stage 5
YEAR 9/10
ACADEMIC PROGRAM 2017/2018
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Our Vision

At TAS, we believe that education is about the development of character. Every student deserves to experience the kind of success that builds self-esteem, promotes a sense of purpose, and gives confidence to face new challenges.
Dynamic subject options to invigorate curriculum

In 2016, students in Year 9 and 10 were the first to benefit from an exciting new curriculum offering. The innovative thinking of our Director of Studies, Seonia Wark turned the traditional pattern of choosing from the four to six subjects offered in each of three timetable columns on its head and this is good news for students at TAS.

The purpose behind offering elective subjects in Years 9 and 10 is to launch students on to the path of finding and following their academic passions. This decision making is often fraught for parents and students who see their choices as the beginnings of a defined academic future, sometimes with tertiary thoughts in mind. The reality though is that languages stand alone as defined continuers courses in Year 11/12 and most other electives at this stage have little bearing on HSC studies, let alone tertiary decisions. Developing academic passion and assisting in preparing for senior studies is important though and this is what our new structure targets.

Elective subjects in Years 9 and 10 stand separate to the mandatory core curriculum of English, Maths, Science, HSIE and PDHPE, giving schools great flexibility in determining their elective offerings. In place of the usual pattern at TAS that has provided 12 to 14 subjects spread across three lines, Years 9 and 10 will be mixed together for their electives and presented with over one hundred choices across the elective lines in their two years, each of the courses standing alone for at least one semester and every one connecting to the HSC curriculum. Our aim is to drive academic interest and engagement by vastly increasing choice, enabling students to sample a wider curriculum experience and avoid the experience of finding themselves locked into subjects they do not find stimulating for two years. It will also enable students to make more informed HSC subjects choices because they have had the opportunity to discover the difference between Business Studies and Economics or Chemistry and Biology and what is involved in the design and creative process. The increase in choices will also mean it is much less likely that students will find themselves ruled out of options in Years 11 and 12 that they would have loved simply because they haven’t had the chance to experience them.

The decision making process for this bold and unique development has involved our students of course and their responses to the proposal have given great encouragement. In recent surveys student feedback has allowed staff to make adjustments to current courses and for new courses to be added into the offering for future years.

Murray Guest  |  Headmaster
From the Director of Studies

Life as a senior school student at The Armidale School is full of expectations. In particular, there are expectations of achievement, responsibility and independence. Our senior students are required to make significant choices and decisions regarding their academic programs as well as demonstrate leadership and responsibility. Year 9 and 10 focuses on consolidating academic skills and providing students with a very wide range of elective subjects, preparing them for the final two years of their secondary education.

Academically, our students begin to take more control over their own learning through their choice of elective subjects leading to the Higher School Certificate. They are required to be personally responsible for decisions that will lead to academic achievement and individual growth. There are also a wealth of expectations associated with performance in sport, outdoor education and the creative and performing arts. We aim to provide our students with the knowledge and skills to help them meet these expectations and to grow into knowledgeable, confident and talented people who care about the world they live in.

This handbook is designed for students who are entering Year 9 and 10 and provides a range of information to help them and their parents and caregivers choose courses that suit their needs and interests. Our students are supported by highly qualified staff who are passionate about their subjects and provide the motivation for our students to reach their potential.

We cater for the academic, creative, technological and extra-curricular interests of all students and the school offers a wide range of courses and activities. Academic courses are complemented by the extensive extra-curricular and pastoral care programs. The school also offers learning support, an Extension and Enrichment program and targeted teaching practices to help each child succeed.

It is our aim to provide a broad and engaging program that helps create avenues of success for every student at TAS. It was with this in mind that we developed an exciting new program of electives for all students in Stage 5 from the beginning of 2016. With the first semester of courses now complete we are excited to modify the offering and add a number of new electives for 2017.

Seonia Wark | Director of Studies
NSW Record of School Achievement (RoSA)

In 2011, the NSW Minister of Education announced that School Certificates tests would not continue beyond that year. From 2012, eligible students who leave school before receiving their Higher School Certificate will receive the NSW Record of School Achievement (RoSA).

The RoSA is a cumulative credential in that it allows students to accumulate their academic results until they leave school. The RoSA records completed Stage 5 and Preliminary Stage 6 courses and grades, and participation in any uncompleted Preliminary Stage 6 courses. It is of specific use to students leaving school prior to the HSC. Students from TAS will only have grades for core subjects in Stage 5 listed in their Record of School Achievement with grades from elective courses appearing on report cards.

Any time a student or school wants an up-to-date snapshot of a student’s academic progress, a transcript called a Student eRecord can be accessed via “Students Online” on the Board of Studies Teaching and Educational Standards (BOSTES) website. Students who go on to complete the HSC will see all their Stage 6 (Year 11 and 12) courses and results on their HSC.

For more information please visit: http://www.boardofstudies.nsw.edu.au/rosa/parents-employers.html

Assessment and Reporting

In each subject, a series of formal and informal assessment tasks will be conducted to monitor and assess student achievement. These tasks will measure the extent to which each student has met the aims and objectives of the course. Based on these tasks, teachers will compare the achievement of their students with the published Course Performance Descriptors, not with their achievement relative to each other. Reports are written and published at the end of each semester.

The school publishes a School Assessment Policy for Stage 5 that is available for download each year from the TAS website. This is an important document to read as it outlines what to do in the event of illness or misadventure and, in particular, the documentation required to support any appeal for a missed assessment task. Each year the school also publishes an Assessment Calendar for each year group which gives families an indication of when assessments are due.
Stage 5 Academic Program

Core Subjects

All students at TAS are required to study English, Mathematics, Science, HSIE (Australian History & Australian Geography) and Personal Development, Health and Physical Education (PDHPE) in Years 9 and 10. Students will also participate in Christian Development and Careers (Year 10 only) classes. At TAS we run one extension class per core subject with the remaining classes being mixed ability. As enrolments increase the combination of extension classes and mixed ability classes may change. Decisions regarding placement of a student in the Extension class is made by the subject coordinator and reviewed each semester.

Elective Courses

Students in Stage 5 will have the opportunity to study 3 different electives each semester in Years 9 and 10. It is anticipated that around one hundred courses will be offered to students each year and that approximately 50 of these run annually. After an initial survey the Director of Studies and the Headmaster will determine what courses will be offered in the following year. What is offered each year will primarily be determined by student demand, however, teaching expertise and ensuring a balanced offering for the entire student population will also influence this.

Extension electives should only be chosen by students with recognised ability in the subject. Places in these classes are limited to those in the extension core class for that subject and are based on previous achievement in the subject.

Correspondence

Students may apply to study a subject which is not offered by the school via correspondence. The school has reservations about the study of any subject by correspondence and recommends that only those highly motivated students with sound independent study habits should apply. There are also limitations to the correspondence program at TAS both in offering and in numbers so priority will be give to students with a history of studying that subject or for languages not offered at TAS. External correspondence providers do not guarantee positions in any course. Correspondence courses are not covered by normal tuition fees and cost approximately $500 per year.

Other arrangements

The school also recognises that some students have particular needs not satisfied by the standard curriculum pattern – intensive learning support, extension and enrichment programs, accelerating students, students with native languages other than English or those with particular interests. Individual programs of study may be an appropriate response to these needs and an appointment with the Director of Studies can be made by contacting the Academic Assistant (contact details listed at the end of this document).

In 2016 the elective lines were as follows. Each year, the combination of subjects differs and is published late in Term 3.
### A sample of what the elective offering might look like

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<td>The Law and the Consumer</td>
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<td>Make It Metal</td>
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<td>History and Legacy of Theatre &amp; Performance</td>
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<td>Graphic Design</td>
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<td>Performance &amp; Recording</td>
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<td>Sports Sociology/Psychology</td>
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<td>Sports Issues: Controversies and debates</td>
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<td>Ensembles &amp; Bands</td>
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<td>Curriculum Support Year 10</td>
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- **Semester 1**
  - Architecture and Design
  - Computer Game Development
  - Curriculum Support Year 9
  - Elite Performance - The Elite Athlete
  - Math: Networks, Counting Techniques and Set Theory
  - Make It Metal
  - Music Performance and Recording
  - Running a Business and Marketing
  - Poultry and Winter Cereal Crops

- **Semester 2**
  - Curriculum Support Year 10
  - Engine Mechanics
  - Experimental Art Practice
  - Maths: Matrices, Vectors & Further Algebra
  - Music In Entertainment
  - Running a Business and Marketing
  - The Sporting Body
  - Robotics
  - Prime Lamb and Wool Production

- **Semester 3**
  - Beyond Electronics
  - Elite Performance 2
  - Maths: Cryptography
  - History and Legacy of Theatre & Performance
  - Japanese Leisure & Entertainment
  - Living in France
  - Vehicle Dynamics
  - High Performance Pastures & Honey

- **Semester 4**
  - Computer Game Development
  - Ext Maths: Networks, Counting Techniques & Set Theory
  - French Leisure & Entertainment
  - Japanese Obento & Festivals
  - Performance Tuning
  - Scriptwriting & Film
  - Sports Issues: Controversies and debates
  - Animating Human Form
The Subject Selection Process

The selection of subjects is an important decision each year. As students move towards their senior studies, there is a decrease in the number of compulsory subjects and an increase in the diversity and range of subjects for selection.

It is essential that students make their decisions about subject choices after discussions with their family, teachers, advisor and other senior students.

Two subject information sessions are held in early Term 3. These sessions are identical but are repeated so that families are able to choose a time that is more convenient for them to attend.

Timeline

1. Stage 5 Information Session – Early Term 3
2. Families receive survey login details via email – Week 4 Term 3
3. Families to enter initial preferences online – due Monday Week 6 Term 3
4. Families receive the elective lines for the following year and new login details – Week 9 Term 3
5. Families to submit final choices (1st, 2nd and 3rd preferences in each line) for semester 1 – due Monday Week 2 Term 4
6. Families notified of final elective allocation for semester 1 the following year – before the end of Term 4
7. Students will make choices for Semester 2 at the end of Term 2 2017.

Choices

It is important for students considering studying French or Japanese for their HSC to study one unit per semester of their intended language.Whilst the BOSTES states it is not mandatory to study a language continuously in Stage 5 to enter the Continuers course in years 11 and 12, it is recommended as the vast majority of the state cohort will have done so if they are at TAS.

One of the major advantages of this new offering is that students are able to sample different courses during Stage 5 to help determine what to study for their HSC. Keeping this in mind during this selection process is highly recommended.
English

Contact Person: Julie Flanagan
jflanaga@as.edu.au

Rationale
The study of English is designed to develop a love of literature and learning and be challenging and enjoyable. It develops skills to enable students to experiment with ideas and expression, to become active, independent and lifelong learners, to work with each other and to reflect on their learning. Over Stage 5, students must read, listen to and view a variety of texts that are appropriate to their needs, interests and abilities. These texts become increasingly sophisticated as students move from Stage 4 to Stage 5.

Brief Description
Through responding and composing texts, students learn about the power, value and art of the English language for communication, knowledge and enjoyment. By composing and responding with imagination, feeling, logic and conviction, students develop understanding of themselves and of human experience and culture. They develop clear and precise skills in speaking, listening, reading, writing, viewing and representing, and knowledge and understanding of language forms and features and structures of texts.

In both Year 9 and Year 10, students can expect to experience units focusing on:
- spoken, print, visual, media, multimedia and digital texts
- texts which are widely regarded as quality literature
- a widely defined Australian literature, including texts that give insights into Aboriginal experiences in Australia
- a wide range of literary texts from other countries and times, including poetry, drama scripts, prose fiction and picture books
- texts written about intercultural experiences
- texts that provide insights about the peoples and cultures of Asia
- Shakespearean drama
- everyday and workplace texts
- a wide range of cultural, social and gender perspectives, popular and youth cultures
- texts that include aspects of environmental and social sustainability
- nonfiction, picture books, graphic novels
- an appropriate range of digital texts, including film, media and multimedia.

Cost: Nil

Related Electives:
Any Extension English electives

Related HSC Subjects:
All students must study at least two units of English in Year 11 and 12: English Standard, English Advanced, ESL, English Extension 1, English Extension 2
History

Contact Person:  David Toakley
dtoakley@as.edu.au

Rationale

History is a process of inquiry into the past that helps to explain how people, events and forces from the past have shaped our world. It provides opportunities for students to explore human actions and achievements in a range of contexts. Students become aware that history is all around us and that historical information may be drawn from the physical remains of the past as well as written, visual and oral sources of evidence.

It introduces the idea that History contains many stories and that there is never only one uncontested version. There are many differing perspectives within a nation’s history, and historians may interpret events differently depending on their point of view and the sources they have used. The study of History strengthens an appreciation for and an understanding of civics and citizenship. It also provides broader insights into the historical experiences of different cultural groups within our society and how various groups have struggled for civil rights.

Brief Description

In Stage 5 the overview units of “The Making of the Modern World” and “The Modern World and Australia” are supplemented by the compulsory Depth Studies of “Australians at War (WWI and WWII)” and “Rights and Freedoms (1945-present)”. Further depth studies are chosen from “Making a Better World?”, “Australia and Asia”, “The Globalising World” or a school-developed topic drawn from either of the two overview topics.

History and Geography are taught as a single compulsory HSIE subject in Years 9 and 10 on a semester rotation.

Cost: Excursion costs for site visits

Related electives:
History I Should Know About, The History and Geography of Conflict in the Middle East, Seven Wonders of the Ancient World, European Empires

Related HSC subjects:
Ancient History, Modern History, History Extension
Mathematics

Contact Person: Amanda Robins
arobins@as.edu.au

Rationale

Mathematics is a reasoning and creative activity employing abstraction and generalisation to identify, describe and apply patterns and relationships. Mathematics is integral to scientific and technological advances in many fields of endeavour. 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.

Stage 5 Mathematics continues to develop students' knowledge, skills and understanding in Number and Algebra, Measurement and Geometry, and Statistics and Probability. It focuses on developing increasingly sophisticated and refined mathematical understanding, fluency, communication, logical reasoning, analytical thought and problem-solving skills. These capabilities enable students to respond to familiar and unfamiliar situations by employing strategies to make informed decisions and solve problems relevant to their further education and everyday lives.

Structure

Since most geographical studies occur in real-life situations, students are able to use their experiences to develop concepts and acquire problem solving skills. Geography contributes towards improvements in the quality of life and encourages students to accept community responsibilities.

Brief Description

In Years 9 and 10, students will concentrate on Australian Geography. This is covered in four topics:

- Investigating Australia's Physical Environment
- Changing Australian Communities
- Issues in Australian Environments
- Australia in its Regional and Global Context

The new Geography course is assessed using a wide range of tasks, including research, the use of ICTs and geographical skills and fieldwork. Selected students will participate in the Australian Geography Competition.

Cost: Excursion costs for fieldwork
Related electives: Sustainability, Into Africa, The History and geography of the conflict in the Middle East
Related HSC Subjects: Geography
These substages are not prescribed courses, and many different ‘endpoints’ are possible. As well as studying the Stage 5.1 content, the majority of students will study some or all of the Stage 5.2 content. Similarly, as well as studying the Stage 5.2 content, many students will study some or all of the Stage 5.3 content. The content in these substages becomes more demanding at each level.

**Aim**

The aim for students in Stage 5 is to:
- be confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens
- develop an increasingly sophisticated understanding of mathematical concepts and fluency with mathematical processes, and be able to pose and solve problems and reason in Number and Algebra, Measurement and Geometry, and Statistics and Probability
- recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible, enjoyable discipline to study, and an important aspect of lifelong learning.

**Cost:** Nil

**Related electives:**
Extension Mathematics, Astrophysics and Projectile Motion, Personal Finance and Investing, Accounting, Engineering

**Related HSC Subjects:**
General Mathematics, Mathematics, Mathematics Extension 1, Mathematics Extension 2
Personal Development, Health and Physical Education

Contact Person:  Mark Taylor
mtaylor@as.edu.au

Rationale
The PDHPE course plays a fundamental role when educating students in ways of preventing social and health problems and, if they exist, ways of minimising their effect. Ideally, the course will help students to make informed decisions about their lifestyle which takes into account the values of the family, culture and religion to which they may belong.

Brief Description
The three areas of PDHPE are integrated in order to create a coherent structure to help students develop a comprehensive understanding of the relationship between personal development and the promotion of public health and well being.

The four strands of study include:
- Self and Relationships
- Movement Skills and Performance
- Individual and Community Health
- Lifelong Physical Activity

A new innovation is the introduction of an extension and enrichment program for Stage 5. Students will participate in an identification program enabling students of similar physical capabilities to be grouped together and an appropriate unit of work designed to extend the group’s potential. The new program will have the flexibility for students to move between groups depending upon the student’s physical capabilities, progression in class, identification results and teacher observations.

Cost: Nil
Related Electives: Any PDHPE elective
Related HSC Subjects: PDHPE, Sport Lifestyle & Recreation
Science

Contact Person: Tim Wheaton
twheaton@as.edu.au

Rationale

Science provides a distinctive view and way of looking at the world. The study of science has led to an evolving body of knowledge derived from experimental investigation of phenomena. This knowledge allows us to make sense of the biological, physical and technological world. That knowledge, in its social and cultural context, provides a basis for making choices and ethical decisions about local and global applications and implications of science.

The study of science provides opportunities for students to develop the skills of working scientifically by questioning and predicting, planning and conducting investigations, processing and analysing data and information, problem solving and communicating. A more thorough statement of the rationale of the science curriculum is available on BOSTES website.

Brief Description

In Years 9 and 10, students continue to develop the skills and processes of Working Scientifically. Units of work are based on the Physical World, Earth and Space, the Living World and the Chemical World. Students in Year 10 are required to undertake a substantial individual research project which forms part of our school-based assessment program.

There is one excursion during Year 9 which is an integral component of the Science course. This is a five-day excursion to the mid north coast during Excursion Week. In most years, the extension Year 10 Science class participates in the University of Newcastle Science and Engineering Challenge. “Success locally may mean that we then qualify” to travel to Newcastle to participate in the State and National Finals of the Challenge. Participation in the finals involves a trip to Newcastle and an overnight stay in suitable accommodation.

The Stage 5 program is an essential foundation for senior (Stage 6) studies in Science. Students will have sufficient expertise with all aspects of Science to be able to choose among the 2 unit courses (Chemistry, Biology and Physics) offered in Years 11 and 12.

Cost: Associated excursion and competition costs

Related electives: any listed under the science faculty

Related HSC Subjects: Biology, Chemistry, Physics
Reinvent, Recycle, Replay – Working With The Seven Basic Plots

This elective course focuses on developing and refining the skills of creative composition. It is based on the theory there are only seven plots in existence, and that all texts produced are merely variations on these basic story lines. Students will examine the basis for American scholar Christopher Booker’s “Seven Basic Plots: Why We Tell Stories”, considering notions of appropriation and transformation. Students consider the ideas that stories are often appropriated because they hold “truths”about the human condition which cross all social, historical and cultural boundaries.

This course aims to:
- engage students in critical analysis of popular culture
- develop students’ acquisition of composition skills in a broad range of contexts
- strengthen the explicit teaching of how meaning is created in fiction
- allow students to explore varied presentations of similar subject matter

Cost: Nil

Related electives: Fact v. Fiction – Studying and Composing Historical Fiction; From Words to Images; Auteur Study – The Films of Tim Burton

Related HSC subjects: English Advanced, English Extension 1, English Extension 2

Fact v Fiction – Studying and Composing Historical Fiction

This elective course involves responding to and composing historical fiction. Students complete a close study of Gary Crew’s 1990 novel “Strange Objects”. This text, set in and around Geraldton in Western Australia, is based on the shipwreck of the Dutch vessel the Batavia. Using the framing device of a collection of papers made by a missing boy, Steven Messenger, it is a mystery story that explores the construction of history. Students then choose an area of historical interest and, after conducting research, compose their own historical fiction text, modelling their story on Crew’s unorthodox construction and epistolary style. Students will also have the opportunity to study a variety of other historical fiction texts.

This course aims to:
- engage students in the process of composing an extended text
- expose students to the complexities of composing historical fiction
- strengthen the explicit teaching of narrative development
- develop the research skills needed for the creation of a sustained composition

Cost: Nil

Related electives: Reinvent, Recycle, Replay – Working With The Seven Basic Plots; From Words to Images; Auteur Study – The Films of Tim Burton; History I Should Know About; Seven Wonders of the Ancient World

Related HSC subjects: English Advanced, English Extension 1, English Extension 2, Modern History, Ancient History
Extension Subjects

**From Words to Images**
This elective course looks at the ways in which literary texts are adapted and reconsidered in a variety of visual forms. Through studying a variety of visual adaptations – picture books, graphic novels and short film – students identify visual characteristics and examine their effect within different modes. Students are provided with opportunities to deconstruct the various elements of visual literacy.

They then use their knowledge to create their own visual texts. Students are provided with opportunities to create their own texts in a multimedia format using their key understandings of visual literacy.

This course aims to:
- reinforce and refine students' knowledge of a range of techniques used in the creation of visual texts, studying both still and moving images
- develop students' skills of interpretation, adaptation and transformation
- strengthen the explicit teaching of how meaning is created in visual texts
- encourage students to create effective visual texts

**Cost:** Nil

**Related electives:** Reinvent, Recycle, Replay – Working With The Seven Basic Plots; Fact v. Fiction – Studying and Composing Historical Fiction; Auteur Study – The Films of Tim Burton; Script Writing and Film; Graphic Design

**Related HSC subjects:** English Advanced, English Extension 1, English Extension 2

**Auteur Study – The Films of Tim Burton**
This elective course considers the notion of the auteur through a study of the films of Tim Burton. The auteur theory was first developed by New Wave directors as a way of distinguishing those who merely follow scripts and stick to the limitations placed on them by studios from those who impose their own vision onto their projects.

Students study a number of films and filmic extracts from director Tim Burton, including Edward Scissorhands, Beetlejuice, Big Fish and Vincent as a way of developing their understanding of the auteur theory. Students consider the easily identifiable beliefs, values and themes that are characteristic of Burton’s work.

This course aims to:
- develop understanding of auteur theory as students consider the notion of creative signatures
- enhance understanding of how mise en scene influences the verisimilitude or believability of a film
- strengthen the explicit teaching of how meaning is created in visual texts
- encourage students to respond to and compose effective visual texts

**Cost:** Nil

**Related electives:** Reinvent, Recycle, Replay – Working With The Seven Basic Plots; Fact v. Fiction – Studying and Composing Historical Fiction; From Words to Images; Script Writing and Film

**Related HSC subjects:** English Standard, English Advanced, English Extension 1, English Extension 2
Extension Subjects

**Extension Mathematics: Matrices, Vectors and Further Algebra**

The study of Extension Mathematics provides opportunities to explore topics in Mathematics that are not in the current Stage 5 Syllabus and yet are powerful units of work to prepare students for further study in Mathematics at both a secondary and tertiary level.

This elective provides students with knowledge and skills in Matrices in which students work with numerical arrays. This has application in the development of search algorithms and computer programming. The work in vectors focuses on quantities that have both magnitude and direction, while looking at grid coordinates and polar coordinates, while the work on further algebra extends students skills when solving harder equations and inequalities.

**Cost:** Nil

**Related electives:** Extension Mathematics - Matrices, Vectors and Further Algebra

**Related HSC subjects:** Mathematics, Mathematics Extension 1, Mathematics Extension 2, Physics, Software Design & Development

**Extension Mathematics: Networks, Counting Techniques & Set Theory**

This elective provides students with knowledge and skills in Network Theory (a branch of Graph Theory) in which students study the mathematics of interacting systems. This has application to understand biological networks, transportation networks, the Internet and social networking. In counting techniques students will study advanced probability, looking in depth at Pascal’s Triangle and its many applications, while set theory introduces a formal notation when working with Venn Diagrams and multi-stage events.

**Cost:** Nil

**Related electives:** Extension Mathematics - Matrices, Vectors and Further Algebra

**Related HSC subjects:** Mathematics, Mathematics Extension 1, Mathematics Extension 2
**Extension Mathematics: Cryptography**

Throughout history humans have devised ways to send secret messages. At the heart of this is the mathematical discipline known as cryptography. Throughout this semester students will study the ancient art of polyalphabetic ciphers, explore the use of one-time pads and the Enigma machine during wartime along with other developments in code making. They will then learn more about modern day cryptography as they investigate the importance of prime numbers in keeping data safe and secure online.

**Cost:** Nil  
**Related electives:** Extension Mathematics: Adventures in Numberland, Computer Game Development  
**Related HSC subjects:** Mathematics, Mathematics Extension 1, Mathematics Extension 2, Software Design & Development

**Extension Mathematics: Adventures in Numberland**

For centuries mathematicians have been fascinated by the strange and unusual properties of our number system. Asking questions about our number system such as: Why did zero take so long to discover? Is a base 10 system even the most effective one? How do babies think about maths? How does pi relate to a Presidential election? This unit explores a number of weird and wonderful number facts and theorems while developing investigation and problem solving skills that are useful in senior study of Mathematics.

**Cost:** Nil  
**Related electives:** Extension Mathematics: Cryptography  
**Related HSC subjects:** Mathematics, Mathematics Extension 1, Mathematics Extension 2

**Aviation: City in the Sky**

Right now there are over a million people travelling through our skies. Every moment of every day, aviators keep aloft more people than the entire population of Tasmania, NT and ACT combined - a city in the sky.

Have you ever wished to soar with the birds and navigate the skies? Wondered how designers and engineers build aeroplanes? Many people are fascinated by flight and will one day become part of an industry that contributes 3.5% to the world’s GDP. This elective course aims to provide students with fundamental knowledge required by pilots of unmanned aerial vehicles (UAVs), rotary and fixed wing aircraft. Topics will include:

- aerodynamics  
- aircraft general knowledge  
- radio communication  
- aircraft performance  
- aerial navigation  
- air law  
- meteorology

**Cost:** Optional trial flight experience  
**Related Electives:** Astrophysics and Projectile Motion, Extension Mathematics electives  
**Related HSC Subjects:** Physics, Extension 1 Mathematics
Philosophy

This course provides students with the opportunity to question and develop their critical and analytical reasoning skills while developing their ability to express their thoughts and opinions. It is designed to introduce students to the discipline and its main areas of study. The course will begin by focusing on the more concrete philosophical teachings and as the students develop their understanding move towards abstract concepts.

Topics will include:
- Metaphilosophy and reasoning - What is Philosophy?
- Ethics - personal level of philosophy. This topic focuses on contemporary issues.
- Metaphysics – the study of existence. – What is?
- Logic – looking at the validity of argument.

Students are expected to complete one independent assignment as well as regular, journal entries.

Cost: Nil
Related electives: Nil
Related HSC subjects: English Advanced, English Extension 1, English Extension 2
Science

Electrons to Electrochemical cells

Students develop a deeper understanding of the Stage 5 chemistry content which will lead to a more familiar environment if choosing Chemistry in Year 11 and 12. Students learn about how electrons are arranged and their energy levels in common elements. This course is designed to gain a greater understanding of the chemical properties of elements and how they react. Experiments will be used to demonstrate the bonding involved in the different types of elements and compounds. Students will then progress to flame tests before finally having the opportunity to build electrochemical cells.

Cost: Nil
Related electives: From Cells to Ecosystems, Astrophysics and Projectile Motion
Related HSC subjects: Chemistry

Astrophysics and Projectile Motion

This course will be divided into two units; Astrophysics and Projectile Motion. Students will examine important concepts in Astrophysics including; the existence of life in the Universe, the properties of Dark Matter and Dark Energy and the nature and uses of Optics in an attempt to answer these concepts. Projectile Motion will involve a study of motion, involving displacement, velocity and acceleration along with the Mathematics to describe the trajectory of moving bodies.

Cost: Nil
Related electives: Electrons to Electrochemical Cells, From Cells to Ecosystems
Related HSC subjects: Physics, Mathematics, Mathematics Extension 1, Mathematics Extension 2

From Cells to Ecosystems

Build an understanding of the progression from single celled organisms through multicellular organisms and their interactions in an ecosystem. They will build an understanding of the multiplication of cells through meiosis and mitosis. Students demonstrate their understanding of these concepts through an animated submission at the end of the course.

Cost: Nil
Related electives: Astrophysics and Projectile Motion, Electrons to Electrochemical Cells
Related HSC subjects: Biology

Working Scientifically

Students develop a deeper understanding of the process of scientific report writing. They will gain practical skills and improve their ability to understand what is required from a practical report and this will assist with all science related subjects in year 11 and 12. At the same time they will become more familiar with all facets of report writing from the title through to the conclusion. Lessons will focus on different parts of the report and go into greater detail to improve the ability of student to write scientific reports which will be beneficial in senior years of science.

Cost: $20 (Competition charge)
Related electives: Electrons to Electrochemical Cells, From Cells to Ecosystems, Astrophysics and Projectile Motion
Related HSC subjects: Physics, Chemistry, Biology
Curriculum Support (Elective) Years 9 and 10

This elective is designed for students who wish to consolidate and develop fundamental literacy skills. Skills developed in this course will directly benefit studies in all literacy rich subjects in Stage 5. The unit allows for students to work on ways of developing their composition and comprehension skills across a variety of different subjects; including literacy for numeracy, Science, History, Geography and any other subjects course members may request. Support and assistance in assessment work across all subject areas will be a component of this course.

Students studying Curriculum Support will undertake units designed to develop fundamental Reading, Writing, Speaking and Spelling skills.

- Text types for composition – persuasive writing, essays, reports, narrative, HSIE Research Action Project
- Text types for comprehension – persuasive texts, essays, reports, drama, poetry
- Support and assistance in assessment work across all subject areas

Criteria

Students who apply for this subject should:
- be genuinely looking to improve their literacy skills across all subjects
- be motivated workers
- will have previously been receiving additional support in Years 7 or 8, unless new to the school in Year 9

Positions will be strictly limited and determined by the Academic Support Coordinator in consultation with the English Coordinator and the Director of Studies.

Cost: Nil

Related HSC subjects: Students considering enrolling in a School Based Traineeship (English Studies) or English Standard
Languages

Travelling in France

France is one of the leading destinations for Australian travellers and the ability to communicate in French enriches this experience. In this unit we study typical French shops and products, modes of transport available for travel in France, types of accommodation and famous French tourist attractions. The course aims to foster confidence in speaking, listening, reading and writing in French, enabling students to function in a range of practical and authentic situations, useful when travelling in France. A biannual study and cultural trip to France is offered as an additional opportunity.

Cost: $30 (Language Perfect annual subscription, Cultural lessons)
Related electives: Travelling in France, Living in France and French Leisure and Entertainment
Related HSC subjects: French Continuers, French Extension

French Regional Festivals and Cuisine

France is divided into 22 administrative regions, with each region having its own character, traditions and cuisine. As such, there are a number of regional festivals throughout the year. The most famous of these is the Cannes Film Festival, which is considered to be one of the most prestigious events in the world and celebrates cinema from many countries. The food of France is another wonderful way into learning about the characteristics that define France from one region to the next. Culinary history stretches way back and each region has its own unique story to tell.

In this unit we study regions of France, regional festivals and celebrations, and typical French regional cuisine. The course aims to foster confidence in speaking, listening, reading and writing in French, enabling students to function in a range of practical and authentic situations, useful in increasing an appreciation of Regional France.

Cost: $30 (Language Perfect annual subscription, Cultural lessons)
Related electives: Travelling in France, Living in France and French Leisure and Entertainment
Related HSC subjects: French Continuers, French Extension

Living in France

Admire the view along the River Seine in Paris, visit castles in the Loire Valley, swim in the Mediterranean, visit the battlefields of the Somme, ski the Alps - the choice is endless! One common trait among people who study French is a desire to spend some time living in France. Whether on exchange or as part of a GAP year, living in the country enables students learning French to immerse themselves in both the language and culture.

In this unit we study living with a host family, school life, daily routine and typical French family meals. The course aims to foster confidence in speaking, listening, reading and writing in French, enabling students to function in a range of practical and authentic situations, useful in maintaining communication in a host family and school situation.

Cost: $30 (Language Perfect annual subscription, cultural lessons)
Related electives: Travelling in France, French Regional Festivals and Cuisine and French Leisure and Entertainment
Related HSC subjects: French Continuers, French Extension
**Electives**

**Languages**

**French Leisure and Entertainment**

Sports in France are as intrinsic to French culture as croissants! Participation is high, as is the interest. In addition, France has one of the largest cinema outputs in the world and going to the cinema is one of the most popular pastimes among the French. In this unit we study a range of leisure and entertainment pursuits such as typical French sports, television programs, film, music and literature. The course aims to foster confidence in speaking, listening, reading and writing in French, enabling students to function in a range of practical and authentic situations, useful in increasing an appreciation of how the French spend their leisure time.

**Cost:** $30 (Language Perfect annual subscription, Cultural lessons)

**Related electives:** Travelling in France, French Regional Festivals and Living in France

**Related HSC subjects:** French Continuers, French Extension

**Japanese Obento and Festivals**

Japan has a number of national and regional festivals throughout the year. In this unit students will gain an appreciation of the cultural significance of each of these. They will study the time, dates and the expressions relevant to these festivals.

Obento (Japanese lunch box) is another wonderful way to learn about the culture of Japan. Students will learn about the history, ingredients and presentation of obentos. There will be the opportunity to make an obento, eating on the tatami section in the Japanese room. Communicative activities will include likes and dislikes regarding food and drink, the language used around the table at meal times that define Japan. Students will create menus, write surveys, and learn to order food and drink in a restaurant. This course aims to foster confidence in speaking, listening, reading and writing in Japanese, enabling students to function in a range of practical and authentic situations, useful when travelling in Japan. A biannual study trip to Japan is offered as an additional opportunity.

**Cost:** $30 (Language Perfect annual subscription, Cultural lessons)

**Related electives:** Travelling in Japan, Japanese Leisure and Entertainment and Japanese Obento and Festivals

**Related HSC subjects:** Japanese Continuers

**Travelling in Japan**

Japan is one of the most interesting countries in the world and the ability to communicate in Japanese enriches the experience of travelling in the country. In this unit we learn about organising a trip to Japan, including areas such as booking accommodation, organising transport and planning an itinerary. We also study famous sites and cities, as well as the variety of restaurants available in Japan. This prepares students for future travel, broadens their horizons and interests them in Japanese society and culture. The course aims to foster confidence in speaking, listening, reading and writing in Japanese, enabling students to function in a range of practical and authentic situations, useful when travelling in Japan. A biannual study trip to Japan is offered as an additional opportunity.

**Cost:** $30 (Language Perfect annual subscription, Cultural lessons)

**Related electives:** Travelling in Japan, Japanese Leisure and Entertainment and Living in Japan

**Related HSC subjects:** Japanese Continuers
**Living in Japan**

This course is ideal for students who wish to learn the language and culture of another society that is significantly different to their own. It will not only enable students to communicate with the people in Japan, but will also widen their understanding of the world and other cultures. Students will learn about life both in a Japanese School and Japanese home. They will gain an understanding and appreciation of living in Japan.

Students will study clothing types, differing weather conditions, how to ask for something politely, and to talk about past and future plans. This unit prepares students for future travel, broadens their horizons and enhances their knowledge of Japanese society, culture and the people. Students in Year 10 have the opportunity to live and attend school in Japan for two months during Term 4.

**Cost:** $30 (Language Perfect annual subscription, Cultural lessons)

**Related electives:** Travelling in Japan, Japanese Obento and Festivals and Japanese Leisure and Entertainment

**Related HSC subjects:** Japanese Continuers

**Japanese Leisure and Entertainment**

Understanding modern Japan requires a knowledge of the activities that young Japanese people enjoy, which include both Western and traditional leisure pursuits. In this unit students will learn about the life of Japanese students. What do they do in their free time? Where do they go? Students will learn language to talk about daily routines, interests and sports.

Japanese popular culture not only reflects the attitudes and concerns of the present but also provides a link to the past. In this unit students will learn about what is popular at the moment and the influence this has on modern Japanese culture. Two of the most popular forms, Anime and Manga, are now known throughout the world. Students will learn about the art form and have the opportunity to create their own manga. They will also make a short movie in Japanese to submit in a National Language competition. We will look at a variety of entertainment areas including film, music and television. Students will study a film, with a focus on language, as well as the cultural differences between Australia and Japan.

**Cost:** $30 (Language Perfect annual subscription, Cultural lessons)

**Related electives:** Travelling in Japan, Japanese Obento and Festivals and Living in Japan

**Related HSC subjects:** Japanese Continuers
Electives

Creative Arts

Acting and Stagecraft

This unit focuses on the specific craft of the actor and is aimed at developing and refining skills for live performance. Voice, body, characterisation and stagecraft are all considered through a range of activities based on performance styles such as improvisation, mime and physical theatre. These skills are applied to improvisation work with the goal of competing in a Theatre Sports event. In working on refining performance skills we will complete actor training workshops based on the theories of different theatre practitioners like Stanislavski, Lecoq and Laban.

The unit builds towards students selecting a script of any style that interests them; anything from slapstick comedy to Shakespeare or musical theatre to melodrama. Either individually or in groups, they will develop their chosen piece to perform to an audience as a polished production.

Cost: $20 (ticket to touring production)
Related electives: Street and Event Theatre; History and Legacy of Theatre and Performance
Related HSC subjects: Drama

History and Legacy of Theatre and Performance

Theatre has existed in different forms in different cultures and our understanding of the role and purpose of theatre in society has constantly changed. This unit looks broadly at the historical and cultural development of theatre and the ways people have used theatre to redress the wrongs of society. Beginning in Ancient Greece with the great comedies and tragedies, students will look at Drama in different cultures and times and see what its function is.

From there we turn our focus to the modern world of theatre and how styles like Epic Theatre, Theatre of the Grotesque and Verbatim Theatre actively challenge audiences. Activities and workshops will see the students performing different scripted material and playbuilding in different performance styles and dramatic forms. They will work collaboratively in developing a polished performance for an audience that uses elements of the different performance styles and forms studied to create an engaging piece of theatre.

Cost: $20 (ticket to touring production)
Related electives: Acting and Stagecraft; Street and Event Theatre
Related HSC subjects: Drama

Street and Event Theatre

Some of the most fascinating, exciting and experimental drama can be found outside of a theatre. This unit explores theatre outside of the traditional performance space and different approaches to creating theatre. It begins with a study of the performance traditions of Italian comedy mask theatre known as Commedia dell’arte. Students will workshop a number of different Commedia pieces working from scripted and unscripted material, building up towards a public pop-up performance in the town for an unsuspecting audience. They follow this on by looking at the work of different contemporary street and environmental theatre practitioners and companies like Bread and Puppet Theatre.

The unit culminates in an event organised by the students that the school community will participate in. This will involve students selecting material to perform, decorating a selected space, creating props, costume and technical elements and working alongside others such as Music or Visual Arts students to ensure the event is a great spectacle.

Cost: Nil
Related electives: Public Art; Ensembles and Bands
Related HSC Subjects: Drama, Visual Arts
Creative Arts

**Scriptwriting and Film**

This unit looks at the craft of scriptwriting and the process of creating film in an effort to appreciate the challenge, and reward, of working in film. It begins by looking at the role of the playwright and the differences in writing scripts for stage and screen, with students producing work for their peers to perform and evaluate. From scripts they will look at the other steps of the filmmaking process, including camera operation, directing, screen acting and the post-production process.

Part of their study will involve a familiarisation with film editing software and effects programs to enhance their work in post-production as well as use of the TAS Film Production Studio. By the end of the unit students will have worked collaboratively to produce a short film to be screened at a gala event for an audience.

**Cost:** Nil  
**Related electives:** Music in Entertainment; Animating the Human Form  
**Related HSC subjects:** Drama, English Extension 2, Visual Arts

**Australian Art Perspectives**

Australia has a rich heritage of artmaking and this unit allows students to explore both traditional and contemporary Australian art and artists. Working in a range of mediums including drawing, painting and abstraction, students will create representations of Australian landscapes and consider how our society has been influenced by our environment.

Part of the study involves exploring the work of different Australian artists and the way names like Sidney Nolan, Albert Namatjira, Grace Crossman-Smith and Reg Mombassa have shaped our Art culture. Students will produce a portfolio of work as a landscape study and have the opportunity to display it as part of an exhibition.

**Cost:** Nil  
**Related electives:** Public Art  
**Related HSC subjects:** Visual Arts
Public Art

Where once galleries, gilded frames and the Masters came to mind when thinking about Art, it is now graffiti, events like Sydney’s Vivid and names like Banksy that define what art means in contemporary society. This unit explores the role of public art in taking art outside of the gallery and accessing new audiences for new purposes. Studying art through the postmodern frame, students will look at a range of street art styles, contemporary art culture, and experimental artmaking practices.

The unit will see students experimenting with mediums and everything from photoshop and digital artmaking to ‘yarn bombing’ could be at their disposal. After a number of smaller artmaking projects students will work on producing a major 4D installation to transform a selected audience’s understanding of time and space.

Cost: Materials outside of those provided in the course
Related electives: Animating Human Forms
Related HSC subjects: Visual Arts

Animating Human Forms

Since the dawn of civilisation on the walls of caves artists have been fascinated by the subject of the human form. From the Hellenistic period to the Renaissance and Rembrandt to Picasso, a rich heritage exists for students to immerse themselves in. This unit begins by looking at the Classical human form and developing styles in art history in both 2D and 3D mediums, allowing students to both appreciate works and experiment with their own artmaking practices.

Their study then incorporates digital artmaking techniques and contemporary artmaking practices as they investigate the role of digital artists and develop skills in animation.

From their body of work students will create an animation that uses software to transform work developed from traditional artmaking practices into fascinating contemporary art.

Cost: Nil
Related electives: Graphic Design; Australian Art Perspectives
Related HSC subjects: Visual Arts
Electives

Creative Arts

Architecture and Design

Who dreamed up the world’s most iconic structures and why do they define the landscape of major cities? Architectural marvels like the Guggenheim Museum, the Sydney Opera House and The Shard transform our understanding of human spaces and show that art can be much larger than what a gallery contains.

This unit explores the role of different artists in society and the professional practices of architects and designers. Students look at the relationship between artist and world and will examine the historical development of architectural styles. Their major work for the unit will be a major architecture project that sees them working to a brief to produce a portfolio of designs based around their personal interests. To achieve this students will not only work in traditional artmaking mediums for drafting and sculpture making but use a range of digital art making software.

Cost: $30 for personal architecture kit
Related electives: Graphic Design
Related HSC subjects: Visual Arts, Design and Technology

Graphic Design

Technology redefines the world and this is just as true for artists as any other profession. Graphic designers are used in many different capacities to produce work that can define a brand, launch a product or entice an audience.

This unit will introduce students to digital artmaking tools and teach them how to use, or extend their use of, software such as Photoshop, Elements and InDesign. After acquiring skills students will work as part of a team in the role of a graphic designer to produce a portfolio of work in response to a number of briefs.

They could be asked to create anything from advertising material, website designs, or posters to DVD/CD/Book covers, video game booklets or company materials. This unit will not only introduce students to the competitive nature of design but equip them with skills that will be of great use in their artmaking and general lives.

Cost: Nil
Related electives: Architecture and Design
Related HSC subjects: Visual Arts, Design and Technology

Photography

Since the invention of the camera obscura by Joseph Niepce, people have been drawn to exploring the world around them through the camera lens. In this unit students will examine the work of a number of photographers and appreciate how, just like other mediums, there is a diverse range of approaches to this form of artmaking.

The processes of accomplished photographers such as Annie Leibovitz and Ansel Adams will guide students through the heritage of photography, moving towards experimental practices and the modern art landscape. There is a focus on digital photography, including the use of editing software and image enhancement.

Opportunities will exist to learn from local professional photographers. By the end of the unit students will have produced a portfolio particular to their interests and will have the opportunity to exhibit their work as a collection, receive peer and external review.

Cost: Nil
Related electives: Graphic Design
Related HSC subjects: Visual Arts
Japanese Printmaking and French Impressionism

The French Impressionists are credited with being the progressive forerunners of Modernism in Europe but did you know they got their inspiration from Japanese woodblock printers on the other side of the world? The Ukiyo-e or floating world woodblock had a unique aesthetic that strongly contrasted to the realism that dominated traditional Western art. Mary Cassatt, an American painter who was denied an art education because of her gender, worked closely with Edgar Degas and Toulouse Lautrec employing the Japanese design elements into their paintings and posters, they challenged their conservative artworld with a bold aesthetic style that is still fundamental in good design today.

Cost: Nil
Related electives: Graphic Design
Related HSC subjects: Visual Arts

Contemporary Ceramics

There is literally nothing more satisfying than pressing your hands into fresh clay. It’s a medium that has been used for thousands of years by almost every cultural group whether that is as a tribal war mask or as a Canopic urn. Its essential organic qualities are in stark contrast to the majority of mass produced surfaces we are surrounded by.

Working initially with traditional constructions students will make a series of pots and experiment with several glazes and underglazes. Looking at the contemporary practice of Ai Weiwei students will undertake a ceramic artmaking project engaging with postmodern practice and their world.

Cost: Nil
Related electives: Experimental Art Practice
Related HSC subjects: Visual Arts

Experimental Art Practice

"I throw down the gauntlet to chance. I prepare the ground for the picture by cleaning my brush over the canvas. Spilling a little turpentine can also be helpful"– Joan Miro. Artists find inspiration in the unexpected, in the ‘happy accident’ and this unit challenges students to make artworks with a range of unusual materials and practices that will court the unexpected. If you’ve ever wanted to throw a waterbomb of paint at a canvas, perform absurdist DADA art or use acid to distort a photograph this is the course for you. Artists explored range from the Guerrilla Girls ‘not ready to make nice’ art to Pollock’s emotional drip paintings. Bring your own ideas and be ready for some intense clean-ups.

Cost: Nil
Related electives: Public Art
Related HSC subjects: Visual Arts

Music in Entertainment

Musicians have an important role to play in the entertainment industry and their work can be seen in everything from film, theatre and television to video games and multimedia. The power of music can be seen in theme music that instantly conjure images, background music that sets tone and atmosphere to dramatic moments and original scores that define iconic texts.

Students will research and appreciate the role of music in media and entertainment and develop their skills in performance and composition. They could choose to develop theme songs for television series, create the backing to a silent comedy, or perform music inspired by an art exhibition or explore many other possibilities driven by their creativity and passion.

Cost: Nil
Related electives: Music Styles and Production; Performance and Recording
Related HSC subjects: Music 1, Music 2, Music Extension
Electives

Creative Arts

Ensembles and Bands
From Heavy Metal bands to a Symphony orchestra, there is something powerful and exciting about musicians coming together to share their craft. This unit explores the nature of bands and ensembles in a broad range of music styles and allows students to not only expand the breadth of their music appreciation but also the depth of their specific interests. Students will pursue the study of a musical style that interests them and develop their technical understanding through research, which could involve anything from Rock bands to Chamber ensembles. From this research students will extend their performance skills and have the opportunity for live performance to an audience at an organised event. Students will examine at least one Australian work for their instrument within this unit.

Cost: Nil
Related electives: Ensembles and Bands, Music in Entertainment, Performance and Recording
Related HSC subjects: Music 1, Music 2, Music Extension

Music Styles and Production
Of all art forms Music is perhaps the one that changes most frequently, responding to popular trends and reinventing past styles and forms. This unit explores Music styles and Production and focuses on the students instrument and the repertoire for that instrument. Music from many styles, periods, genres and cultures will be examined in order to gain a greater understanding of how the students instrument is used in music and the contribution their instrument makes to many musical styles and genres.

Students will have a specialised focus based around their selected instrument and a significant part of the unit will work on developing these skills. The exploration of musical concepts is emphasised throughout the unit. Part of their study will involve performing and arranging or composing for their chosen instrument and style.

Cost: Nil
Related electives: Ensembles and Bands, Music in Entertainment, Performance and Recording
Related HSC subjects: Music 1, Music 2, Music Extension

Performance and Recording
This unit looks at music in contemporary society and focuses on the performance and professional production of music. Students will have the opportunity to analyse and perform music from a variety of contexts ranging from Art Music to Pop Music, with a particular focus on Australian Music. Part of the unit will teach skills in audio engineering to allow students to refine and share their work with an audience over digital mediums.

Students can select to focus on individual performance or ensemble performance as part of this unit. A portfolio will be developed throughout the unit that includes an analysis and recording of the student’s individual or ensemble performance piece.

Cost: Nil
Related electives: Music in Entertainment, Ensembles and Bands, Music Styles and Production
Related HSC subjects: Music 1, Music 2, Music Extension
Electives

HSIE

History I should know about

This course allows you to ‘duck and weave’ throughout the ages and across continents. Follow Alexander the Great as he conquers Persia, study the archaeology of ancient cities such as Pompeii and learn about knights and infidels in our investigation of the Crusades. Discover the real story of the Trojan Wars, the causes of the Chinese Communist Revolution, Ghandi’s India or the devastation of the Irish Potato Famine. There will also be an opportunity for students to do a ‘passion project’ on an era or person that they are particularly interested in.

Cost: Nil
Related electives: Introduction to Modern History, Introduction to Ancient History, The history & geography of conflict in the Middle East, Seven Wonders of the Ancient World, European Empires
Related HSC subjects: Modern History, Ancient History, History Extension

The History and Geography of Conflict in the Middle East

Frequently in the news, the complex story of how and why there is such conflict in the Middle East is something that every global citizen should know.

Dating back to ancient times, we will attempt to understand the background to this conflict and investigate the geopolitics of the area, with a particular focus on the conflict between Israel and Palestine and the various attempts made for peace in the past.

Cost: Nil
Related electives: History I should know about
Related HSC subjects: Modern History, Geography, History Extension

Into Africa

Discover the intriguing continent of Africa, as we ‘visit’ some of its most famous places. We’ll travel the mighty Nile River from source to mouth, recording our adventures in our very own travel documentary - with the help of a green screen. Find out about the various countries and cultures that make up this enormous continent and learn about the challenges faced by some of the fastest growing cities in the world. Travel ‘into Africa’ without leaving the classroom.

Cost: Nil
Related electives: Sustainability
Related HSC subjects: Geography

Sustainability

Sustainability is the motto of our times, and is discussed across every industry and community in Australia. The ability to consume at sustainable levels so that resources will be available for all into the future is a necessity. We’ll learn about the efforts being made across the world for a more sustainable future plus some of the technologies being used to achieve this.

We’ll also find ways to make our own contribution, looking at ways we can make TAS more sustainable, running a school veggie patch and getting involved with community projects such as tree planting. Definitely an elective for those who care about our future and who like to get their hands dirty.

Cost: Nil
Related electives: Agriculture electives, Technology electives
Related HSC subjects: Geography, Agriculture
HSIE

Running a Business and Marketing

Do you dream of running your own business one day? Do you want to be the head honcho? The boss? The decision-maker? Well this subject might be for you. This course allows you to plan, organise and run a small business while learning how to address problems as they arise. You will get to run your own business, which you will operate at school during recess and lunch. This is a great way of being able to put into practice, all the theory you learn in the classroom. Additionally, you will learn the importance of marketing and how particular products are marketed to us in different ways.

Cost: $30 (seed capital for business start up)
Related electives: Personal Finance and Investing, Accounting, Introduction to the Economy, The Law and the Consumer
Related HSC subjects: Business Studies, Economics and Agriculture, General Mathematics

The Law and the Consumer

This subject introduces students to the topic of how the law works in our society and outlines different aspects of the law that students may come in contact with during their lives. It will allow students to form a solid understanding of the relationship between values, morals and laws and understand the need for, and the role of, laws as a consumer.

Cost: Nil
Related electives: Running a business and marketing
Related HSC subjects: Legal Studies, Business Studies

Introduction to the Economy

The Introduction to the Economy elective is a course that provides students with a formative grounding in how the economy works. Students will learn about the interactions of demand and supply in markets, international economic systems, and factors that contribute to the fluctuations in the business cycle, such as inflation, unemployment, consumer spending and interest rates. This elective is designed to make students more aware of the economy in which they will become an important piece, as a consumer, taxpayer and perhaps even as an Economist!

Cost: Nil
Related electives: The Law and the Consumer, Personal Finance and Investing, Running a Business and Marketing.
Related HSC subjects: Economics, Business Studies

Personal Finance and Investing

One of the important aspects of growing up is seeking financial independence. In this course, you will develop the knowledge, understanding and skills that will assist you in achieving future financial independence.

In this course you will take part in the Sharemarket Game which allows you to invest in the ASX 200 companies. This simulation of the real Australian stock exchange will enable you to develop your knowledge of the Sharemarket while using a virtual $50,000.

Cost: Nil
Related electives: Running a Business and Marketing
Related HSC subjects: Business Studies and Economics, General Mathematics
**Electives**

**HSIE**

### Accounting

Accounting is a business-based elective, designed to teach students the foundations of accounting and bookkeeping, and progressing to more sophisticated financial analysis and business skills.

Students will participate in practical bookkeeping exercises designed to introduce them to current market-leading accounting software such as MYOB or Xero, and learn skills that are directly relevant to people in business. Once they have learned to construct financial statements, then begins the task of learning to analyse and pick apart a business’ books and put them back together again. Accountants are the mechanics of the business world!

**Cost:** Nil

**Related electives:** The Law and the Consumer, Personal Finance and Investing, Running a Business and Marketing.

**Related HSC subjects:** Business Studies, Economics, Legal Studies, General Mathematics

### Seven Wonders of the Ancient World

This course is designed to introduce students to aspects of the ancient world and to the work of the archaeologists and historians who bring the ancient world back to life. Through a study of written and archaeological sources, students learn about the Seven Wonders of the Ancient World – the Great Pyramid of Giza, the Hanging Gardens of Babylon, the Temple of Artemis at Ephesus, the Statue of Zeus at Olympia, the Mausoleum at Halicarnassus, the Colossus of Rhodes and the Lighthouse of Alexandria. Students use the study of these landmarks as a starting point to explore the culture, myths, legends, art and architecture of the ancient eastern Mediterranean rim. Students will also be given opportunities to conduct their own mini-historical investigations.

**Cost:** Nil

**Related electives:** History I should know about, European Empires

**Related HSC subjects:** Ancient History, History Extension

### European Empires

Long before the outbreak of World War 1, European empires rose, ruled and faded. This course will investigate how the early modern-day nations came to be, which is excellent background knowledge for those choosing to study Modern History in Stage 6. In addition to this students will investigate conflict from a variety of perspectives.

**Cost:** Nil

**Related electives:** History I should know about, Seven Wonders of the Ancient World

**Related HSC subjects:** Modern History, History Extension
PDHPE

Elite Performance 1: Making an elite athlete

This module examines the early developmental stages of the elite athlete. This will entail studying the elite pathways within Australia as well as other countries. The search, discovery and collation of a talent pool, the refining of the process so the most talented receive the opportunities for advancement. Students will complete the talent identification process and compare results with standardised tables. Students will participate in development programs as well as develop, implement and assess their own Personal Exercise Program (PEP) based on the sport of their choice.

Cost: Nil
Related electives: The Sporting Body, Elite Performance 2-enhancing elite performances
Related HSC subjects: PDHPE, Sport Recreation Fitness (VET)

Sports Coaching: Are you the next National Coach?

This module is designed to allow students the opportunity to gain a coaching and/or refereeing accreditation in one or more of sports. They will examine the role of the coach and how they can maximise the performance of their athletes. Students will also develop and participate in a coaching program as well.

Cost: Accreditation costs
Related electives: Sports Sociology & Psychology
Related HSC subjects: PDHPE, Sport Recreation Fitness (VET)

Optimizing Sporting Performance Analysis

This module will examine the strategies used by sports coaches and administrators to assist the athlete to enhance performance. Students will examine the role of technology in athlete development and the application of sports science principles to skill development. By analyzing the “perfect model” students will make comparisons with themselves and elite athletes.

Cost: Nil
Related electives: The Sporting Body
Related HSC subjects: PDHPE, Sport Recreation Fitness (VET)

Elite performance 2: Enhancing elite performances

This module builds upon the previous Elite Performance module by taking the developing athlete and using advanced training techniques to further enhance the skills and fitness components. This will be a practical unit where the students will closely examine the techniques used to develop the athlete and incorporate these strategies for the expansion of their Personal Exercise Program. (PEP) Student will use the knowledge and skills gained from each of the strategies for personal fitness advancement.

Cost: Nil
Related electives: The Sporting Body, Elite Performance 1-making an elite athlete
Related HSC subjects: PDHPE, Sport Recreation Fitness (VET)
PDHPE

Sports issues: Controversies and debates

This module will examine the contemporary issues in sport causing debate and controversy. The student will study the issues from the personal health perspective and their impact on the athlete, sport and wider communities. Students will complete extensive research into each issue making decisions as to the value, effectiveness and safety concerns for each. The ethical use of the media to promote sport as well as raise the profile of the elite athletes and create sporting identities. Examine the pressure on athletes to fit the model and expectations of supporters, administrators, media and other athletes and make judgments as to the fairness and appropriateness of the conclusions drawn.

Cost: Nil
Related electives: Nil
Related HSC subjects: PDHPE, Sport Recreation Fitness (VET)

The Sporting Body

This module is the study of the human body and its body systems and how they function under the pressure of exercise. Students will also examine the roles the skeleton, muscles and cardiorespiratory systems play in the efficiency of movement. Student will apply their knowledge by investigating and analyzing their own movement during game situations and skill development.

Cost: Nil
Related electives: Elite Performance 1, Elite Performance 2
Related HSC subjects: PDHPE, Sport Recreation Fitness (VET)

World’s Greatest Athlete

This module will offer the students the opportunity to compete in a range of different sports in the endeavour to find the best athlete within the school environment. In order to achieve this distinction the students will develop assessment procedures based on appropriate methods of evaluation and analysis of the inherent performances within the sport. The experiences will draw on a range of sports that require different skills bases in teams, partner and individual based sports.

Cost: Nil
Related electives: Optimizing Sport Performance and Analysis
Related HSC subjects: PDHPE, Sport Recreation Fitness (VET)

Sports Sociology and Psychology

This module is the study of the role of sport within society and how different societal groups utilise sport as a pathway for social mobilization and advancement. It will also involve studying the role of the sports psychologist and how they contribute to the development of the elite athlete and the strategies employed by major professional organisations to maximize performance of the individual and/or teams.

Cost: Nil
Related electives: Sports Coaching: Are you the next National Coach?
Related HSC subjects: PDHPE, Sport Recreation Fitness (VET)
Technological and Applied Studies

Make it Metal

For centuries steel and other metals have been the backbone of our developed world. In this course you will learn the important properties of metals and fabricating with steel. In the process of building a Outdoor Recreational Brazier you will acquire useful lifelong skills in cutting, bending, and welding steel sections. To complement your skills you will also be utilising the Computer Aided Design and manufacturing abilities of the faculty Plasma-cam to complete your project.

Cost: $120 (materials)
Related electives: Engineer Ed, Design Zone
Related HSC subjects: Automotive (VET), Metals and Engineering (VET), Design and Technology

Vehicle Dynamics

Automotive vehicle manufacturers are constantly looking to improve the dynamic ability of their products. In this practical exploration of vehicle dynamics we research and experiment with tuneable go-kart chassis to learn about the concepts of steering geometry, suspension, wheelbase and drive trains. You will then test the handling characteristics related to these concepts in your group go-karts at the Armidale Driver Training complex.

Cost: $80 (materials)
Related electives: Engine Mechanics, Vehicle Dynamics
Related HSC subjects: Automotive (VET), Metals and Engineering (VET), Design and Technology

Engine Mechanics

In this unit of work you will troubleshoot and start a recycled two-stroke motor, learning about the mechanical and electrical systems involved. Then you disassemble, clean and reassemble your motor learning about tools, gaskets, cleanliness and assembly techniques. By the end of the unit you will have the experience and confidence to affect two-stroke industrial engine repairs in a safe, logical way.

Cost: $30 (materials)
Related electives: Performance tuning, Vehicle Dynamics
Related HSC subjects: Automotive (VET), Metals and Engineering (VET), Design and Technology

Performance Tuning

The four-stroke engine has been the mainstay of ground transport for generations and continues to be tuned and refined to meet performance, emission and environmental expectations. In this unit you will learn what makes internal combustion engines run and perform efficiently. In pairs you will compete with your peers by stripping down a small Honda engine and rebuilding it with researched and selected performance parts.

Cost: $30 (materials)
Related electives: Performance tuning, Vehicle Dynamics
Related HSC subjects: Automotive (VET), Metals and Engineering (VET), Design and Technology

Electronics

In this unit of work you will participate in a “learning by discovery” process, making lots of circuits, learning about components, soldering, testing, measuring and gaining an insight into the science and technology that underpins computing, robotics, control technology and consumer electronics. This unit is based on the popular book, “Make: Electronics: Learning by Discovery” by Charles Platt. You will be provided with all the components you will need to complete the exercises.

Cost: $75 (materials)
Related electives: Beyond Electronics, Robotics
Related HSC subjects: Design and Technology
Technological and Applied Studies

**Beyond Electronics**

In this unit of work you will utilize a recycled RC (radio controlled) car as the basis for building a sensor controlled vehicle capable of interacting with its environment. You will firstly undertake an on-line python coding course and then use those skills to code an Arduino that will control the RC vehicle. During the project you will learn about the onboard electronics, soldering and component recognition. There are 3 levels of challenge that involve greater levels of coding and building expertise.

**Cost:** $50 (materials)
**Related electives:** Electronics, Robotics, Engineer Ed
**Related HSC subjects:** Design and Technology, Software Design and Development

**Timber Techniques**

Learn the time honoured and tactile art of working with timber. This unit has a focus on timber types and hand tools.

After completing an initial skills project you can choose from a selection of projects such as a laminated customised skateboard deck or a playable quality cricket bat (genuine English willow block), from Fisher Bat designs. Both projects will feature high quality finishing and graphics designed in class and produced from our new Laser cutting machine. Depending on the particular project chosen cost may be up to two hundred dollars.

**Cost:** $30 - $200 (materials)
**Related electives:** Timber Expert, Design Zone
**Related HSC subjects:** Design and Technology

**Timber Expert**

Complement your timber techniques with power tool carpentry skills to produce expert results fast. This unit covers the safe use of common and workshop woodworking power tools and their application. You will gain confidence to tackle both home DIY and specialty projects in this project-based course. You can choose from furniture projects such as a coffee table, adirondack chair, side table or a custom designed home workshop bench. Depending on the particular project chosen, the cost may be up to two hundred dollars.

**Cost:** $50 - $200 (materials)
**Related electives:** Timber Expert, Design Zone
**Related HSC subjects:** Design and Technology

**Engineer Ed**

“Engineering is the art of applying scientific and mathematical principles, experience, judgment, and common sense to make things that benefit people.” (Copeland).

Through a series of engineering challenges you will examine milestone engineering feats, renowned engineers and what made them successful. You will then design and build your solutions using STEM (Science, Technology, Engineering and Mathematics) concepts throughout to test and prove your own application of engineering principles. Projects may include; bottle rockets, trebuchets, bridges, towers, robotics and radio transmission.

**Cost:** $30 (materials)
**Related electives:** Design Zone, Beyond Electronics, Robotics
**Related HSC subjects:** VET Metals and Engineering, Design and Technology
Electives

Technological and Applied Studies

**Design Zone**
Design according to Bayley and Conran is “Intelligence Made visible”. With reference to industrial and architectural design classics you will learn the elements and principles of good design in the context of producing a unique creation of your own. This cross discipline design course teaches and encourages the use of conventional workshop, graphical and Computer Aided Design and manufacturing technologies such as 3D printing and laser cutting depending on the project undertaken. Your teacher may approve a wide range of possibilities; products, models, web, print, textiles and more. Projects that use extensive materials will incur additional costs.

**Cost:** Nil
**Related electives:** Engineer Ed.
**Related HSC subjects:** Design and Technology

**Database Driven Web Pages**
Ever wondered how Facebook works? MySQL is the database they use, PHP is the server-side scripting language that creates the web pages you see and Apache is the web server they use to serve the pages. These three pieces of open source software currently power about 75% of the world’s websites. So, if you are interested in a career in IT, learning about these three applications and the way they work together will give you a definite edge. In this unit you will be developing your own online movie website as well as investigating other cool sites that use MySQL, PHP and Apache.

**Cost:** Nil
**Related electives:** Computer Game Development, Internet Wizardry
**Related HSC subjects:** Software Design and Development, Design and Technology

**Computer Game Development**
In this unit you will design and create your own computer game from scratch. You will learn the logic behind how computer games work, how to create your own graphics, develop problem-solving skills and understand programming concepts. The type of game and the theme is up to you, your game could contain a story, have multiple levels, have a range of difficulties and best of all no previous programming experience is required.

**Cost:** Nil
**Related electives:** Database Driven Web pages
**Related HSC subjects:** Software Design and Development, Design and Technology

**Fabric of life**
Silk, linen, cotton and wool. For centuries we have woven and worn textiles. In this course you will learn about the properties and attributes of different fibres including synthetics and blends and how they are made into yarn to produce fabric through techniques such as weaving and knitting. Through hands on projects you will also learn foundational hand sewing skills and machine techniques so you can identify and use various stitches accordingly.

**Cost:** $30 (materials)
**Related electives:** Design Zone
**Related HSC subjects:** Textiles and Design, Design and Technology
Robotics Challenge

In this unit of work you will build and program a robot around a specified task such as; act as a rescue device, play soccer, or perform a dance. After success in their class groups, students will be able to enter the Hunter regional competition. If successful, entry into the NSW & National Championships may be pursued. Success at National level permits entry to the World Challenge. Skills and knowledge gained from this unit will be programming, logical thinking, engineering, time management and collaboration. No experience necessary.

Cost: Competition entry fees
Related electives: Engineer Ed, Beyond Electronics.
Related HSC subjects: Design and Technology

SFX

Movies and TV shows are all about Special Effects. Learn how to do your own including motion graphics, green screen, Foley work, stop tricks, time lapse, high speed photography, rotoscoping, and motion control photography. By the completion of this course you will have built your own Star Wars trailer, mean rock video or similar project of your choosing.

Cost: Nil
Related electives: Design Zone
Related HSC subjects: Design and Technology

Agriculture

Beef Production

Beef Cattle production is an important industry in the Northern Tablelands, both for the local & Australian economy. This topic will introduce students to a range of beef related issues including: breeds, basic requirements – nutrition, climate / limiting factors – distribution, calendar of operations, husbandry techniques, pests & diseases, social/ethical issues – feedlot, animal welfare and marketing – domestic & export. Students will be involved in numerous practical activities including: muster & move cattle, set up yards, tie up & lead, wash & groom, live appraisal (fat & muscle score), feeding cattle and monitoring health.

Vegetable production is important to the Australian economy and as such an understanding of how to successfully propagate, grow and harvest vegetables is an important concept for the students to learn. This unit will introduce the concepts of plant structure, soils, climate, plant propagation techniques, plant nutrition and cultivation as well as tractor safety and operation. Society is increasingly growing more and more of the daily food requirements in the home garden. Students can gain an appreciation of how to provide healthy nutritious foods from a self-sufficient basis.

Cost: local excursion costs
Related electives: any other Agriculture electives
Related HSC subjects: Agriculture, Primary Industries (VET)
Electives

Agriculture

High Performance Pastures and Honey Production

Pasture production and management is essential to successful livestock production. This unit introduces students to the concepts of managing pastures for grazing systems and fodder conservation. Students learn to identify a range of regionally significant pasture plant species and weeds. The importance of legumes to agriculture is a key concept.

The unit establishes guidelines for using machinery and equipment needed for pasture establishment. Pastures and grazing management are essential to the success of the TAS Poll Hereford Stud. A cold temperate climate on the New England reduces the growing seasons and the ability to grow fodder crops. Students learn to appreciate how essential pasture and correct management is to maintaining both profitability and sustainability in extensive ruminant livestock production.

Bees are an important part of agriculture. They are essential to many crops such as canola and orchards for pollination of the crop and therefore success of the crop. Bees are a social insect and this unit introduces students to the idea hive management, bee structures and functions, interactions between bees and plants, climate and the community, the use of technology in agriculture, agricultural marketing including niche markets and value adding.

In this course students will be involved in practical activities such as making hive components, opening a hive, robbing hives extracting honey, processing and marketing honey, investigation of the structure of flowers. Bees are an essential element in plant pollination and many crops rely on them. They also form an interesting intensive animal enterprise and students learn to appreciate the social and interactive nature of this complex insect colony.

Cost: Nil
Related electives: Any other Agriculture electives
Related HSC subjects: Agriculture, Primary Industries (VET)

Prime Lambs and Wool Production

Australia was built on the back of sheep. Both wool and prime lamb production is an important industry in the Northern Tablelands, both for the local & Australian economy. This topic will introduce students to a range of sheep related issues including: Breeds, basic requirements – nutrition, climate / limiting factors – distribution, ruminant digestion, reproduction, calendar of operations, husbandry techniques, pests & diseases, Interactions, Australian economy, culture, society, employment opportunities, animal behaviour, intensive vs extensive, social/ethical issues- feedlot, animal welfare and marketing – domestic & export.

Potato production is important to the Australian economy and as such an understanding of how to successfully propagate, grow and harvest this important vegetable is an important concept for the students to learn.

This unit will introduce the concepts of plant structure, soils, climate, plant propagation techniques, plant nutrition and cultivation as well as the vital role this important crop has played in the history of mankind. Society is increasingly growing more and more of the daily food requirements in the home garden. Students can gain an appreciation of how to do provide healthy nutritious foods from a self-sufficient basis.

Cost: Nil
Related electives: Any other Agriculture electives
Related HSC subjects: Agriculture, Primary Industries (VET)
Poultry and Winter Cereal Production

Have you ever wondered where those eggs you eat come from? What about the chicken meat you eat each week? This unit explores both aspects of the poultry industry. In this course we study both of these industries. As part of this unit we use the TAS purebred Light Sussex chooks and birds from the Royal Agricultural Society to be part of a show team which we exhibit at the Sydney Royal Easter Show. Raising chickens through to final selection is a major part of this unit.

Wheat production has always been a key to Australian agriculture and the economy. Many students come from areas where wheat production occurs. This unit uses wheat as a focus but may include oats as an alternative cereal crop when investigating practical activities. The study of wheat will allow students to investigate historical aspects of agricultural production in Australia, sustainability issues as well as developing skills in different methods of plant production. Winter crops are an important part of agricultural production in this area. This topic will introduce students to a variety of cereal crop related issues including: types, varieties & uses, basic requirements, structure, function & reproduction, photosynthesis, production cycle, stages of growth, climate/limiting factors – distribution, soils, pests & diseases, calendar of operations, Aboriginal/European land use, sustainability, cultural influences, markets & marketing – specifications & export & Workplace Health and Safety.

Students will be involved in numerous practical activities including: grow & monitor a cereal crop, collect, press, present plants at different stages of growth, harvest a cereal crop, soil tests – pH, texture, colour, identify a range of cereal plants, seeds & fertilizers, identify a range of weeds (plant collection), identify machinery, hazard identification & risk assessment of tractor & machinery.

Cost: Nil
Related electives: Any other Agriculture electives
Related HSC subjects: Agriculture, Primary Industries (VET)
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