

# **James Cook Boys** **Technology** **High School**

**Subject Selection**

**Stage 5 2023**

# Contents

<b>Introduction .....</b>	<b>3</b>
Composite Classes, more options .....	3
Compulsory Subjects .....	3
Elective Subjects .....	4
Course Fees .....	4
Availability of Courses .....	5
Course Selection Process .....	5
Subject Information .....	5
Bring Your Own Device (BYOD) .....	5
Attendance .....	6
The 'N' determination .....	6
Grading .....	7
Acceleration Program Information .....	8
<b>Compulsory Courses .....</b>	<b>9</b>
English .....	10
Mathematics .....	12
Science .....	13
Geography (Mandatory) .....	14
History (Mandatory) .....	15
Personal Development, Health and Physical Education .....	16
<b>Elective Courses .....</b>	<b>17</b>
Commerce .....	18
Commerce (Economics & Legal Studies Stage 6 Preparation) .....	19
English Elective - Year 10 students .....	20
Food Technology .....	21
History (Elective) .....	22
Industrial Technology Timber (Woodwork) .....	23
Information and Software Technology .....	24
Marine and Aquaculture Technology .....	25
Mathematics Elective – Year 9 students .....	26
Music .....	27
Photography, Film and Digital Media .....	28
Physical Activity and Sports Studies .....	29
Physical Activity and Sports Studies (Health Science) .....	30
Science Elective .....	31
STEM (Science, Technology, Engineering & Mathematics) .....	32
Visual Arts .....	33

## **Introduction**

During Years 7 and 8 (Stage 4), students at James Cook Boys Technology High School follow a common course of study with all students gaining experience in a number of subject areas. In Years 9 and 10 (Stage 5), students are able to select to study a number of elective subjects on the basis of interest, ability, and/or career intentions.

- Students will be able to select three electives to be studied in 2023.
- Current year 9 students will be given the opportunity to select different electives to study for Year 10 in 2023.
- Elective subjects will be based on 100 hour courses of study with the NSW Education Standards Authority (NESA).

## **Composite Classes, more options**

To increase the number of elective subjects available to students, we will be continuing staged elective classes where Year 9 & 10 students may be in the same class completing a course.

Creating the opportunity for a composite group of students to study together increases academic and social wellbeing outcomes for students with increased peer mentoring, and increase the number of courses we can offer.

## **Compulsory Subjects**

In Years 9 and 10, students must continue their studies in the following subject areas:

- English
- Mathematics
- Science
- Personal Development, Health and Physical Education
- Australian History, Australian Geography, Civics and Citizenship

## Elective Subjects

Students will be able to make their three elective choices from the following subjects:

Elective Line 1	Elective Line 2	Elective Line 3
Commerce ( <i>Economics &amp; Legal Studies Stage 6 Preparation</i> )	Commerce	Commerce
PASS	PASS ( <i>Sports Science</i> )	PASS
Industrial Technology ( <i>Woodwork</i> )	Industrial Technology ( <i>Woodwork</i> )	History Elective
Visual Arts	Music	Music
STEM	Photography, Film & Digital Media	Information & Software Technology
Marine and Aquaculture Technology	Information & Software Technology	STEM
English Elective <i>Year 10 Students only</i>	Mathematics Elective <i>Year 9 Students only</i>	Science Elective
Food Technology	Food Technology	

## Course Fees

Some of these subjects require students to purchase materials and/or equipment that are used in lessons. This booklet contains details of the materials and contributions involved for each subject. Should parents have difficulty making these payments for subject materials they should not hesitate to contact the Principal.

## Availability of Courses

When selecting courses, students and parents should be aware that it might not be possible for all requests to be met due to class sizes.

## Course Selection Process

Parents and students will need to complete the Selection Grid provided. Students will need to make 2 preference choices in each of the three elective lines for the courses. Every effort will be made to meet selections.

## Subject Information

For information regarding all subjects please speak with the teachers listed below:

English	HT English (Relieving)	Ms A Chau	Block B
Mathematics	HT Maths	Mr R Mansour	Block D
Science	HT Science	Dr J Bowles	Block D
HSIE	HT HSIE	Ms L Smith	Block C
PE TAS	HT PE	Mr B Yelavich	Block B
CAPA	HT CAPA	Mr N Heiler	Block G
Year 9 Adviser (2023)		Ms S Cvetkovska	Block B
Year 10 Adviser (2023)		Ms J Blatchford	Block G

## Bring Your Own Device (BYOD)

Students from Year 9 onwards are required to have a Laptop device for participating in lessons at school each day. Parents are welcome to purchase devices from any retailers. To simplify the process and gain access to an all-inclusive package JCBTHS have partnered with HP Australia and created a Parent BYOD Purchasing Portal which gives parents options from a small list of devices ranging in price that have been chosen by JCBTHS as deemed suitable for our learning environment. For further information please follow/access the link below:

### HP Purchasing Portal for JCBTHS

[www.hp.com.au/BYOD](http://www.hp.com.au/BYOD)

Login code: JamesCBHS

## Attendance

If you are absent during the year because of illness or physical injury, a medical certificate will normally be required as satisfactory evidence of legitimate absence. If your absence is prolonged and work is not possible during the period, the Principal may judge that it is not feasible to make up the work during that year. Where the absence is the result of a student exchange there will be no effect on your Record of School Achievement (RoSA) eligibility, provided that the courses you study overseas are comparable to those being studied for the RoSA. The details of the content of the courses you study overseas are made available on your return to NSW, and the overseas school certifies that you have satisfactorily studied the courses. Where your absence is the result of approved holidays, there will be no effect on RoSA eligibility where you have completed compensatory assignments during the holiday or where you are able to catch up on missed work on your return to school. The Principal may grant leave for legitimate reasons.

### Satisfactory Completion Requirements.

For the satisfactory completion of a course, it is your responsibility to:

- complete all assigned work including each assessment task to the best of your ability.
- ensure that any questions about marks, grades or comments awarded for an individual piece of work are resolved at the time the work is handed back by the teacher.
- demonstrate that through effort and achievement you have met the requirements of the course.

## The 'N' determination

You will receive an 'N' determination in a course if you do not:

- (a) follow the course developed or endorsed by the NSW Education Standards Authority(NESA), and
- (b) apply yourself with diligence and sustained efforts to the set tasks and experiences provided in the course by the school, and
- (c) achieve some or all of the course outcomes

Satisfactory completion of courses is judged by your attendance and level of involvement in class, the proportion of assignments and homework completed and your level of achievement. If the Principal determines that you are in danger of not completing a course satisfactorily, you will be warned in writing in time for you to correct the problem and satisfactorily complete the course. If you are deemed unsatisfactory in a course, you will receive an 'N' determination and this may mean that you are not eligible for the award of a RoSA in that year.

You have the right to appeal against an 'N' determination. Appeals against 'N' determinations should be lodged with the Principal, who will advise you of the date by which your appeal must be submitted. If you are dissatisfied with the result of the school review of your appeal, you should advise the Principal that you wish the appeal to be referred to the NSW Education Standards Authority (NESA).

### Reporting Methods

The school will award grades from A-E for all 200-hour courses studied in Stage 5, and for all 100-hour courses studied in Stage 5. These grades will take into account your performance in school-based assessment tasks and will be based on performance descriptors issued by the NSW Education Standards Authority (NESA).

## Grading

NESA has developed a set of General Performance Descriptors that describe five levels of achievement, A-E.

For each course, a set of Course Performance Descriptors has been developed based on the General Performance Descriptors. Each descriptor is a positive statement about achievement related to the knowledge and skills relevant to the course.

Teachers will collect assessment information about your achievements in a course and relate it to the Course Performance Descriptors. The information will assist them in making the final judgement of the grade to award you at the end of Year 10.

GRADE	GENERAL PERFORMANCE DESCRIPTORS
A	Indicates excellent achievement in the course. The student has an extensive knowledge and understanding of the course content and can readily apply the knowledge. In addition, the student has achieved a high level of competence in the processes and skills of the course and can apply these skills to new situations.
B	Indicates high level of achievement in the course. The student has thorough knowledge and understanding of the course content and competence in the processes and skills of the course. In addition, the student is able to apply the knowledge
C	Indicates substantial achievement in the course. The student has demonstrated attainment of the main knowledge and skills objectives of the subject and has achieved a sound level of competence in the processes and skills of the course.
D	Indicates satisfactory achievement in the course. The student has demonstrated an acceptable level of knowledge and understanding of the course content and has achieved a basic level of competence in the processes and skills of the course.
E	Indicates elementary achievement in the course. The student has an elementary knowledge and understanding of the course content and has achieved limited competence in some of the processes and skills of the course.

## **Acceleration Program Information**

### **Overview of Acceleration**

Acceleration allows students to progress in one or more subjects in a shorter timeframe. Accelerating students may count towards their Higher School Certificate results obtained in advance to their cohort. This means that acceleration, other than grade advancement, can be regarded as a form of accumulation.

The school will work with parents of the accelerating student and the student to ensure that support structures are evident to ensure every chance of success.

### **Mathematics Acceleration Program**

#### **Year 10**

In 2023 we will be offering the Mathematics Acceleration Program to Year 10 students who have undertaken the Mathematics Elective program in Year 9 and demonstrated a talent for Mathematics through the selection process.

Students entering Year 10 who have already been participating in acceleration and are meeting the Year 11 Mathematics outcomes will be provided the option of completing their HSC next year.

#### **Mathematics Elective**

JCBTHS offers a Mathematics elective to Year 9 students to build core skills and knowledge. The Mathematics elective will be an entry requirement for Year 10 students in 2024 wishing to qualify for the Mathematics Acceleration Program.

**Further information regarding the Mathematics Acceleration Program & elective can be obtained from the Head Teacher Mathematics.**



# **Compulsory Courses**

## English

English is a mandatory course that is studied in Years 7–10 with at least 400 hours to be completed by the end of Year 10. This is a requirement for eligibility for the award of the Record of School Achievement.

### Course Description

The study of English in Years 9–10 aims to develop students' knowledge, understanding, appreciation and enjoyment of the English language and to develop their skills as effective communicators.

Students develop their control of language by reading and viewing a range of texts and by writing imaginative, interpretive and critical texts with clarity and accuracy for a range of purposes and audiences. Students engage with and explore literature of past and contemporary societies, as well as a range of spoken, visual, media and multimedia texts.

### Course Features

The study of English in Years 9–10 includes:

- developing clear and precise skills in reading, writing, speaking, listening, viewing and representing
- the study of Australian literature
- experience of Shakespearean drama
- the study of everyday and workplace texts
- the study of Aboriginal experiences and multicultural experiences.

### What will students learn about?

Students learn to develop clear and precise skills in writing, reading, listening, speaking, viewing and representing.

Students study a range of texts including fiction, nonfiction, poetry, films, media and multimedia texts. The texts give students experience of Australian literature and insights into Aboriginal experiences and multicultural experiences in Australia, and experience of literature from other countries and times.

Students also study texts that give experience of cultural heritages, popular cultures and youth cultures, picture books, every day and workplace texts, and a range of social, gender and cultural perspectives.

### What will students learn to do?

Students develop their skills, knowledge and understanding so that they can use language and communicate appropriately, effectively and accurately for a range of purposes and audiences, in a range of contexts. They learn to think in ways that are imaginative, interpretive and critical. They express themselves and their relationships with others and the world, and reflect on their learning in English. Students investigate and consider uses of environmental and social sustainability and develop an understanding of ethical issues that are integral to many of the text they encounter in English.

## Course Requirements

The study of English in Years 7–10 involves the following text requirements:

<b>Stage 5</b>
<b>Fiction</b> – at least two works
<b>Poetry</b> – a variety drawn from different anthologies and/or study of one or two poets
<b>Film, or film on video or DVD</b> – at least two works
<b>Nonfiction</b> – at least two works
<b>Drama</b> – at least two works

### Stage 5 (RoSA)

Satisfactory completion of the mandatory study of English during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of Achievement.

## Mathematics

Mathematics is a mandatory course that is studied in Years 7–10 with at least 400 hours to be completed by the end of Year 10. This is a requirement for eligibility for the award of the Record of School Achievement.

### Course Description

Mathematics is used to identify, describe and apply patterns and relationships. It provides a precise means of communication and is a powerful tool for solving problems both within and beyond mathematics. In addition to its practical applications, the study of mathematics is a valuable pursuit in its own right, providing opportunities for originality, challenge and leisure.

The aim of Mathematics in K–10 is to develop students' mathematical thinking, understanding, competence and confidence in the application of mathematics, their creativity, enjoyment and appreciation of the subject, and their engagement in lifelong learning.

### What will students learn about?

Students study Number, Patterns and Algebra, Data, Measurement, Space and Geometry. Within each of these strands they will cover a range of topics including:

fractions	decimals	percentages
consumer arithmetic	probability	algebraic techniques
coordinate geometry	graphing and interpreting data	perimeter
area	surface area and volume	trigonometry
properties of solids	geometrical figures	deductive geometry.

### What will students learn to do?

Students learn to ask questions in relation to mathematical situations and their mathematical experiences; develop, select and use a range of strategies, including the use of technology, to explore and solve problems; develop and use appropriate language and representations to communicate mathematical ideas; develop and use processes for exploring relationships, checking solutions and giving reasons to support their conclusions; and make connections with their existing knowledge and understanding and with the use of mathematics in the real world.

### Stage 5 (RoSA)

Satisfactory completion of the mandatory study of Mathematics during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of Achievement.

## **Science**

Science is a mandatory course that is studied in Years 7–10 with at least 400 hours to be completed by the end of Year 10. This is a requirement for eligibility for the award of the Record of School Achievement.

### **Course Description**

Science develops students' knowledge, understanding and skills to explain and make sense of the biological, physical and technological world, enabling them to make informed choices and responsible decisions as individuals and part of the community.

#### **What will students learn about?**

Through their study of science students develop a knowledge and understanding about the living and non-living world. Students examine the historical and ongoing contribution of scientists, including Australian scientists, to scientific research. They examine the impact on their lives of scientific knowledge and its applications to their communities and surroundings.

#### **What will students learn to do?**

Students work individually and in teams in planning and conducting investigations. They analyse data and information, evaluate issues and problems, identify questions for inquiry and investigation and draw evidenced-based conclusions. Through this problem-solving process they develop their critical thinking skills and creativity.

Students apply and communicate their findings, understanding and viewpoints in a scientifically literate way when making informed decisions about the environment, natural and technological world.

### **Course Requirements**

Practical experiences will occupy a minimum of 50% of allocated course time. All students will be required to undertake at least one research project during each of Stage 4 and Stage 5. At least one project will involve a practical investigation. At least one Stage 5 project will be an individual task.

#### **Stage 5 (RoSA)**

Satisfactory completion of the mandatory study of Science during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of Achievement.

## Geography (Mandatory)

The Geography (Mandatory) course requires students to complete:

100 hours of Global Geography in Stage 4, 100 hours of Australian Geography in Stage 5

This is a requirement for eligibility for the award of the Record of School Achievement.

Civics and Citizenship learning is an essential feature of the Years 7–10 Geography syllabus.

### Course Description

Geography allows students to develop an understanding of and an interest in a wide range of places and environments on a local and global scale.

There are seven key geographical concepts that are integrated into the geography syllabus:

- Place: the significance of places and what they are like
- Space: the significance of location and spatial distribution, and ways people organise and manage spaces that we live
- Environment: the significance of the environment in human life, and the important interrelationships between humans and the environment
- Interconnection: no object of geographical study can be viewed in isolation
- Scale: the way that geographical phenomena and problems can be examined at different spatial levels
- Sustainability: the capacity of the environment to continue to support our lives and the lives of other living creatures into the future
- Change: explaining geographical phenomena by investigating how they have developed over time.

### What will students learn about?

Sustainability is a key focus of the Geography syllabus and is studied throughout the course. This begins with the study of sustainable biomes which involves analysing how they are used for food and food security. Students will then learn about the urbanised world with a focus on migration, concentration of people, managing environmental change in urban places and sustainability. To further their understanding of our constantly evolving world, the environmental change and management unit will explore environmental functions, people's view of the world, the causes and consequences of change, the environmental process and interconnections with sustainable management of environments. To finalise their Stage 5 studies, they will look into the nature and differences of human wellbeing including ways to measure spatial variations in development, economic, social and environmental impact and how government, groups and individuals respond to inequalities in human wellbeing for a sustainable future.

### What will students learn to do?

Students will develop skills in acquiring geographical information, processing geographical information and communicating geographical information in a variety of formats. This will involve the use of maps, fieldwork, graphs, statistics, spatial technologies and visual representations.

### Course Requirements

Fieldwork is an essential part of the study of Geography in Stages 4 and 5. In Stage 5, students are required to investigate a geographical issue through fieldwork by developing and implementing a research action plan.

### Stage 5 (RoSA)

Satisfactory completion of the mandatory study of Geography during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of Achievement.

## **History (Mandatory)**

The History (Mandatory) course requires students to complete:

100 hours of History in Stage 4, 100 hours of Australian History in Stage 5

This is a requirement for eligibility for the award of the Record of School Achievement.

### **Course Description**

History develops in young people an interest in and enjoyment of exploring the past. A study of History provides opportunities for examining events, people and societies from ancient, medieval and modern times, including twentieth century Australia. Opportunities to develop a deeper understanding of civics and citizenship are a feature throughout the Years 7–10 History syllabus.

### **What will students learn about?**

In Years 7–8, students explore the nature of history, how historians investigate the past and the importance of conserving our heritage. Aspects of the ancient and medieval world are studied, including origins and daily life of the ancient world and beliefs and values of medieval societies. The nature of colonisation and contact history is also examined.

In Years 9–10, students learn of significant developments in Australia's social, political and cultural history including how world events influenced the making of modern Australia. Key topics include The Industrial Revolution, Making a Nation, World War I (including Gallipoli), World War II, The Holocaust, Rights and Freedoms and Popular Culture.

### **What will students learn to do?**

Students learn to apply the skills of investigating history including analysing sources and evidence and sequencing major historical events to show an understanding of continuity, change and causation. Students develop research and communication skills, including the use of ICTs, and examine different perspectives and interpretations to develop an understanding of a wide variety of viewpoints. Students also learn to construct a logical historical argument supported by relevant evidence and to communicate effectively about the past to different audiences.

### **Particular Course Requirements**

All students must complete a site study in Stage 4 and Stage 5.

### **Stage 5 (RoSA)**

Satisfactory completion of the mandatory study of History during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of Achievement.

## **Personal Development, Health and Physical Education**

Personal Development, Health and Physical Education (PDHPE) is a mandatory course that is studied in Years 7–10 with at least 300 hours to be completed by the end of Year 10. This is a requirement for eligibility for the award of the Record of School Achievement.

### **Course Description**

PDHPE develops students' capacity to enhance personal health and well-being. It promotes their enjoyment of and commitment to an active lifestyle and to achieve confidence and competence in a wide range of physical activities.

Through PDHPE students develop knowledge and understanding, skills and values and attitudes that enable them to advocate lifelong health and physical activity.

### **What will students learn about?**

All students study the following strands:

- Health, Wellbeing and Relationships
- Movement Skill and Performance
- Healthy, Safe and Active Lifestyles

### **What will students learn to do?**

Throughout the course students will learn to apply key skills that allow them to take action for health and physical activity. This includes an emphasis on self-management, interpersonal and movement skills.

### **Stage 5 (RoSA)**

Satisfactory completion of the mandatory PDHPE course will be recorded with a grade on the student's Record of Achievement.



# Elective Courses

## Commerce

Commerce is an elective course that can be studied for 100 or 200 hours at any time during Years 7–10.

### Course Description

Commerce enables young people to develop the knowledge, understanding, skills and values that form the foundation on which they can make sound decisions about consumer, financial, legal, business and employment issues. It develops in students the ability to research information, apply problem-solving strategies and evaluate options in order to make informed and responsible decisions as individuals and as part of the community.

### What will students learn about?

Students undertaking a 100-hour course in Commerce will complete Core Part 1 or Core Part 2 and a minimum of three options or Core Part 1 and Core Part 2 and one option.

Students undertaking a 200-hour course will study Core Part 1 and Core Part 2 and a minimum of five options. Options may be studied for 15–25 indicative hours each.

In Core Part 1 students study *Consumer and Financial Decisions* and *The Economic and Business Environment*, learning about making responsible spending, saving, borrowing and investment decisions as part of personal financial management and the development of consumer and financial literacy. They will also develop an understanding of the importance, and features of the economic environment, the role and operation of businesses in an increasingly global economy.

In Core Part 2 students study *Employment and Work Futures* and *Law, Society and Political Involvement*, learning about commercial and legal aspects relating to employment issues, and their rights and responsibilities at work. They will also develop an understanding of their legal rights and responsibilities and how laws affect individuals and regulate society.

Students will also study optional topics selected from: Investing; Promoting and Selling; Our Economy; Towards Independence; Travel; Law in Action; Running a Business; and a School-developed option.

### What will students learn to do?

Student learning in Commerce will promote critical thinking and the opportunity to participate in the community. Students learn to identify, research and evaluate options when making decisions on how to solve consumer problems and issues that confront consumers. They will develop research and communication skills, including the use of ICT, that build on the skills they have developed in their mandatory courses.

### Stage 5 (RoSA)

Satisfactory completion of 100 or 200 hours of study in Commerce during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**Please note that only one Commerce Subject can be selected in 2022**

## **Commerce (Economics & Legal Studies Stage 6 Preparation)**

Commerce is an elective course that can be studied for 100 or 200 hours at any time during Years 7–10. In this component of the course there will be a focus on the Core studies and Options pertaining to the senior subjects of Legal Studies and Economics. Students interested in pursuing studies in these senior subjects are advised to elect this Commerce component.

### **Course Description**

Commerce enables young people to develop the knowledge, understanding, skills and values that form the foundation on which they can make sound decisions about consumer, financial, legal, business and employment issues. It develops in students the ability to research information, apply problem-solving strategies and evaluate options in order to make informed and responsible decisions as individuals and as part of the community. This component also provides the ground work for future studies in Legal Studies and Economics.

### **What will students learn about?**

In this course the Core Studies include: Law and Society, Employment Issues, Consumer Choice and Personal Finance

The Options studied can include: The Law in Action, Our Economy, Global Links, Political Involvement, Investing and Running a Small Business.

### **What will students learn to do?**

Student learning in Commerce will promote critical thinking and the opportunity to participate in the community, both locally and globally. Students learn to identify, research and evaluate options when making decisions or creating opinions on Legal and Economic Issues. They will develop research and communication skills, implement report writing skills and investigate Economic and Legal systems at both a Local and International level.

### **Stage 5 (RoSA)**

Satisfactory completion of 100 or 200 hours of study in Commerce during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**Please note that only one Commerce Subject can be selected in 2022**

## English Elective - Year 10 students

English Elective is a subject designed for students with a particular interest in English, and who are aspiring to undertake the Advanced and/or Extension English subjects in year 11 and 12.

### Course Description

Elective English is a subject designed for students with a passion for reading, writing and critical and creative thinking. Students undertake a close study of a literary text, performance poetry and are exposed to a variety of canon texts. In 2023 Elective English is looking to run a year long PBL (Project Based Learning) initiative, reinvigorating the school magazine, 'Cook's Watch'. Within this, students will have the opportunity to explore how the study of English translates into their everyday life. The intention is to provide students with opportunities to attend incursions and excursions, meet guest speakers and provide a voice for students in the school community. Elective English is a must for students who are aspiring to undertake Advanced and possibly Extension English in year 11 and 12.

### What will students learn about?

Students will engage with a unique enrichment program tailored to their interests and needs. They will have the opportunity to engage with a range of texts, including live plays and performances, and will explore the ways that different texts can challenge our values and understanding of the world. Students will also engage with project and inquiry-based learning to explore real-world issues by drawing on their experiences in the English curriculum.

### What will students learn to do?

The main emphasis in this subject is for students to refine and more actively develop the ways in which they express their insights and judgements on a range of texts and issues. Students will learn to investigate topics and ideas, engage in independent and grouped learning activities and develop skills in extended compositions, including imaginative expression.

### Entry Requirements

Students selecting this elective should be averaging an A or B grade in English. Students not achieving in this range can still select the course, but should discuss their placement with the Head Teacher English.

The Food Technology course may be studied for 100 or 200 hours for the Record of School Achievement. The course builds on the knowledge, skills and experiences developed in the Technology and Applied Studies Stage 4 Syllabus.

### **Course Description**

The study of Food Technology provides students with a broad knowledge of food properties, processing, preparation, nutritional considerations and consumption patterns. It addresses the importance of hygiene, safe working practices and legislation in relation to the production of food. Students develop food-specific skills, which can be applied in a range of contexts enabling students to produce quality food products. The course also provides students with contexts through which to explore the richness, pleasure and variety food adds to life and how it contributes to both vocational and general life experiences.

### **What will students learn about?**

Students learn about food in a variety of settings, enabling them to evaluate the relationships between food, technology, nutritional status and the quality of life.

The major emphasis of the Food Technology syllabus is on students exploring food-related issues through a range of practical experiences, allowing them to make informed and appropriate choices with regard to food. Students develop the ability and confidence to design, produce and evaluate solutions to situations involving food. They learn about Work Health and Safety issues, and learn to select and use appropriate ingredients, methods and equipment safely and competently.

Students learn about food through the following focus areas:

- Food in Australia
- Food Equity
- Food Product Development
- Food Selection and Health
- Food Service and Catering
- Food for Specific Needs
- Food for Special Occasions
- Food Trends.

### **Course requirements**

To satisfy the requirements of the syllabus, students must undertake a range of practical experiences that occupy the majority of course time. Practical experiences allow students to develop skills and confidence in the use of a range of equipment.

### **Stage 5 (RoSA)**

Satisfactory completion of 100 or 200 hours of study in a Food Technology course during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: Subject fee will be \$100.**

## **History (Elective)**

History (Elective) is an elective course that can be studied for 100 or 200 hours at any time during Years 7–10. There is a focus on selecting options that suit student interest in both Ancient and Modern History. Students interested in pursuing Ancient History and/or Modern History studies as senior subjects are advised to elect this subject.

### **Course Description**

History enables young people to develop an interest in and enjoyment of exploring the past. History Elective provides opportunities to develop a knowledge and understanding of past societies and historical periods.

### **What will students learn about?**

Students explore the nature of history, heritage and archaeology and the methods that historians use to construct history through a range of thematic and historical studies. The construction of history is examined through options such as oral history, museum or archive studies, historical fiction, media, biography or film. Historical issues studied include the collection, display and reconstruction of the past, ethical issues of ownership, preservation and conservation of the past. Features of a range of ancient, medieval and modern societies are explored and students have the opportunity to study historical themes such as war and peace, crime and punishment, music through history, slavery and gender in history.

### **What will students learn to do?**

Students undertake processes of historical inquiry, including understanding and analysing sources and sequencing major historical events to show an understanding of continuity, change and causation. Students develop an understanding of historical concepts such as empathetic understanding, significance and contestability. They apply research and communication skills, including the use of ICT, and examine different perspectives and interpretations to develop an understanding of a wide variety of viewpoints. Students are provided with opportunities to construct a logical historical argument supported by relevant evidence and to communicate effectively about the past for different audiences.

### **Stage 5 (RoSA)**

Satisfactory completion of 100 or 200 hours of study in History Elective during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement (RoSA).

## **Industrial Technology Timber (Woodwork)**

The Industrial Technology Timber course may be studied for 100 or 200 hours for the Record of School Achievement. The Industrial Technology course builds on the knowledge, skills and experiences developed in the Technology and Applied Studies, Timber Technologies Stage 4 Syllabus.

### **Course Description**

Industrial Technology develops students' knowledge and understanding of materials and processes in a range of technologies. They develop knowledge and skills relating to the selection, use and application of materials, tools, machines and processes through the planning and production of quality practical projects.

### **What will students learn about?**

All students will learn about the properties and applications of materials associated with their chosen area of study; Timber. They will study the range of tools, machines and processes available in both industrial and domestic settings for working with selected materials. Students will learn about safe practices for practical work environments, including risk identification and minimisation strategies. They will also learn about design and designing including the communication of ideas and processes.

### **What will students learn to do?**

The major emphasis of the Industrial Technology syllabus is on students actively planning and constructing quality practical projects. Students will learn to select and use a range of materials for individual projects. They will learn to competently and safely use a range of hand tools, power tools and machines to assist in the construction of projects. They will also learn to produce drawings and written reports to develop and communicate ideas and information relating to projects.

### **Stage 5 (RoSA)**

Satisfactory completion of 100 or 200 hours of study in an Industrial Technology course during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: Subject fee will be \$100.**

## Information and Software Technology

Information and Software Technology is an elective course that may be studied for 100 or 200 hours for the Record of School Achievement. It builds on the knowledge, skills and experiences developed in the *Technology (Mandatory) Years 7–8 Syllabus*.

### Course Description

People will require highly developed levels of computing and technology literacy for their future lives. Students therefore need to be aware of the scope, limitations and implications of information and software technologies.

Individual and group tasks, performed over a range of projects, will enable this practical-based course to deliver the relevant knowledge and skills needed by students. Development of technology skills and information about career opportunities within this area are important aspects of the course.

### What will students learn about?

The core content to be covered in this course is integrated into the options chosen within the school. The course has been designed with an emphasis on practical activities that allow students to sustain focus in a range of interest areas at some depth.

The option topics to be studied within this course include:

- Software Development and Programming
- Networking Systems
- Authoring and Multimedia
- Robotics and Automated Systems.

### What will students learn to do?

Students will identify a need or problem to be solved, explore a range of possible solutions and produce a full working solution. They will use a variety of technologies to create, modify and produce products in a range of media formats.

Group and individual project-based work will assist in developing a range of skills, including research, design and problem-solving strategies over the chosen topics.

### Stage 5 (RoSA)

Satisfactory completion of 100 or 200 hours of study in Information and Software Technology during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: Subject fee will be \$40.**



## Marine and Aquaculture Technology

Marine and Aquaculture Technology is an elective subject within which students may undertake one or two courses. Each course may be studied for 100 or 200 hours for the Record of School Achievement.

### Course Description

The study of Marine and Aquaculture Technology develops the capacity of students to design, produce, evaluate, use and sustainably manage marine and water-related environments.

Students study a core and option modules. There are 48 option modules organised into seven focus areas covering broad aspects of marine and aquaculture technology.

- Biology
- Ecology
- Leisure
- Aquaculture
- Employment
- Management
- General Interest

### What will students learn about?

Students learn about marine and aquatic environments, water safety, general first aid and the maintenance of equipment. The economic sustainability of aquaculture and marine environments are explored, together with the preservation of wild seafood stocks. Students learn about the ethical and sustainable use, management and protection of the marine environment and a range of industries and organisations that use, manage and regulate the marine environment.

### What will students learn to do?

The major focus of the syllabus is on practical experiences. Students learn about Work Health and Safety issues, apply principles of water safety and first aid in marine situations. They learn to responsibly select, use and maintain materials and equipment, and use appropriate techniques in the context of the selected modules. Students learn to research, experiment and communicate in relation to marine and aquaculture activities. Other learning experiences in the course are dependent on the option modules studied.

### Stage 5 (RoSA)

Satisfactory completion of 100 or 200 hours of study in a Science Elective course during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

## Mathematics Elective – Year 9 students

### Course Description

Mathematics Elective is an elective subject aimed at students who have demonstrated a high level of skill and deep understanding of concepts in Mathematics.

This elective provides appropriate background knowledge for the Stage 6 Advanced and Extension Mathematics courses and is essential for those students wishing to participate in the Mathematics Acceleration Program in Year 10, with the option of enabling them to complete HSC Mathematics at the end of Year 11.

### What will students learn about?

The course will cover a range of topics to prepare students for the Calculus based senior courses. This may include:

- Algebraic Techniques
- Surds and Indices
- Equations
- Linear Relationships
- Trigonometry
- Single Variable Data Analysis
- Non-linear relationships
- Properties of Geometrical Shapes
- Polynomials
- Logarithms
- Functions and Other Graphs
- Circle Geometry

### What will students learn to do?

Students will develop their knowledge, understanding and skills in Mathematics and working mathematically. They will learn to think analytically, develop mathematical arguments and use mathematical modelling to solve problems.

### Entry Requirements

Students selecting this elective are expected to have achieved an A or B grade in the Semester 1 reporting period.

## Music

Music is an elective course that can be studied for 100 or 200 hours in Stage 5 (Years 9 and 10)

### Course Description

Music enables students to maximise their potential in performance and composition; as well as engage in problem-solving, work collaboratively and engage in activity that reflects the real-world practice of performers, composers and audiences. The study of music fosters knowledge, understanding and skills that contribute to lifelong processes of learning and to the appreciation and enjoyment of music.

### What will students learn about?

Students will develop knowledge, understanding and skills in the concepts of music through studying a broad range of contexts. Students will study topics such as Popular Music; Music of Culture; Music for Radio, Film, Television and Multimedia; Rock Music; Music and Technology; and Classical Music. Through the study of these topics students will learn characteristics, features and styles in playing, composing and analysing a wide range of music.

### What will students learn to do?

Students learn to perform through a wide range of practical music involving solo and / or ensemble pieces. The development of performance skills is fostered by providing performance opportunities in a variety of media, styles and genres according to the needs, interests and abilities of students.

Students will develop skills in composing using a variety of media and technology. The development of composition skills is fostered by the use of software such as SoundTrap and Studio One Prime.

### Course Requirements

Students may not commence study of the Elective course until they have completed the requirements of the Mandatory course.

### Equipment Requirements

It would be preferable to have access to an instrument at home for additional performance practice.

### Stage 5 (RoSA)

Satisfactory completion of the mandatory Music course will be recorded on the student's Record of Achievement.

Satisfactory completion of 100 or 200 hours of elective study in Music during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: Subject fee will be \$40.**

## **Photography, Film and Digital Media**

Photography, Film and Digital Media is an elective course that can be studied for 100 or 200 hours at any time after the completion of the Visual Arts 100-hour mandatory course.

### **Course Description**

Photography, Film and Digital Media provides opportunities for students to make and study a range of photographic, film and digital media works. It enables students to represent their ideas and interests about the world, to engage in contemporary forms of communication and understand and write about their contemporary world. Photography, Film and Digital Media enables students to investigate new technologies, cultural identity and the evolution of photography, film and digital media into the 21st century. Students are provided with opportunities to make and study photographic, film and digital media works in greater depth and breadth than through the Visual Arts elective course.

### **What will students learn about?**

Students learn about the different ways to make photographic, film and digital based artworks in still, interactive and moving forms. They will learn to use programs such as Adobe Photoshop as well as traditional analogue photographic methods in the darkroom. They will also learn to represent their ideas and interests with reference to contemporary trends and how photographers, videographers, film-makers and computer/digital artists make photographs, films and digital media works.

### **What will students learn to do?**

Students learn to make photographic, film and digital media works using a range of materials and techniques in still, interactive and moving forms, including ICT over time. They learn to develop their research skills, approaches to experimentation and how to make informed personal choices and judgements. They learn to record procedures and activities about their making practice in their Photography, Film and Digital Media journal.

Students learn to investigate and respond to a wide range of photographic, film and digital media artists and works in making, critical and historical studies. Students learn to interpret and explain the function of and relationships in the artworld between the artist – artwork – world – audience to make and study photographic and digital media artworks.

### **Course Requirements**

Students are required to keep a Photographic and Digital Media journal.

### **Stage 5 (RoSA)**

Satisfactory completion of 100 or 200 hours of study in Photographic and Digital Media during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: NOTE: Subject fee will be \$60**

## Physical Activity and Sports Studies

Physical Activity and Sports Studies is an elective content endorsed course that may be studied for 100 or 200 hours for the Record of School Achievement. The syllabus can be taught at any time in Years 7–10 however, its outcomes and content have been designed at a Stage 5 standard.

### Course Description

Physical Activity and Sport Studies is an integrated area of study that provides for the academic, social and physical development of students. In this subject students will develop a broad understanding of health and physical activity and the many possible contexts in which individuals can incorporate health and physical activity into their lifestyle.

Throughout the practical components of this course students will participate in a range of physical activities in different contextual settings, which provide opportunities for challenge, enjoyment, satisfaction and physical development. Students will also build a range of social and interpersonal skills which allow them to achieve objectives both collaboratively and independently.

Throughout the theoretical components of this course students will learn about practising ways of maintaining active, healthy lifestyles and improving their health status. They will also undertake units of study relating the human body systems, the cultural significance of sport in Australia, and how the analysis of human movement can be used to improve performance.

### What will students learn about?

The course includes modules selected from each of the following three areas of study:

- Physical fitness for Performance
- Body systems and Energy for Physical Activity.
- Fundamentals of movement skill development
- Event management and Coaching
- Physical Activity for Health
- Australia's sporting identity
- Opportunities and pathways in physical activity and sport
- Nutrition and Physical Activity
- Issues in Physical Activity and Sport
- Improving Performance

### What will students learn to do?

Throughout the course students will develop skills that promote their ability to:

- Work collaboratively with others to enhance participation, enjoyment and performance in physical activity and sport
- Display management and planning skills to achieve personal and group goals in physical activity and sport
- Analyse and appraise information, opinions and observations to inform physical activity and sport decisions.

### Stage 5 (RoSA)

Satisfactory completion of 100 or 200 hours of study in Physical Activity and Sports Studies CEC during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: Subject fee will be \$40.**

## Physical Activity and Sports Studies (Health Science)

Physical Activity and Sports Studies – (Sports Science) is an elective content endorsed course that may be studied for 100 or 200 hours for the Record of School Achievement

### Course Description

Physical Activity and Sport Studies – (Sports Science) is an integrated area of study that provides for the development of students in the health and sport science fields. In this subject students study Stage 6 PDHPE principles and content to introduce and improve students' knowledge of health and human movement. Students will be able to develop HSC style responses with heavily scaffolded assessments to aid in their transition into the Stage 6 PDHPE Course.

In this subject students will develop a broad understanding of human movement and how the body influences performance through anatomy, physiology, biomechanics and skill acquisition. They will also broaden their understanding of health, and the different factors which influence health status within Australia using epidemiology, health promotion and priority health areas and groups.

### What will students learn about?

The course includes modules selected from the following areas of study:

- Body systems and energy for physical activity
- Fundamentals of movement skill development
- Nutrition and physical activity
- Enhancing performance – strategies and techniques
- Technology, participation and performance
- Opportunities and pathways in physical activity and sport
- Issues in physical activity and sport
- Australia's Sporting identity
- Promoting active lifestyles

### What will students learn to do?

Throughout the course students will develop the following knowledge, skills and understanding:

- Uses a range of sources to draw conclusions about health and physical activity concepts
- Forms opinions about health-promoting actions based on a critical examination of relevant information
- Analyse and appraise information, opinions and observations to inform physical activity and sport decisions.
- Display management and planning skills to achieve personal and group goals in physical activity and sport

### Stage 5 (RoSA)

Satisfactory completion of 100 or 200 hours of study in Physical Activity and Sports Studies CEC during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: Subject fee will be \$40.**

## Science Elective

Science Elective is an elective subject within which students may undertake one or two courses. Each course may be studied for 100 or 200 hours for the Record of School Achievement.

### Course Description

Science elective is designed around the Stage 6 Investigating Science syllabus. There is a specific focus in the course on the skills required by students to perform well in the Year 11 and 12 Biology, Physics and Chemistry courses.

This course is recommended to students who are considering studying any science subject for the HSC, or for students who want to enjoy a more practical way of learning science.

### What will students learn about?

Students will complete a number of units of work in this course that will support a deeper understanding of how to gather and analyse scientific data in all branches of science. These units will include investigations into cause and effect, the role of models, theories and laws in interpreting scientific evidence, how to interpret data presented to them as being valid and reliable, and the role of science in both society and in the development of new technologies.

### What will students learn to do?

All students will learn about the skills required to perform successfully in a science setting including questioning and predicting, planning and conducting investigations, processing and analysing data, problem solving and communicating findings.

Science elective is a practical subject with up to 70% of course time dedicated to participating in experiments and other similar activities. Students will be required to complete a depth study in which their working scientifically skills will be assessed.

### Stage 5 (RoSA)

Satisfactory completion of 100 or 200 hours of study in a Science Elective course during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

## **STEM (Science, Technology, Engineering & Mathematics)**

STEM is an inquiry based Learning program that will be delivered under the Design & Technology elective course that may be studied for 100 or 200 hours for the Record of School Achievement. It builds on the knowledge, skills and experiences developed in the Technology (Mandatory) Years 7–8 Syllabus & after school STEM club.

Students undertaking the 100-hour course (1 Year) are required to complete a minimum of two and a maximum of four units of work that address at least two focus areas of design. Students studying the 200-hour course (2 Years) are required to complete a minimum of three and a maximum of six units of work that address at least three focus areas of design.

### **Course Description**

STEM provides a broad experience in a range of contexts and builds on the know-how and know-why developed in Science and Technology K–6 and the foundation Technology (Mandatory) course. The design and development of quality projects gives students the opportunity to identify problems and opportunities, research and investigate existing solutions, analyse data and information, generate, justify and evaluate ideas, and experiment with technologies to manage and produce design projects. The diversity of approaches to design projects provides the scope to develop higher order thinking, future focused thinking and an understanding of conceptual principles. The design process caters for a variety of student needs, abilities and interests. The flexible and creative consideration of parameters encourages students to take intellectual risks and experiment with resources when developing projects.

### **What will students learn about?**

Students will gain experience in developing design projects focused on expanding their knowledge and skills in project development and management, with focuses on different areas of design like the following:

- Structural Engineering
- Sustainable design
- 3D Printing & Design
- Aeronautical Engineering
- Computer Programming
- Lego Robotics (including external competitions)

### **What will students learn to do?**

Students will investigate, analyse and apply a range of design concepts and design processes, apply and justify an appropriate process of design when developing design ideas and solutions. When engaged in project work they manage time as they sequence, produce and evaluate in relation to a design process.

### **Stage 5 (RoSA)**

Satisfactory completion of 100 or 200 hours of study in STEM during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: Subject fee will be \$80**



## Visual Arts

The Visual Arts Years elective course can be studied for 100 or 200 hours in Stage 5 (Years 9 and 10).

### Course Description

Visual Arts provides opportunities for students to enjoy the making and studying of art. It builds an understanding of the role of art in all forms of media, both in the contemporary and historical world, and enables students to represent their ideas and interests in artworks. Visual Arts enables students to become informed about, understand and write about their contemporary world.

### What will students learn about?

Students learn about the process of making different kinds of artworks in 2D, 3D and/or 4D forms. They learn to represent their ideas and interests with reference to contemporary trends and how artists' including painters, sculptors, architects, designers, photographers and ceramists, make artworks.

Students learn about how art is shaped by different beliefs, values and meanings by exploring artists and artworks from different times and places and relationships in the artworld between the artist – artwork – world – audience. They also explore how their own lives and experiences can influence their artmaking and critical and historical studies.

### What will students learn to do?

Students learn to make artworks using a range of materials and techniques in 2D, 3D and 4D forms, including traditional and more contemporary forms. They learn to develop their research skills, approaches to experimentation and how to make informed personal choices and judgements. They learn to record procedures and activities about their artmaking practice in their Visual Arts diary.

They learn to investigate and respond to a wide range of artists and artworks in artmaking, critical and historical studies. They also learn to interpret and explain the function of and relationships in the artworld between the artist – artwork – world – audience to make and study artworks.

### Course Requirements

Students are required to produce a range of artworks and keep a Visual Arts diary.

### Stage 5 (RoSA)

Satisfactory completion of 100 or 200 hours of elective study in Visual Arts during Stage 5 (Years 9 and 10) will be recorded with a grade on the student's Record of School Achievement.

**NOTE: Subject fee will be \$60.**

