



ISIS DISTRICT

State High School

PREPARING PATHWAYS, HONOURING TRADITIONS

Year 9 Subject Booklet



Year 9 Subject Descriptions

CORE SUBJECTS –

Subject: *English*

Subject: *Mathematics*

Subject: *Science*

Subject: *Physical Education*

Subject: *History*

ELECTIVE SUBJECTS –

THE ARTS

Subject: *Art*

Subject: *Dance*

Subject: *Drama*

TECHNOLOGY

Subject: *Animal Husbandry*

Subject: *Business*

Subject: *Digital Technologies*

Subject: *Criminal Law*

Subject: *Food and Nutrition Studies*

Subject: *Industrial Technology Design*

Subject: *Metal Technologies*

Subject: *Wood Technologies*



Year 9 Subject Descriptions

Year 9 Overview

Year 9 at Isis District SHS is the final year of Junior School and as such, continues to broaden the students' choice of electives in order for students to gain a better understanding of their own skills, likes and dislikes before they start to narrow their course of study towards their senior and future pathways.

We are following the Australian Curriculum requirements in terms of the subjects offered and the amount of time students participate in them. As a result, the range of subjects on offer to Year 9 students broadens as the number of compulsory subjects reduces from those studied in Years 7 and 8. This will again reduce in Year 10 to only four compulsory subjects.

The subjects on offer to Year 9 students are illustrated in the table below:

Core Subjects:	Electives:
English (ENG) (3 lessons per week)	- Four (4) subjects, two (2) per semester - 3 lessons per week per subject
Mathematics (MAT) (3 lessons per week)	Art
Science (SCI) (3 lessons per week)	Dance
Health and Physical Education (HPE) (2 lessons per week)	Drama
History (HIS) (2 lessons per week)	Media
	Animal Husbandry
	Digital Technologies
	Food and Nutrition Studies
	Industrial Technology Design
	Metal Technologies
	Wood Technologies
	Business
	Criminal Law
	Geography

In Term 3 of Year 8, students will be asked to complete their selection for their four (4) electives using One School they should submit these preferences in their preferred order eg first pick is what they really want to do. At this time, they will also be asked to nominate a fifth subject as their next preferred option. Every effort will be made to accommodate students into their first four preferences however, it cannot be guaranteed as usual timetable constraints apply eg class numbers, room allocations, staffing etc.

Students will know what electives they are allocated to for each semester by the end of November (of Year 8).

Looking Forward:

In Term 3 of Year 9, students will be asked to select three electives from an even broader range of subjects which aim to prepare students for their possible senior course of study. Year 10 is seen as a preparation year for the Senior years, therefore the career education and future pathways focus which commences in Term 3 of Year 9 will continue in Year 10 and beyond. More information regarding this will be given to students in Term 3.



Course Description:

The study of English is central to the learning and development of all young individuals. It enables students to immerse themselves in units that teach them to analyse, understand, communicate, and be imaginative thinkers and informed citizens of the 21st century.

The Year 9 English Program mirrors the expectations and requirements of the Australian Curriculum. Therefore, it aims to ensure students:

- Learn to listen to, read, view, speak, write, create and reflect on increasingly complex and sophisticated spoken, written and multimodal texts across a growing range of contexts.
- Appreciate, enjoy and use the English languages in all its variations.
- Understand how Standard Australian English works in its spoken and written forms.
- Develop interest and skills in inquiring into the aesthetic aspects of texts and developed and informed appreciation of literature. (*Adapted from the Australian Curriculum: English*)

Units of Study:

- Examining representations of Australia's peoples, histories and cultures
- Reading and interpreting information texts on significant and ethical issues
- Exploring speculative fiction
- Exploring drama texts-drama text evaluating characters in a novel

Possible Assessment:

- Oral presentations, exams, creative and academic writing

Resources Required:

- English Skills Builder or Pearson English (supplied through SRS)
- Novels, plays and films (supplied through SRS)
- 1 x 240 page blue lined exercise book
- 2 x 96 page blue lined exercise books for drafting and homework

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Each year builds on student knowledge	Essential English English	English sets out to provide the skills, behaviours and attributes that students need to succeed in life and work in the twenty-first century. Digital copywriter, Editorial assistant, English as a foreign language teacher, Lexicographer, Magazine journalist, Newspaper journalist, Publishing copy-editor/proofreader, Writer Academic librarian, Advertising account executive, Advertising copywriter, Arts administrator, Information officer, Marketing executive, PPC specialist, Primary school teacher, Public relations officer, Records manager, Secondary school teacher, Social media manager



Mathematics

Course Description:

The study of mathematics provides students with knowledge and reasoning skills that are useful in all areas of life. Students will be carefully guided to communicate their mathematical understanding in words and symbols through a range of activities. Students will also be challenged to apply their mathematical understandings in familiar and unfamiliar situations so that they develop strong problem solving skills that will support them in making informed decisions.

Units of Study:

The Australian Curriculum: Mathematics is organised around the strands of Number and Algebra, Measurement and Geometry, and Statistics and Probability. These strands will be explored each year from years 7 to year 10 and increasingly sophisticated ideas developed. The Junior Mathematics course aims to provide skills and knowledge for everyday life as well as prepare students for the further study of mathematics.

Possible Assessment:

Students will be expected to complete a minimum of one assignment per semester and 'in-class' tests at the completion of each term or semester. The progress of students will also be monitored through weekly homework, diagnostic formative assessment, in class quizzes and other formative tasks. Student assessment is stored in a folio and progress regularly monitored.

Resources Required:

- 1 x 240 page A4 Exercise book
- Protractor/Compass Set
- Scientific calculator (may be purchased from school for \$22)
- Pencils (2B)/Pens (blue, black and red)
- Ruler (30cm)
- Pencil Sharpener
- Graph paper or grid book
- Eraser

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Mathematics Extension Mathematics	Specialist Mathematics Mathematical Methods General Mathematics Essential Mathematics	Engineering, Science, Aircraft Pilot Surveying, Business Management, Architecture Nursing, Electrician, Building, Business Analysis, Banking, Economics, Accountancy Work and life application



Course Description:

In Year 9 students continue their introduction to the chemical, physical, and biological environments of our world. The Year 9 course aims to further enhance student skills in gathering data, presentation of data in tabular and graphical form, data analysis and data evaluation, while also increasing their knowledge of chemical and atomic properties. The course aims to improve general literacy and numeracy as well as the skills of in-text referencing and report writing.

Depending on ability and interest, different students will progress through practical and theoretical explanations of common everyday observations with different levels of understanding. To accommodate this, Year 8 and 9 students are grouped into science classes based on interest and ability, with some students eventually undertaking 'Science Towards Senior' in Y10, while others will undertake the simpler 'Science' course.

Units of Study:

- Term 1: Biology – nervous system, homeostasis and disease
- Term 2: Chemistry – periodic table, bonding, atomic structure, reactions, acids and bases
- Term 3: Physics – light (refraction, reflection & lenses), electricity (static, circuits, measurement)
- Term 4: Earth & Space – plate tectonics, folding, faulting, ecosystems

Possible Assessment:

Students will have either one or two assessment tasks per term. Assessments use a range of techniques including exams, assignments, research tasks, projects and laboratory reports.

Resources Required:

- A4 notebook -240 page or 2 x 120 page
- 2B pencil

Links to the future:

The year 9 course leads to a choice of two possible science courses at Year 10. The 'Science Towards Senior' course (3 lessons/week) is a prerequisite for Senior Biology, Chemistry and Physics. The 'Science' course (2 lessons/week) does not lead to senior subjects but will support students in studies of Agriculture.

The Junior Science course, as well as providing a necessary input to general education for life, provides a sound background for students selecting science subjects at Year 11/12 level. Many careers require a sound level of achievement in Junior Science, including the military.

Year 10 subjects	Year 11/12 subjects	Career pathways
Science towards Senior	Biology Chemistry Physics	Veterinary Science, Research, Teaching, Medical, Health, Mining, Engineering, Pharmacy, Biology, Ecology, Marine Biology, National Park Management, Metallurgy, Health Care, Agriculture, Horticulture, Lab Assistant, Beauty Care, Astronomy, Military and many more.
Science	Agricultural Practices Rural Operations	



Physical Education

Course Description:

As students progress through the course of study in Health and Physical Education they are required refine and apply strategies to evaluate the expectations in different leisure, social and movement situations. Using a personalised approach students create plans for maintaining healthy and active habits. This fosters the development of preventative health practices that aim to build overall personal and community health and wellbeing. Theoretical components of Year 9 Health and Physical Education include the holistic health benefits of physical activity, factors that impact on sports participation and the value of training and fitness on athletic sporting performance. The practical element of the subject supports students to learn more specialised and complex movement skills and sequences and apply these to authentic environments. Exposure to a variety of authentic sporting contexts allows for further development in leadership, teamwork and collaboration to contribute to successful participation in physical activity, which is a key criteria when assessing the practical element of this subject.

Units of Study:

Theory

- Participation in Sport – Barriers and Enablers in Society
- Training and Fitness
- Skill Development and Tactical Awareness
- Sports Nutrition

Practical (A variety, but not limited to):

- Skill Development & Modified Games
- Touch, Basketball, Netball, Athletics, Volleyball, Swimming, Cricket, Futsal, Soccer, Fitness, Softball

Possible Assessment:

- Supervised unseen essay/exam
- Exam – Multiple Choice/Short Response
- Response to stimulus – Extended/Short Response
- Research Report
- Presentation – Digital or oral
- Performance - Practical

Resources Required:

- A4 lined notebook
- Hat
- Appropriate Footwear

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Sport Sport & Health (<i>elective</i>) Exercise Science (<i>elective</i>)	Physical Education Senior Health	Exercise Physiologist, Sports Trainer, Armed Forces, Nutritionist, Allied Health, Physiotherapist, HPE teacher, Emergency Services, Nursing



History

Course Description:

The Year 9 History program at Isis District SHS consists of four Depth studies. The study of history improves our decision making and judgment as it teaches us how to learn through the mistakes of others. Exploring the natures of peoples and their cultures and the key events of the past, we can understand the processes that have shaped today's world, their causes, and the roles people have played in those processes. Students develop these understandings through the research, exploration, debate and consideration of evidence from the past. The study of history develops the students' ability to understand that there are differing views of history and the differences between opinion, fact and bias.

Units of Study:

- Exploring the Industrial Revolution
- Asia and the World
- WW1
- WW2

Possible Assessment:

- Response to Stimulus Exams
- Research Tasks and Essays
- Short Response Exams

Resources Required:

- 120 page Blue lined exercise book
- 96 page Blue lined exercise book for Research journal

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Introduction to Legal Studies Modern History English	Legal Studies Modern History English English Essentials	History develops research and critical thinking skills required for careers as an Anthropologist, Archaeologist, Archivist, Barrister, Social worker, Criminologist, Foreign affairs and trade officer, Geologist, Historian, Journalist, Lawyer, Librarian, Museum curator, Public relations officer, Religious leader, Sociologist, Politician, Teacher or writer

Course Description:

This subject is designed as a creative practice focusing on developing ideas, manipulating media and producing art works. It is designed as an introduction to media and technique of art production, challenging students to develop their own designs and ideas to resolve art works.

Students make and appraise two and three dimensional forms by selecting and combining the above mentioned media. The visual diary is an essential tool that documents a journey for the individual artistic process. The teaching and assessment for this unit are aligned with Essential Learnings from the Junior Arts Syllabus.

Students will be provided with opportunities to work as artists and designers, exploring the elements of design in both 2D and 3D contexts.



Units of Study:

- Drawing
- Painting
- Printmaking (screen printing)
- Graphic Design
- Art theory
- Ceramics
- Photography and Digital Art
- Art Production

Possible Assessment:

- Practical folio (Making and displaying)
- Appraising images and art works
- Written evaluations, applications and didactics.

Resources Required:

- A4 Cartridge pad / sketchbook (available from school - \$3)
- 2B, 4B & 6B pencils
- Black fine line pen
- Materials as required for practical activities as available
- Apron or protective shirt (advisable)

Links to the future:

Year 10	Year 11/12 subjects	Career pathways
Art	Visual Art Visual Arts in Practice	Visual Artist, Architecture, Graphic design, advertising, graphic printing, illustration, photography, Web designer/ICT, Performing arts, film and television, make-up and hairdressing, Fashion/costume design, Teaching, Public relations, Tourism, Community artworker, Performing arts



Dance

Course Description:

Dance is expressive movement with purpose and form. Through dance, students represent, question and celebrate human experience, using the body as the instrument and movement as the medium for personal, social, emotional, spiritual and physical communication. Like all art forms, dance has the capacity to engage, inspire and enrich all students, exciting the imagination and encouraging students to reach their creative and expressive potential.

Dance enables students to develop a movement vocabulary with which to explore and refine imaginative ways of moving individually and collaboratively. Students choreograph, rehearse, perform and respond as they engage with dance practice and practitioners in their own and others' cultures and communities.

Students use the elements of dance to explore choreography and performance and to practise choreographic, technical and expressive skills. They respond to their own and others' dances using physical and verbal communication.

Active participation as dancers, choreographers and audiences promotes students' wellbeing and social inclusion. Learning in and through dance enhances students' knowledge and understanding of diverse cultures and contexts and develops their personal, social and cultural identity.

Units of Study:

- Unit 1: Popular youth dance culture
- Unit 2: Musical Theatre

Possible Assessment:

Choreography, performance, responding, reflection

Resources Required:

- 1 x 96 page blue lined exercise book

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Dance Drama Art English	Drama Art English	Teacher Performance artist Choreographer



Drama

Course Description:

In Drama, students:

- Refine and extend their understanding and use of role, character, relationships and situation
- Extend the use of voice and movement to sustain belief in character
- Maintain focus and manipulate space and time, language, ideas and dramatic action
- Experiment with mood and atmosphere, use devices such as contrast, juxtaposition and dramatic symbol and modify production elements to suit different audiences
- Draw on drama from a range of cultures, times and locations as they experience drama
- explore the drama and influences of Aboriginal and Torres Strait Islander Peoples and those of the Asia region
- Learn that over time there has been further development of different traditional and contemporary styles of drama and that dramatists can be identified through the style of their work, as they explore drama forms
- Explore meaning and interpretation, forms and elements, and social, cultural and historical influences of drama as they make and respond to drama
- Evaluate actors' success in expressing the directors' intentions and the use of expressive skills in drama they view and perform
- Build on their understanding from previous bands of the roles of artists and audiences as they engage with more diverse performances.

Units of Study:

- Elements of Drama
- Clowning
- Theatre Sports
- Ritual and Symbol

Possible Assessment:

Presenting scripted drama, improvisation, critical response, play building, reflection

Resources Required:

- 1 x 96 page exercise book
- USB stick
- 'Drama blacks' (plain black clothing)
- Live theatre experiences will be offered when available and relevant. This will incur a small cost

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Drama Dance Art English	Drama Dance Art English	Performer Public speaker Art Critic Teacher Television/Radio Stage Manager Drama allows students to build confidence and self-esteem to explore, depict and celebrate human experience, take risks and challenge their own creativity.



Animal Husbandry

Course Description:

Year 9 students will be focused on animal husbandry practices in domesticated animals including Cattle, sheep, pigs, poultry. They will look at the origins and breeds of cattle for the beef industry as well as breeds of chickens for laying and meat production. They will participate in observations and providing all animal needs to ensure their health and wellbeing. Farm biosecurity management in relation to animals is observed and monitored for best practice.

Units of Study:

- Animal husbandry practices
- Beef cattle
- Poultry industry
- Biosecurity

Possible Assessment:

- Practical tasks
- Research tasks
- Exam

Resources Required:

- 1 x Exercise book, Hat,
- 1pair of shoes to be left at the farm for practical lessons (recommend rubber boots)

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Agricultural Science	Senior Ag Science Cert II in Rural Operations	Agricultural engineer, Agricultural technical officer, Animal attendant, Botanist, Cane tester Economist – agricultural, Farmhand, Fisher Food technologist, Forest technical officer Forester, Gardener, Horticulturist technical officer, Jackeroo/jillaroo, Landscape gardener, Pest and weed controller, Stablehand, Stock and station agent, Veterinary nurse, Wool classer.



Course Description:

Business activity affects the daily lives of all Australians as they work, spend, save, invest, travel and play. It influences jobs, incomes and opportunities for personal enterprise. By developing Business knowledge, understanding and skills, young people will be better placed now and in their adult lives to actively participate in business activities, contribute to the development of a prosperous, sustainable and equitable Australian and global economy, and secure their own financial wellbeing.

Units of Study:

Managing Financial Risks and Rewards

- Examine strategies can be used to manage financial risks and rewards
- Investigate strategies can be utilised to manage personal finances
- Identify factors which influence major consumer and financial decisions
- Recognise the short-term and long-term consequences of these decisions

The Nature of Business

- Categories of accounts
- Debit and credit rules
- Transaction analysis

Possible Assessment:

- Exam
- Project
- Research report
- Case study

Resources Required:

- No extra resources required

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Introduction to Accounting and Business	Accounting Business	Further education and employment in small-to-medium enterprise Accounting Business management Human resource management Financial management Commerce Marketing and operations management



Digital Technologies

Course Description:

Digital Technologies provides students with practical opportunities to use design thinking and to be innovative developers of digital solutions and knowledge. Digital Technologies provides students with authentic learning challenges that foster curiosity, confidence, persistence, innovation, creativity, respect and cooperation.

In Digital Technologies students are actively engaged in the process of defining problems and opportunities, designing, implementing and evaluating digital solutions, and creating and sharing information that meets a range of current and future needs. These solutions and information are created through the application of computational and design thinking, and technical skills.

Units of Study:

There's an app for that

Students will design and create a prototype data-driven web app to solve an identified problem. Students will be expected to:

- Explore and evaluate examples of solutions developed using big data (e.g. meteorology)
- Study the agile software development cycle used in real-world projects
- Apply computational thinking skills including abstraction and specification to address complex problems
- Design a user experience of a solution for a data-driven web app using storyboards or mock-ups

GameMaker

Student will apply computational and systems thinking to evaluate educational information systems and create digital solutions using a programming language (e.g. GameMaker). They will apply skills and processes by:

- Investigating how game mechanics influence user experience
- Using algorithms (including flow charts, storyboards and pseudo-code) to design their solutions
- Testing algorithms for accuracy
- Evaluating how well needs are met by digital solutions and evaluating those solutions against criteria including innovation, risk and sustainability
- Learning and applying project management techniques, such as resourcing, time, task identification, considering safety and sustainability, and setting and applying protocols for collaborating online

Possible Assessment:

- Folios
- Projects

Resources Required:

- Headphones may be required for some activities
- Access to a USB at the end of the course to take files home

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Information Communication and Technologies	Certificate II in Information, Digital Media and Technology	Digital design, Digital security, Content management, Hardware development, Marketing, Logistics, Software programmer
<i>Skills will assist with all subjects and future studies</i>		



Criminal Law

Course Description:

Criminal Law provides students with an introduction to the Australian Legal System. The course aims to encourage students to evaluate the significance of legal rights and responsibilities that impact on their everyday life. Students will examine how laws change to reflect society's values and peoples' rights in society.

Students will consider how criminal law attempts to safeguard individuals' right to freedom from interference, with society's need for order. They examine the consequences of alleged criminal behaviour in terms of trial processes, punishment and sentences.

Units of Study:

Are we safe?

- Describe the features and principles of Australia's Legal System, including its role in applying and interpreting Australian law
- Analyse a wide range of national and Queensland criminal legal issues (e.g. terrorism, immigration, gun laws, cybersafety) to determine the nature and scope of the issue and then examine different viewpoints

Crime Doesn't Pay

- Investigate the principles of criminal law
- Explain types of crimes
- Examine how criminal law is enforced
- Rights and responsibilities in dealing with the police and how that differs for juveniles

Possible Assessment:

- Exam
- Case study

Resources Required:

- No extra resources are required

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Introduction to Legal Studies	Legal Studies	Further education and employment in the fields of law, law enforcement, criminology, justice studies, social work, government, corrective services, business, education, economics and politics.



Food and Nutrition Studies

Course Description:

Food and Nutrition focuses on nutritional knowledge for wellbeing and health promotion, as well as providing students with skills, inspiration and the ability to become independent learners in cookery. They will use evaluative and contemporary processes to produce quality food products. Students gain the theoretical understanding of the nature of food sources and the multicultural and social aspects of culinary cuisines. Both practical and management skills are applied, as well as engagement in the demonstration of practical tasks.

Students will employ technologies, particularly those relating to the use of information technology to plan, analyse and evaluate diet choices and their impact on future health of the individual.

NOTE: All units of study have practical applications. Students have opportunities to choose recipes to meet given criteria.

Units of Study:

- Healthy and safety in the practical kitchen environment
- Nutrition, Needs and Special Diets – “fit for life” analysis of nutrients and specific impacts like fad diets
- Food and Nutrition in Society - in regard to social trends, cultural influences and fast food
- Practical cooking processes and skill development - food preparation techniques and cookery principles
- Technology and Design – designing an edible gift

Possible Assessment:

Practical cookery tasks, theory examination, practical and journal assignments.

Resources Required:

- 1 x 228 page exercise book or A4 book
- 1 x A4 Display folder
- Practical foods items (when required in reference to Recipe and Topic Outline booklet – supplied)

Links to the future:

10 subjects	Year 11/12 subjects	Career pathways
Year 10 Food, Nutrition and Hospitality	Links to Certificate II in Hospitality	Dietician Nursing Hospitality - Chef/Cook, Front of House Tourism Textile Industry Teaching



Industrial Design Technologies

Course Description:

Industrial Design Technologies affords students opportunities to critically analyse and solve provided problems creatively to achieve improved solutions. The design thinking skills and strategies that students engage with, are designed to prepare students for current and future 21st Century challenges. In year 9, students will engage with advanced technologies such as 3D Modelling software, Computer Numerically Controlled (CNC) machinery, 3D Printing and basic coding as well as traditional workshop tools and machines to create their designed solutions.

Units of Study:

Forces in motion

Students investigate factors (such as friction, aerodynamics and weight) that affect the speed of a vehicle. Students use this knowledge to design a CO2 cartridge powered dragster that satisfies provided specifications. Student's solutions are competitively raced to determine the best design features. The most successful solutions will be eligible to enter the QLD State CO2 Championships.

New flight technologies and coding

Students will investigate physics of flight and design thinking through a Drone rescue challenge. Students will firstly collaborate to program a drone to gain intelligence for a hypothetical scenario of an air crash investigation in an inhospitable location. Students will then design and test a Lego man transportation device to be attached and tested on a drone.

Mechanical design and engineering

Using sketching techniques, virtual three dimensional modelling software, CNC machinery and hand and power tools, students will create a mechanical toy/device out of wood. The final solution must address all facets of the provided design brief.

Possible Assessment:

Students are assessed based on a folio of work submitted for each unit that demonstrates: knowledge and understanding of the technology in context and relating to society, investigation and generation of ideas, producing then evaluating a solution, and planning production processes.

Resources Required:

- Sturdy covered shoes – canvas joggers/slippers are NOT adequate and students will not be permitted in the workshop
- Display Folio
- 64 Page exercise book

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Introduction to Design Introduction to Construction Trades Introduction to Engineering Trades	Design Industrial Graphics Certificate I in Engineering Industrial Skills	Engineer Industrial Designer Architect Draftsperson Building and Construction trades Metal and Engineering trades



Metal Technologies

Course Description:

Metal Technologies affords students opportunities to critically analyse and solve provided problems creatively to achieve improved solutions based on a provided design brief. The design thinking skills and strategies that students engage with are designed to prepare students for current and future 21st Century challenges. Students will engage with tools, machinery and processes common to a metalwork/engineering workshop.

Units of Study:

Sheet metals

Students will investigate sheet metal materials and working processes through designing solutions to a provided design briefs in a given context. Methods of joining sheet metals will be investigated and students will use knowledge to choose appropriate methods in the production of their designed solution. Students will design and create a range of projects that enhance their knowledge and skills including a sheet metal creature and a steam powered boat.

Properties of Metals

Students will investigate the varying properties of metals and how these may be modified for purpose through processes such as annealing or tempering. This knowledge will be demonstrated through the creation of a hand formed bowl or candle holder.

Mild Steel Fabrication

Students will learn about metal fabrication tools, machines and techniques using a range of cutting and shaping tools and jigs. Students will design and produce products that satisfy the provided briefs.

Possible Assessment:

Students are assessed based on the quality of production of their designed solutions. For each unit of work a folio must be submitted that demonstrates; knowledge and understanding of the technology in context, investigation and generation of ideas, production and evaluation of the solution, and the planning production processes that were completed.

Resources Required:

- Sturdy covered shoes – canvas joggers/slippers are NOT adequate and students will not be permitted in the workshop
- Display Folio
- 64 Page exercise book

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Introduction to Design Introduction to Construction Trades Introduction to Engineering Trades	Design Industrial Graphics Certificate I in Engineering Industrial Skills	Engineer Industrial Designer Architect Draftsperson Building and Construction trades Metal and Engineering trades



Wood Technologies

Course Description:

Wood Technologies affords students opportunities to critically analyse and solve provided problems creatively to achieve improved solutions based on a provided design brief. The design thinking skills and strategies that students engage with are designed to prepare students for current and future 21st Century challenges. In this subject, students will engage with tools, machinery and processes common to woodworking, plastics and construction industries.

Units of Study:

Properties of Wood

Students will investigate the properties of wood that makes it one of the most versatile and sustainable building and construction materials. Through this unit students will study ways of joining wood and analyse the advantages and disadvantages of each system or method. The knowledge will be applied in the creation of a product that satisfies a provided design brief and addresses design considerations such as aesthetics and ergonomics.

Multi materials/ CNC manufacturing

Students will design an electronic light display combining wood with electronic circuitry and acrylics. Students will consider factors such as aesthetics and user centered design to create the design solution. In this unit students will learn to operate a three dimensional computer controlled router via a programming language called G-Code.

Plastics

Mid last century the introduction of plastics revolutionised the manufacturing industry. Students will investigate the properties of thermoplastics and use this knowledge to create a design solution to a given brief.

Possible Assessment:

Students are assessed based on the quality of production of their designed solutions. For each unit of work a folio must be submitted that demonstrates; knowledge and understanding of the technology in context, investigation and generation of ideas, production and evaluation of the solution, and the planning production processes that were completed.

Resources Required:

- Sturdy covered shoes – canvas joggers/slippers are NOT adequate and students will not be permitted in the workshop
- Display Folio
- 64 Page exercise book

Links to the future:

Year 10 subjects	Year 11/12 subjects	Career pathways
Introduction to Design Introduction to Construction Trades Introduction to Engineering Trades	Design Industrial Graphics Certificate I in Engineering Industrial Skills	Engineer Industrial Designer Architect Draftsperson Building and Construction trades Metal and Engineering trades