music in Semester 1, Year 9. Students are required to have studied Music in Semester 1 before electing to study it in Semester 2. Exceptions to this may be considered if the student demonstrates sufficient musical knowledge.

**OUTDOOR EDUCATION**

This subject introduces students to outdoor adventure activities culminating in a bushwalk in the near-by Brisbane Ranges National Park. Topics covered are bush cooking, setting up shelters, water purification, navigation, basic first aid, route planning and minimal impact bushwalking. Students will prepare for and complete a 3-day bushwalk in Brisbane Ranges National Park.

**Areas of Study:**

- Food preparation using a Trangia cooker
- Setting up a shelter
- Navigation using a map and compass
- Route planning
- Basic First Aid
- Tested bushwalk
- Evaluation and self-reflection

**Assessment Tasks:**

Students will complete short written tasks in the lead-up to the bushwalk. These tasks include: 'Making an equipment list', 'Basic navigation', 'Menu & shopping list', 'Route plan card', 'Basic first aid' 'Evaluation of the bushwalk'. Practical assessments of student’s skills will be made during the 3-day bushwalk.

**Requirements:**

Participants should possess a good level of fitness.