



Christ Church Grammar School

Academic Handbook Year 9, 2019

Overview

The timetable

The Senior School operates on a 10-day timetable cycle with six 50-minute periods a day. The 10 days are organised within a Week A / Week B structure. The timetable differs from Week A to Week B.

Students are provided with a hard copy of their timetable at the beginning of the year as well as an electronic copy that they can access from their iPads through Nexus.

Where a day or days are missed for long weekends or public holidays, these are skipped in the timetable. A boy's timetable therefore completes a cycle every two weeks.

With the exception of Thursday, each day begins at 8.30am with a 20-minute tutorial prior to the first period of the day. On Thursdays the period from 8.30am until 9.45am includes Chapel, Assembly, House meetings etc. There are therefore only five periods on a Thursday.

Academic Administration

The Director of Studies is responsible for curriculum implementation and curriculum policy from K to 12. The Director of Studies and the Assistant Director of Studies organise the day-to-day and long-term academic program in the Senior School. In particular, the Assistant Director of Studies is responsible for the timetable.

Questions relating to a course of study should be directed initially to a boy's tutor or Head of House. However, where a boy is new to the School, such queries may be directed to the Assistant Director of Studies.

If there are any concerns, early in the semester, about the electives chosen by a boy, the matter should be discussed with the tutor or Head of House. The issue may then be referred to the Studies Office. If there are good reasons for a change of course, the School will try to accommodate this.

Homework policy

The School supports the view that homework is an integral part of a student's education. Homework encourages the skills and study habits that are essential for intellectual growth and academic achievement. It is developmental and therefore increases in amount and complexity as the student progresses through the Senior School. The nature of homework can vary from simple reading of text or reference material, formal written work and preparation for a test or classroom exercise, to involved research assignments that may take many weeks to complete. It is also expected that the student will take some responsibility for the allocation of time for revision and review of subjects in the absence of

homework that is specifically set. The School encourages the development of independence in determining the type and amount of homework necessary to sustain the day to day academic program.

While homework is set in all subjects, not all homework is due to be submitted in the following lesson. Teachers will give advice on the timing of homework. As such, there will be some days when more homework is required than others. It is therefore up to the student, teacher, tutor and parents to manage an organised program of homework time to meet the specific demands of the following day. Students are required to use the electronic diary on their iPads as an organiser and planner for homework and similar activities. For many students, the development and management of such skills will be critical for future academic success.

More information can be found in the School's 'Guidelines for study and homework' available from CCGS World under Governance.

Students are often required to attach a bibliography to assignments and incorporate in-text referencing. The School uses the American Psychological Association (APA) Referencing System.

Assessment & reports

Specific details about subject assessments can be found in the subject descriptions later in this booklet. The information gathered from the in-class assessment program is provided in reports to parents four times a year.

At the beginning of the academic year, parents will be given information about access to the CCGS Parent Portal. This portal enables parents to access boys' assessment results as they are entered by teachers over the course of year. Our recommendation is that parents can best utilise this facility by checking the marks summary once per fortnight with their son and aiming to be supportive and encouraging of his endeavours.

The reports provided for Terms 1, 2, 3 and 4 provide a broad overview of progress, including information about current grade, percentage and rating of a number of work practices. Academic grades are provided on an A - E scale. Each report represents the current status of the student in that subject.

Trimesterised subjects (Biology, Chemistry and Physics in Science) and unitised subjects (Civics and Citizenship, Commerce, Geography and History in Humanities) will be reported on in the term report when the trimester or unit has been completed.

Separate reports are issued for Semester One subjects early in Term 2. This ensures that teachers are able to utilise the whole semester period for teaching and assessment.

Together with these formal reports, there is ongoing communication between the student's classroom teacher and tutor. Thus tutors and the Head of House can provide parents with early warning of any problems or difficulties. Parents should direct any specific concerns or questions about class work to the tutor in the first instance. Tutors will then arrange interviews between parents and teachers, if such a request is made.

Use of the iPad's electronic diary

The iPad's electronic diary is a key link in the communication between school and home and encourages the development of sound organisational and planning skills. If used to record daily obligations, activities, homework and/or work requirements it will instil sound working habits for school and beyond. Parents and tutors are expected to monitor the diary each week.

Study Lab

After-school academic support is available for all students. Study Lab is held in the CLC on Mondays, Tuesdays, Wednesdays and Thursdays, from 3.05pm to 4.45pm. English and Mathematics specialist staff

are available on some of these afternoons, while organisational support is provided for work in other subjects. A number of current and former students also volunteer their assistance. Some boys attend these sessions simply to complete homework, knowing that help is available if they encounter difficulties. For other students, these sessions provide a time to go over work that may have been missed in class. Tutors can provide further details.

Information Technology

The School actively encourages teachers and departments to integrate the use of information technologies into the curriculum. Students are exposed to a wide range of information technology experiences by applying the computing resources to subject-based tasks. These experiences range from simple uses such as access to the Internet, to more complex uses such as multimedia.

Year 9 students are expected to bring their iPad to all their classes (except Physical Education). It will be utilised by teachers as a tool for connected learning in their classrooms. Students are provided with their own email account. Many students use email as a means of transferring files between home and school and for working on collaborative projects.

Students may be required to use information technology, particularly their iPad, while at home. Parents are encouraged to monitor their son's use of the iPad in the same way that they might monitor other homework. Parents should restrict access to the device if it is not being used in a suitable manner. There are also technical solutions to do this; in this case, the School recommends the use of OpenDNS.

All activities that engage students with information technology require the student to demonstrate appropriate responsibility. They need to plan to manage their time efficiently and to ensure that they are using technology in ways that assist their learning.

The use of the Internet, email, iPads and other IT assets is governed by the School's IT Acceptable Use Policy available on each boy's iPad.

Textbooks

All textbooks are made available to Years 7-10 students through their iPads. In Years 11 and 12, both hard copy and electronic textbooks may be utilised, depending on the subject.

Curriculum Policy

The School's Curriculum Policy is available through the 'Policies' section of CCGS World (Governance). It gives further information about the way in which the curriculum is delivered.

Reporting and Assessment Policy

The School's Reporting and Assessment Policy is available through the 'Policies' section of CCGS World (Governance).

Year 9 Curriculum

The Year 9 curriculum is made up of mandatory subjects and electives in the Languages, Technology & Enterprise and Arts Learning Areas. All mandatory and elective units are offered over the whole year and are listed below.

All boys will study the mandatory subjects of English, Mathematics, Science, Humanities, Personal & Spiritual Development and Physical Education & Health.

The choice within the elective program represents a cross section of courses from the School Curriculum and Standards Authority learning areas that are not covered by the mandatory subjects.

Subject Selection

Subject Selection for the Year 9 course is made by studying the Subject Outlines in the next section and then completing the online Subject Selection Form. A full list of elective subjects is provided on the next page.

Electives comprise a total of **five** units. One-unit subjects will be studied for one semester; two-unit subjects will be studied for the whole year. To ensure breadth of study, please note the following restrictions:

- Boys may select **at most two** units out of the five Computer Science subjects (Algorithmic Programming, Systems and Networking, Website Development, Mobile App Development or Bioinformatics)
- Boys may select **at most one** subject out of the two drama options
- Boys may select **at most one** subject out of the two music options
- Boys may select **at most one** subject out of the two science options (Astrophysics and Psychology)
- Boys may select **at most two units** out of the four art half-year subjects (Digital Photography, Graphic Design, Visual Arts – Artisan, Visual Arts - Atelier).
- Boys may select **at most two units** out of the three subjects (D&T Engineering, D&T Materials and Mechatronics)

Subjects chosen in Year 9 do not direct what will be studied in Year 10 or later. We encourage boys to take the opportunity to explore their interests and try new things in Year 9.

SUBJECTS

Mandatory	Elective
English Humanities (Civics and Citizenship, Commerce, Geography, History) Mathematics Health and Wellbeing Physical Education Science (Biology, Chemistry, Physics)	Algorithmic Programming (1 unit) Astrophysics (1 unit) Bioinformatics (1 unit) Chinese (2 units) Creative Writing (1 unit) D & T – Engineering (1 unit) D & T – Materials (1 unit) Digital Photography (1 unit) Drama – Full Year (2 units) Drama – Half Year (1 unit) Experimental Design and Data Analysis (1 unit) French (2 units) Graphic Design (1 unit) Japanese (2 units) Mechatronics (1 unit) Mobile App Development (1 unit) Music – Extension (2 units) Music – General (1 unit) Philosophy (1 unit) Psychology (1 unit) Systems and Networking (1unit) Visual Art – Artisan (1 unit) Visual Art – Atelier (1 unit) Website Development (1 unit)

Mandatory Subjects

English

The Year 9 English course aims to extend boys' understandings and skills by introducing them to more sophisticated texts with increasingly complex issues, structures and language. They begin with the study of short stories that represent rites of passage in different ways, then read a range of poems written by Indigenous people from different cultures. Units on newspapers, electronic advertising and television drama combine to enrich the boys' understanding of the media, and they also study drama, with some tackling their first Shakespearean play. Boys in all classes read a novel each term, chosen by their teachers from a range of contemporary and classical works, so that their literature experience is challenging and rewarding. The focus becomes increasingly analytical, with close reading and critical literacy emphasised consistently, and essay structure continues to develop and mature. Teacher-led discussions, group work and pair work encourage students to be active, thoughtful and curious readers and viewers.

All boys work to consolidate and extend their general and subject-specific vocabulary, spelling and grammar throughout the year, with teachers using a range of strategies to assist them. When possible, there are excursions to appropriate plays and films, and from time to time, visiting speakers. Creative writing continues to feature prominently in the program, and the boys are also encouraged to enter a

range of internal and external creative writing competitions, with a number having their work published in the annual anthology of students' writing, *Impressions*.

Most boys spend one period per fortnight in the Senior Library, where the Teacher Librarians assist them to choose additional reading material, promote texts that complement those being studied in class, and run Literature Circles. Each boy is also involved in a Reading Program that is designed to foster reading as a pleasure pursuit, develop good habits and introduce them to different authors and genres.

The formal assessment program is reviewed on an annual basis but is likely to approximate the following schedule. Common Assessment Tasks, which require the whole cohort to sit the same in-class assessment on the same day, are set twice a year and cross-marked by Year 9 teachers or external markers to assist grading comparability.

Assessment schedule

SEMESTER ONE

Creative writing (short story)

Essay (advertising)

Library assessment

NAPLAN

Essay (persuasive)

Analysis (drama)

SEMESTER TWO

Oral analysis (poetry)

Library assessments

Essay (novel analysis)

Research essay

Examination (reading comprehension)

In addition there will be a number of opportunities for formative assessment during the year.

English as an Additional Language Dialect (EALD)

Students recommended for, or eligible to study EALD, are taught by a specialist who will cover the genres, processes and strategies studied in other English classes, using resources geared to EALD students and at a suitable pace for the needs of these students. Some students will also study English, to maximise their exposure to the language.

Contact

Mr Neil Walker

Head of English

Health and Wellbeing

The Health and Wellbeing course aims to develop students' knowledge, skills, values, and processes to care for themselves and others, and to take an active role in extending important life skills, making healthy decisions, evolving individual self-awareness and embracing leadership. Each student in Year 9 studies it for one semester; it covers health, religion, positive psychology and well-being. Students will be exposed to information to positively influence them in mind, body and spirit.

Health

At Christ Church the underlying focus in the Health area is health maximisation. The course covers three major standards:

- Students identify and apply relevant criteria to determine reliability of online health information and whether it is suitable for use in a particular context.
- Students evaluate a range of characteristics of respectful relationships, such as showing respect for self and others, and personal differences and opinions.
- They describe and apply appropriate skills and strategies to resolve and manage conflict within different environments.

Positive Psychology

Positive Education brings together the science of Positive Psychology with best-practice teaching to encourage individuals within their communities to flourish. (Geelong Grammar School, 2011)

Positive Psychology is an umbrella term for work that investigates happiness, well-being, human strength, and flourishing. (Gable & Haidt, 2005)

The program of work is derived from a 'Well-Being Curriculum' based on the principles and findings of positive psychology. The emphasis is on positive interventions, targeting areas that have a substantial evidence base such as happiness, positive emotions, flow, resilience, achievement, positive relationships and meaning. The specific units of work that are covered through the timetable cycle are outlined below.

- Men's Health
- Stress
- Mental Health
- Staying Active
- Issues in Society
- Personal Identity
- Relationships Risks and Sexual Behaviours
- Religion
- Protective Behaviours
- Leadership and Teamwork
- Social Awareness
- Character Strengths
- Introducing Mindfulness
- Well-being practices

Religion

As an Anglican school, Christ Church is committed to Religious Education in its curriculum. At the same time it is sensitive to the varied backgrounds of its students, who are drawn from every major Christian denomination and every major world faith. In addition to attending Chapel services, each boy in the school will participate in the Religious Education unit, which provides an introduction to the origins, history, beliefs, practices, diversity and relevance of the Christian faith. Whilst boys are encouraged to develop their own personal faith, the School acknowledges that the boy's parents and his place of worship will also play a central role in his religious education.

Contacts

Mr Liam Casson
Director of the Wynne Centre for Boys' Health and Well-being

Reverend Nick Russell
School Chaplain

Humanities

The course seeks to develop growing sophistication on the part of the boys in the ways that they investigate, present and analyse their work. Building on the skills and experiences of Year 8, boys investigate aspects of Australian Society, including examining our democratic rights and comparing these with the rights that exist in different cultures.

Through the contexts of Civics and Citizenship, Economics and Business, Geography and History, students will have the opportunity to develop 21st Century Global Skills. These are essential to prepare

students for an increasingly globalised economy and include questioning and research, analysing, evaluating, communicating and reflecting.

Civics and Citizenship

Students continue to build on their understanding of the concepts of the Westminster system, democracy, democratic values, justice and participation. They examine the role of key players in the political system, the way citizens' decisions are shaped during an election campaign and how a government is formed. Students investigate how Australia's court system works in support of a democratic and just society.

Commerce

The Year 9 course introduces students to the notion of a global economy by looking at Australia's interdependence on economies around the world, with a focus on trade and globalism. In response to this, students will examine how jobs and job roles are evolving and the role of innovation in ensuring that Australian businesses can maintain competitive advantage.

Geography

The focus of Year 9 is initially on the biotic environment and its place in food and fibre production. Boys then investigate how societies and cities are connected around the globe. Students investigate the physical and economic factors involved and the way these factors have influenced the lifestyles of selected communities. A detailed study is undertaken of one Asian and one European city of worldwide significance. Practical skills and Geographical Investigation are emphasised throughout.

The following themes are covered in Year 9:

- Biomes and Food Security
- Navigating Global Connections.

History

The Year 9 History course is designed to further the skills of history, especially in the interpretation of sources as well as developing writing skills. In line with the West Australian Curriculum, the focus for this year is the period 1750 – 1918. This will be done through three major studies: a focus on the Industrial Revolution in England and the change this brought to the world; and an in-depth study of World War 1 and the Australian experience of that conflict.

Contact

Mr Patrick Parker

Head of Humanities

Mathematics

This Year 9 Mathematics course is taught for eight periods in each 10 day cycle. All boys are required to own a scientific calculator and a Casio ClassPad, both of which are available from the bookroom. The use of these calculators is integrated into almost all topics in the course, and they may both be used up to and including the ATAR Mathematics examinations.

The following units are studied during the year:

1. Reviewing number and financial mathematics
2. Linear equations
3. Pythagoras' theorem and right angled trigonometry
4. Linear relations

5. Measurement
6. Indices
7. Geometric reasoning
8. Algebraic techniques
9. Probability and statistics
10. Introduction to quadratic equations and graphs.

Class work and formal testing will be used to assess learning. There will be approximately six Unit Tests, three Investigations and a final examination. Students' level of achievement will inform decisions about whether they study the Mainstream or Advanced West Australian Curriculum course in Year 10.

Students should be aiming for the Advanced West Australian Curriculum in Year 10 if they wish to be considered for Mathematic Methods in Year 11.

Contact
Ms Megan West
Head of Mathematics

Physical Education

The Physical Education program in Year 9 focuses on the acquisition of skills in a variety of activities that include throwing, catching, hitting, kicking, running and swimming, in addition to developing each component of fitness and the basics of team play and tactics. The course also covers the basic principles of weight training and familiarisation with the variety of equipment in our facility. The course is both theoretical and practical and covers, equipment, program design and lifting techniques.

Students experience an array of individual and team pursuits including swimming, volleyball, rowing, fitness testing and athletics. Opportunities are provided to develop self-management and interpersonal skills that help students to engage in social interaction within the family, school and community environments.

The course operates over the whole year for 6 periods per 10-day cycle. Aspects such as skill, game performance, fitness, attitude and behaviour, dress and punctuality will be assessed.

Health Education

The health education component of this course is taught as a part of the Personal & Spiritual Development Program (see p. 6).

Contact
Mr Luke Farmer
Head of Health and Physical Education

Science

The Year 9 Science courses have a strong emphasis on practical work. Students will develop a scientific view and recognition of how science understanding can be applied to their lives and the lives of others. The course aims to stimulate curiosity and promote logical and analytical thinking. Students will build on their understanding through the science inquiry process, which involves making observation, constructing and testing hypotheses and evaluating data. During Year 9, most classes study Biology, Chemistry and Physics separately, with specialist teachers. Assessment for each subject is via tests, which

will assess each student's science understanding and inquiry skills, and an investigation report.

Science Inquiry Skills

Skills involved in working as a scientist are learnt in the context of the three main subject areas of Physics, Biology and Chemistry. Students will develop the skills to carry out investigations that require them to plan experiments, collect, process and interpret data and to draw conclusions, evaluate and communicate their findings. Students will assess risk within their planning for investigations and address ethical issues associated with their methods.

Biology

The Year 9 Biology course focuses on multi-cellular organisms and how they rely on co-ordinated and interdependent internal systems to respond to changes to their environment. Students study the nervous system, endocrine system and the processes of maintaining homeostasis. Technology plays a significant part in some of these systems and students have the opportunity to use this technology to investigate and manipulate plant growth in the plant tissue culture section of the course. Students set up sterile environments and manipulate tissue with different hormones. They also have the opportunity to carry out experiments such as brain dissections and nerve reflex investigations.

Chemistry

Virtually every aspect of life today owes a great deal to the discoveries and work of chemists. They are involved in developing new medicines, manufacturing new materials and figuring out better ways to make existing ones. Many of the environmental challenges that we presently face will be solved by the inventiveness of chemists.

In Year 9 students will study a variety of topics in Chemistry including atomic structure, elements and compounds, formula and equations, acids and bases and rates of reaction. Through a practical, laboratory-centred approach students will develop skills and understanding of reactions and equation writing. They will gain an appreciation of the structure of the periodic table in the understanding of Chemistry and examine the role of acids and bases in our everyday lives. Finally they will study collision theory and examine, through investigation, the factors that make chemical reactions fast or slow.

Physics

The study of Physics is concerned with understanding the nature of forces and motion, and matter and energy. In the Year 9 Physics course, students will focus on developing an understanding of the transfer of energy through different mediums. Through use of wave and particle models, students will investigate the transfer of energy by light, sound and heat. Students will examine the electromagnetic spectrum and how the different parts of the spectrum are used in our everyday lives, and also apply their knowledge of energy and forces to the theory of plate tectonics to explain global patterns of geological activity and continental movement. There will be a strong emphasis on discovery through practical work and investigation and students will use both qualitative and quantitative techniques. Contexts covered may include energy efficient design and earthquakes.

There are various assessments built into the Year 9 Science courses. These include:

- homework tasks
- formal written tests
- written plans and reports of scientific investigations
- practical laboratory assessments.

Contact

Mr Edward Hogg
Head of Science

Elective Subjects

All electives run for 6 periods per 2-week cycle.

Some electives run for a whole year (2 units), other electives run for a single semester (1 unit). Students each complete 5 units worth of electives.

Algorithmic Programming (1 unit)

The creation of efficient and elegant algorithms is integral to all aspects of modern Computer Science. In this course students will explore and use greedy algorithms and dynamic programming in order to solve real-life problems, including how to find the shortest path in a network and how to solve the backpack problem.

Students will implement each of the algorithms using the Python language, and then use that implementation to solve a range of interesting problems. For each algorithm students will determine the time complexity as a measure of how efficient it is, allowing different solutions to be compared. Students participating in this course will get to understand and use a wide range of famous algorithms as well as learning new ways of representing data, such as using linked lists and matrices.

This course will assume that students are comfortable with using the Python language and will cover a number of advanced programming techniques. For this reason, it is highly recommended that students who choose this course achieved **an A or B grade in Digital Thinking in Year 8**. Students who did not achieve an A or B grade are advised to select Mobile App Development as an appropriate alternative.

Although not required, students are encouraged to take this course in combination with either Bioinformatics or Mobile App Development. The other Computer Science courses are Systems and Networking and Website Development.

Contact

Mr Chris Anderson

Head of Computer Science

Astrophysics (1 unit)

Astronomy and astrophysics are at the forefront of scientific discovery, with Western Australia becoming a centre of excellence throughout the world in this field. Students will gain an understanding of several astrophysical theories and practices. The history of astronomy and its cultural impacts are also explored. At the same time, students will improve their research and analytical skills, and develop an understanding of recent advances made within astronomy and astrophysics.

The one-unit course will cover the terrestrial to the extraterrestrial – the Earth, the Moon and Sun, stars, galaxies, black holes, quasars, pulsars, space exploration and rocketry. We will be particularly looking at radio astronomy from the Parkes Telescope to the SKA project which is currently underway.

Contact

Mr Edward Hogg

Head of Science

Bioinformatics (1 unit)

Bioinformatics involves using computer analysis to solve information problems in the life sciences. The field largely involves using the power of computers to analyse biological datasets to develop cures and propose solutions in the biological and environmental sciences. Some common applications of Bioinformatics include sequencing of DNA, modelling of biomolecules and examining the evolutionary relationships of biological systems.

Throughout the semester students will learn to implement a variety of algorithms designed to aid in the analysis of data to find patterns and relationships within that data. Techniques commonly used range from the use of applied mathematics and statistics to dynamic programming and artificial intelligence.

This course is designed to provide students with opportunities in Computer Science at an advanced level, beyond what is usually offered in Year 9. As this course will cover a number of advanced programming techniques it is highly recommended that students who choose this course achieved an **A grade in Digital Thinking** in Year 8. Students who did not achieve an A grade are advised to select Mobile App Development as an appropriate alternative.

Although not required, students are encouraged to take this course in combination with Algorithmic Programming. The other Computer Science courses are Mobile App Development, Systems and Networking and Website Development

Contact

Mr Chris Anderson

Head of Computer Science

Chinese (2 units)

In Chinese, boys will acquire more advanced competencies in Speaking, Reading, Listening and Writing in Chinese (Mandarin). Through topics of particular interest to boys, students will improve competency in their own language and how it functions; gain a deeper understanding of linguistic conventions; critically reflect on their own and other cultures and values; and prepare themselves for Year 11 and 12 courses.

The Languages Department currently offers a Tour and an Exchange program to China.

Boys are assessed in the four outcomes of speaking, listening, reading and writing each semester as well as in an end of year test.

Chapter tests of new grammar, characters and vocabulary are set at least twice a term. Continuous, less formal, assessment is carried out during the year.

Homework

Regular practice reviewing words and grammatical concepts learned is fundamental in the acquisition of a language and as such, forms an integral part of the course. In Year 9, we expect boys to spend 15-20 minutes each evening reviewing words and grammatical concepts covered in class in addition to any specific homework set by the teacher.

Contact

Ms Yang Zhang

Co-Head of Languages

Creative Writing (1 unit)

Year 9 Creative Writing gives students the opportunity to engage with language and ideas on a personal level through the production and exploration of fiction and non-fiction texts.

The elective is based around four project pieces which give students the opportunity to experiment with a range of language structures as well as focusing on refining their written expression. The course gives talented writers an additional avenue to have their talents recognised through competitions such as *The West Australian's* Young Writers and Young Photojournalist competitions. The diversity of assessment and text types covered in our study of travel writing, urban legends, personal memoirs and poetry allows for each of the boys to find their own niche within the broader field of creative writing.

The course would be suitable for budding creative writers as well as those seeking to consolidate their fundamental English skills.

Contact

Mr Neil Walker

Head of English

Design & Technology – Engineering (1 unit)

Design and Technology – Engineering provides students with the opportunity to develop skills in the use of technology in a practical setting. This course aims at developing in students an understanding of the **materials, information** and **systems** that are appropriate to the design and manufacture of products to meet human needs. The underlying focus is the **technology process**, of which the elements of investigating, devising, producing and evaluating are fundamental components. These outcomes (shown in bold type above) are achieved through two courses of study, each of one semester's duration. Students can select both courses.

This subject is suited to those students who are interested in and enjoy working with engineering type projects. Students can expect to build upon their knowledge and skills acquired in Year 7 and Year 8 Design and Technology, particularly in the area of computer-aided drawing and learning how to use sophisticated software in 3D modelling and computer-aided manufacturing. Students are also introduced to electronics and robotics.

Assessment of achievement of the outcomes for these subjects takes the following forms:

- Design development (20%) - development of design folios using IT and including freehand and computer-aided drawing
- Practical project production (70%) - manufacture of practical projects in resistant materials using numerically controlled machinery
- Response (10%) – completion of theoretical assignments and written testing of understanding.

Contact

Mr Alec Barbour

Head of Design & Technology

Design & Technology – Materials (1 unit)

Design and Technology – Materials provides students with the opportunity to develop skills in the use of technology in a practical setting. This course aims at developing in students an understanding of the **materials, information** and **systems** that are appropriate to the design and manufacture of products to meet human needs. The underlying focus is the **technology process**, of which the elements of investigating, devising, producing and evaluating are fundamental components. These outcomes (shown in bold type above) are achieved through two courses of study, each of one semester's duration. Students can select both courses.

This subject is suited to those students who are interested in and enjoy working with resistant materials, particularly wood and metal. Students can expect to build upon the knowledge and skills acquired in Year 7 and Year 8 Design and Technology, learning how to use a range of new hand tools, power tools and machinery. The underlying focus of this course is the technology process, with particular emphasis on the design and construction of the CO2 Dragster.

Assessment of achievement of the outcomes for these subjects takes the following forms:

- Design development (20%) - development of design folios using IT and including freehand and computer aided drawing
- Practical project production (70%) - manufacture of practical projects in resistant materials using numerically controlled machinery.
- Response (10%) – completion of theoretical assignments and written testing of understanding.

Contact

Mr Alec Barbour

Head of Design & Technology

Digital Photography (1 unit)

Digital Photography has become a core medium for artists and designers and is integrated into this art course, which involves the specialisation, exploration and development of digital photography techniques. Students discover the creative potential of the digital camera by applying traditional photographic values to filmless image capture. This course is designed to develop technical and visual skills by completing short challenging briefs across a range of subjects: portrait and landscape. There will be an introduction to the 'digital darkroom' - editing and managing images using Adobe Photoshop software and uploading work to photo management and sharing applications.

This course will inform the skills needed to develop design language and communication projects that are both studio-based and site-specific. Students are encouraged to have their own digital camera to complete coursework outside of the classroom. Site-specific workshops and practising artists may enrich this course.

The courses of Digital Photography and Graphic Design complement each other. Boys who are particularly interested in Digital Art should consider studying both options, although it is possible to just study just one. Digital Photography places greater emphasis on editing and managing images, whereas Graphic Design places greater emphasis on the creation of graphics and illustrations.

The course will be devised from several studio areas covering a mixture of genres and themes using Photoshop in 2D and 2.5D formats.

Assessment

The course will be assessed with an emphasis on:

- Art Making – body of work through inquiry, art practice and presentation
- Art Responding – analysis, interpretative reflection and personal response

Contact

Ms Pam Yordanoff

Head of Art

Drama – Full Year (2 units)

Drama is a collaborative performing art where participants agree to imagine and actively construct a world, which is known as the dramatic context. It is a vibrant and varied art form found in play, storytelling, street theatre, festivals, film, television, interactive games, performance art and theatres. It is one of the oldest art forms and part of our everyday life. Through drama, human experience is shared. Drama entertains, informs, communicates and challenges.

Students are assessed through the key activities of creation and co-operation, performance and reflection. They explore and communicate ideas and learn particular processes and skills to enable them to work with drama forms, styles, conventions and technologies. They reflect, respond and evaluate drama and become critical, informed audiences.

Students showcase their learning in a fully realised scripted production. Students work independently and collaboratively, learning time management skills, showing initiative and demonstrating leadership and interpersonal skills.

The Year 9 Full Year course explores:

- Acting, mask and commedia dell'arte
- Improvisation and issue-based playbuilding
- Shakespearean scripted scenes
- Stage combat
- Australian drama
- Performance in a scripted production
- Set, costume, sound, properties, stage management and publicity.

Being involved in the making and creating of drama is a unique and exciting way for students to better understand themselves and their world.

Contact

Mr Gregory Jones

Acting Head of Drama

Drama – Half Year (1 unit)

Drama is a collaborative performing art where participants agree to imagine and actively construct a world, which is known as the dramatic context. It is a vibrant and varied art form found in play, storytelling, street theatre, festivals, film, television, interactive games, performance art and theatres. It is one of the oldest art forms and part of our everyday life. Through drama, human experience is shared. Drama entertains, informs, communicates and challenges.

Students are assessed through the key activities of creation, performance and reflection. They explore and communicate ideas and learn particular processes and skills to enable them to work with drama

forms, styles, conventions and technologies. They reflect, respond and evaluate drama and become critical, informed audiences.

The Year 9 Drama – Half Year course is designed to extend their performance skills in theatrical styles and contexts. Students work independently and collaboratively, learning time management skills, showing initiative and demonstrating leadership and interpersonal skills.

The course explores:

- Acting, mask and commedia dell'arte
- Improvisation and issue-based playbuilding
- Shakespearean scripted scenes
- Stage combat
- Australian drama

Being involved in the making and creating of drama is a unique and exciting way for students to better understand themselves and their world.

Contact

Mr Gregory Jones

Acting Head of Drama

Experimental Design and Data Analysis (1 unit)

This Year 9 course provides students with an understanding of basic design principles of controlled experiments. Students will be introduced to experimental design and replication, random sampling and randomised trials as well as numerical and visual methods of summarising data. Students investigate practical and theoretical problems and applications that have a significant role in modern statistics.

The following units are studied during the semester:

1. Sampling Techniques
2. Design of Statistical Instruments
3. Analysis of Data from Designed Experiments

Class work and formal testing will be used to assess learning. Students will have the opportunity to design an experiment, collect data and then analyse their collected data.

Contact

Ms Megan West

Head of Mathematics

French (2 units)

In French, boys will acquire more advanced competencies in Speaking, Reading, Listening and Writing in the French language. Through topics of particular interest to boys, students will improve competency in their own language and how it functions; gain a deeper understanding of linguistic conventions; critically reflect on their own and other cultures and values; and prepare themselves for Year 11 and 12 courses.

The Languages Department currently offers a Tour and an Exchange program to France.

Boys are assessed in Speaking, Reading, Listening and Writing each term as well as in an end of year test in Term 4. Boys will complete regular vocab and pronunciation tests throughout the term and will have an assessment in listening, reading, writing, and grammar at the end of each unit. Boys will also prepare for brief oral tests and learn a few lines of French poetry off by heart. In Term 3 boys will have the

opportunity to compete in the French external exam for the Alliance Française .

Homework

Regular practice reviewing words and grammatical concepts learned is fundamental in the acquisition of a language and as such, forms an integral part of the course. In Year 9, we expect boys to spend 15-20 minutes each evening reviewing words and grammatical concepts covered in class in addition to any specific homework set by the teacher.

Contact

Ms Elisabeth Rosinel

Co-Head of Languages

Graphic Design (1 unit)

Graphic Design is designed for boys interested in Art and Computing with an aspect of Enterprise. There will be an introduction to the 'digital darkroom' - editing and managing images using the Adobe Creative Suite with Photoshop, Illustrator and possibly Flash and Premier film making software. Boys are encouraged to use their imagination, practise creative teamwork and develop lateral thinking abilities - all skills essential in the workforce. Students will discover the creative potential through hand-made and computer-generated imagery.

The course is designed to develop technical and visual skills by completing short challenging briefs across a range of subjects: product, portrait, still life, documentary and abstraction. Hand drawing is encouraged in the development of ideas and the construction of contemporary graphics and illustrations. Site-specific workshops and practising artists may enrich this course.

The courses of Digital Photography and Graphic Design complement each other. Boys who are particularly interested in Digital Art should consider studying both options, although it is possible to study only one. Digital Photography places greater emphasis on editing and managing images, whereas Graphic Design places greater emphasis on the creation of graphics and illustrations.

The course will be devised from several studio areas covering a mixture of genres and themes using hand drawn, Photoshop and Illustrator tools.

Assessment

The course will be assessed with an emphasis on:

- Art Making – body of work through inquiry, art practice and presentation
- Art Responding – analysis, interpretative reflection and personal response

Contact

Ms Pam Yordanoff

Head of Art

Japanese (2 units)

In Japanese, boys will acquire more advanced competencies in Speaking, Reading, Listening and Writing in the Japanese language. Through topics of particular interest to boys, students will improve competency in their own language and how it functions; gain a deeper understanding of linguistic conventions; critically reflect on their own and other cultures and values; and prepare themselves for Year 11 and 12 courses.

The Languages Department currently offers a Tour and an Exchange program to Japan.

Homework

Regular practice reviewing words and grammatical concepts learned is fundamental in the acquisition of a language and as such, forms an integral part of the course. In Year 9, we expect boys to spend 15-20 minutes each evening reviewing words and grammatical concepts covered in class in addition to any specific homework set by the teacher.

Contact

Ms Yang Zhang

Co-Head of Languages

Mechatronics (1 unit)

This course is designed for students who have enjoyed the Digital Thinking course and would like to extend their skills to controlling electrical components – Physical Computing.

Students will design, assemble and develop control strategies for an autonomous guided vehicle, a MazeBot, that can find its way through a physical maze. Students will be introduced to techniques for CAD/CAM production, assembly and operation of electronic/electrical circuits, developing control strategies for an Arduino microcontroller, and testing and refining the operation of the MazeBot.

Students will be involved with various mechanical, electrical and programming tasks, including:

- Designing in 3D using the Catia software suite
- Preparing files for, and operating rapid prototyping equipment such as 3D printer and laser cutter
- Assembly and testing of reduction gearboxes
- Assembly and testing of electrical and electronic circuits, infra-red detectors, switching, power supplies, DC motors, etc
- Introduction to Flowol software to program an Arduino microcontroller, to regulate the function and timing of these circuits
- Refining the performance of mechatronic devices to achieve set tasks

Contact

Mr Alec Barbour

Head of Design & Technology

Mobile App Development (1 unit)

In this course students will have the opportunity to develop their problem-solving skills by applying their understanding of programming to Mobile App Development. The main area of study will be learning the skills to produce apps that are suitable for deployment on a Surface Book computer using C# and Microsoft Visual Studio.

Students will start by using C# to implement a number of programming concepts that have been covered in previous years, such as selection and loops. They will then develop their understanding of how to use functions and loops to improve their code and make their program more efficient. As the course progresses, students will start to make use of arrays, dictionaries and objects to develop more

complex apps.

This course is designed to build upon the skills developed in Year 8, so it is highly recommended that students who choose this course achieved at least a C grade in Digital Thinking.

Students are able to choose up to two Computer Science courses, including this course. The other Computer Science courses are Algorithmic Programming, Bioinformatics, Website Development and Systems and Networking.

Contact

Mr Chris Anderson

Head of Computer Science

Music – Extension (2 units)

It is very important that our talented musicians are given the opportunity to develop their potential, both individually and with the support of their fellow musicians. This course, in conjunction with the co-curricular Music Program, is designed to increase musical awareness, develop musicianship and provide stimulating and challenging creative and performance activities. It is assumed that students enrolling in this specialist course are already learning a musical instrument and have some prior musical background. All current holders of either a Music Bursary or Scholarship are expected to enrol. Membership of co-curricular music ensembles and the senior choir is a requirement.

During the course, students will:

- Work towards AMEB examinations in Theory or Musicianship at their appropriate Grade (External examinations are held in August.)
- Engage in creative listening and learn basic score reading and analysis in a wide variety of styles
- Study the instruments of the Symphony Orchestra
- Develop aural perception skills
- Develop arranging and composing skills
- Develop keyboard skills
- Learn the use of IT and Music Software (composition, arranging, sequencing, score production, aural work)
- Attend selected public concerts e.g. West Australian Symphony, WA Youth Jazz Orchestra, Australian Chamber Orchestra
- Participate in concerts, musical productions, and services
- Give solo (with accompanist) and ensemble performances in class
- Research and produce written assignments on composers, music periods etc.

Assessment

Students will be assessed in the following course areas:

- Aural
- Theory and basic music knowledge
- Performance (solo and group contexts)
- Composition.

Contact

Mr Kevin Gillam

Director of Music

Music – General (1 unit)

This course is designed to provide exciting experiences in creating, listening to and learning about contemporary (popular) music. Students do not need a prior background in music to join this course.

The three main components of this course are:

- **The History of Rock/Popular Music**
The study of the development of Rock/ Pop Music from the 1950s to the present.
- **Composition**
The creation of contemporary music tracks (Rock, House, Rap etc) through the use of software such as Garage Band.
- **Basic Theory**
Learning more about how music works through the study of basic music theory; advancing music reading and performing skills in the keyboard laboratory.

Contact

Mr Kevin Gillam

Director of Music

Philosophy (1 unit)

Humans often reflect upon why things are the way they are, what things mean, how we come to know about things, and how this influences the way we ought to live our lives. When we study Philosophy we train our minds to think about these issues from an objective standpoint, using reason. Boys who study this elective will explore philosophical responses to a range of thought-provoking questions such as:

- What makes right and wrong actually 'right' or 'wrong'?
- Is it always wrong to torture people?
- What is justice?
- Is it ever possible to do a truly selfless act?
- Do refugees have a right to seek asylum in Australia?
- How should society be run?
- Do we possess free will or are our actions determined?
- What, if anything, happens when we die?

The strong emphasis on reasoning in this course will provide boys with valuable transferable skills. The ability to analyse, clarify, evaluate and advance a rational argument will aid their progress in other subjects and equip them for future study. Boys opting for this elective will also be laying foundations for successful completion of the WACE Philosophy & Ethics course of study.

Assessment

Boys are assessed on their ability to advance convincing, rational arguments within the context of the philosophical themes studied. Ordinarily this will involve extended argument responses, though problem-solving and project-based work will also be incorporated into assessments.

Special Requirements

Students need an open mind and a willingness to apply reason to enduring philosophical themes.

Contact

Mr Patrick Parker

Head of Humanities

Psychology (1 unit)

Psychology is the scientific study of how people think, feel and act. It is a systematic exploration into the complexities of human behaviour based on evidence gathered through experimental research.

This semester long course introduces students to a breadth of knowledge focusing on the psychology of self and others. We will study cognition, or the way we think; personality, the enduring traits that distinguish individuals and the factors that influence relationships and socialisation.

Assessment of achievement of the outcomes for this subject takes the following forms:

- Short answer and extended answer response tests
- Students plan and conduct a study on human subjects to answer a research question. This will include hypothesising, designing, controlling variables, gathering and organising data, and interpreting and evaluating your research findings.

Contact

Mr Edward Hogg

Head of Science

Systems and Networking (1 unit)

This course will concentrate on the hardware and networking components of Computer Science. In this course students will learn about the different components of a physical computer system and how they work. Initially students will discover what makes up a computer system and how the different components interact. As part of this, they will have the opportunity to build their own computer system from the ground up.

After building their own computer systems, students will learn how to install an operating system on their computer and troubleshoot various system problems. Students will also learn about the different components of a computer network and how they work together to allow various devices to communicate. Students will have the opportunity to set up a small network and work together to diagnose and solve network issues.

Students are able to choose up to two Computer Science courses, including this course. The other recommended Computer Science courses are Mobile App Development and Website Development.

Contact

Mr Chris Anderson

Head of Computer Science

Visual Art – Artisan (1 unit)

This Year 9 Visual Art semester course provides students with the opportunity to use visual language and artistic conventions of greater complexity during their design and production process. Students are challenged to create visual meaning through Art by developing expressive responses to a personal context while developing their art practice.

Art Making: Students will document their ideas applying an understanding of compositional structure to create a unique personal response, while representing either a theme/concept or subject matter. They will experience, adapt and manipulate materials, techniques, art styles/processes when producing 2D and 3D artworks which communicate artistic intention, applying knowledge of techniques used by other artists, in the production of their own work. Resolved artworks are displayed and evaluated, with consideration to personal expression. Students extend their knowledge and use of safe visual arts practice

Art Responding: Students experience a growing awareness of how and why artists are influenced by other artists, their environment and the global contexts of culture, time and place. They are required to critically analyse traditional and/or contemporary artworks using various analysis frameworks, incorporating appropriate visual language, art terminology and conventions.

The course includes 2D and 3D projects that develop and extend skills painting/mixed media, printmaking, sculpture, illustration, installation, ceramics, architectural design and/or digital media based around a genre, theme/concept or subject matter.

The breadth of studio work in the two visual arts subjects, **Artisan and Atelier**, have distinct skill sets that assist in preparation for the Visual Arts course offerings in Year 10, 11 and Year 12.

Both visual arts units can be chosen to complete a full year of art study.

Assessment

The course will be assessed with an emphasis on:

- Art Making – body of work through inquiry, art practice and presentation
- Art Responding – analysis, interpretive reflection and personal response

Contact

Ms Pam Yordanoff

Head of Art

Visual Art – Atelier (1 unit)

A 'hands on' focus will apply to this Year 9 Visual Arts semester course to develop bespoke studio projects in both 2D and 3D artforms. Each project will incorporate research and drawing to develop designs. Projects will be selected to build and refine skills in illustration, painting, sculpture, ceramics, printmaking and/or design forms – architectural, photographic or digital, based upon a genre or theme.

Art Making: Students will document their ideas applying an understanding of compositional structure to create a unique personal response, while representing either a theme/concept or subject matter. They will experience, adapt and manipulate materials, techniques, art styles/processes when producing 2D and 3D artworks which communicate artistic intention, applying knowledge of techniques used by other artists, in the production of their own work. Resolved artworks are displayed and evaluated, with consideration to personal expression. Students extend their knowledge and use of safe visual arts practice.

Art Responding: Students experience a growing awareness of how and why artists are influenced by other artists, their environment and the global contexts of culture, time and place. They are required to critically analyse traditional and/or contemporary artworks using various analysis frameworks, incorporating appropriate visual language, art terminology and conventions.

The breadth of studio work in the two visual arts subjects, **Atelier and Artisan**, have distinct skill sets that assist in preparation for the Visual Arts course offerings in Year 10, 11 and Year 12.

Both visual arts units can be chosen to complete a full year of art study.

Assessment

The course will be assessed with an emphasis on:

- Art Making – body of work through inquiry, art practice and presentation
- Art Responding – analysis, interpretive reflection and personal response

Contact

Ms Pam Yordanoff
Head of Art

Website Development (1 unit)

In this course students will develop their understanding of the Internet and how it works by creating their own websites. They will learn to analyse requirements and plan a design to meet those requirements. Students will then create a website based on their plan using HTML5 and CSS3.

It is anticipated that students will learn to structure the content of their pages using HTML5 and then add formatting using CSS3. Students will have the opportunity to use CSS3 to add advanced styling features such as drop-down menus and animations to their pages. Some basic JavaScript skills will also be learnt to create dynamic websites that allow users to interact with the website.

Students are able to choose up to two Computer Science courses, including this course. The other Computer Science courses are Bioinformatics, Mobile Application Development, Software Development and Systems and Networking.

Contact

Mr Christopher Anderson
Head of Computer Science

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