COURT GRAMMAR SCHOOL

2023 YEAR 12 SUBJECT SELECTIONS

CONTENTS

INTRODUCTION

This package has been prepared to provide students, currently in Year 11, and their parents with information about curriculum choices for 2023. Students in the Senior Secondary School are provided with a variety of subject choices.

In the following pages each of the subjects on offer has information provided to assist in the selection process. Students are encouraged to talk to their various teachers about the subjects, so they are able to make an informed decision.

Over the course of the next few weeks, students will be choosing their subjects for 2023. I encourage all students and parents to read this booklet to inform themselves of the opportunities for study at CGS in 2023.

SUBJECT SELECTION TIMELINE

Week 8	Subject Selection Booklet handed to students and electronic copies sent home.
Week 10	Subject selection meeting with Head of School and forms due in by the end of Term 3

SUBJECT SELECTION COUNSELLING INTERVIEWS

Many students will continue-on with their subjects from Year 11 and the selection process, for them, will be straight forward; however, should parents or students wish to discuss the subject choices in more detail they should attend the scheduled meeting time with the Head of Secondary or contact Brad Krokosz, email: bkrokosz@cgs.wa.edu.au or via Direqt Message to arrange an alternative time to meet.

MESSAGE TO STUDENTS

It is important to choose your subjects carefully as your decisions may affect not only the types of careers that you follow later but also your success and confidence at school. Even though there are many factors to consider, choosing your course of study can be made easier if you go about the task calmly and logically, and follow a set of planned steps. Your set plan will be a useful tool in assisting you with your subject selection.

Find out as much as you can about

- Careers
- Subjects
- Courses
- Prerequisites

Talk to your subject teachers and Mr Krokosz

Listen during special talks during PCG.

Research the information on University entry, TAFE entry, VET courses, and further training/employment options

Before you make any decisions about courses and subjects ask yourself:

- What are your interests and abilities? Make a list. Be realistic and honest.
- Do you want to go on to tertiary study? If so, what sort of tertiary course do you want to do, what ATAR score will you require?
- Is your course a balanced one to help you become a well-rounded person?
- Have you covered all the prerequisites for your subject choices?

Overall Plan

As an overall plan, you are advised to select subjects: you enjoy; in which you have demonstrated some aptitude and ability in; which will assist you in reaching your career goals; which will develop skills, knowledge and attitudes useful throughout life.

MESSAGE TO PARENTS

Parents have a pivotal role in the subject selection process as an advisor to your children. You are aware of your child's talents and abilities and should discuss these with your children to encourage them to select subjects that will lead to success.

Students should be encouraged to seek as much information about the various subjects on offer as possible and then discuss this with you as their parent. Guidance through the process should certainly be given by parents with an emphasis being placed on directing the child to subjects that reflect their interests and which are likely to develop their innate talents.

WESTERN AUSTRALIAN CERTIFICATE OF EDUCATION
2023 Year 12

These are the requirements for students to receive the Western Australian Certificate of Education

WACE requirements http://senior-secondary.scsa.wa.edu.au/the-wace/wace-requirements	
General requirements	You must: • demonstrate a minimum standard of literacy (reading and writing) and a minimum standard of numeracy • complete a minimum of 20 units, or equivalents • complete ▪ at least four Year 12 ATAR courses OR ▪ at least five Year 12 General courses and/or ATAR courses or equivalent OR ▪ a Certificate II (or higher) VET qualification in combination with ATAR, General or Foundation courses
Literacy and Numeracy	For the WACE literacy and numeracy standard you may: • pre-qualify through achieving Band 8 or higher in the reading, writing and numeracy tests of the Year 9 National Assessment Program – Literacy and Numeracy (NAPLAN), or; • demonstrate the minimum standard of literacy and numeracy by successfully completing the relevant components of the Online Literacy and Numeracy Assessment (OLNA) in Year 10, 11 or 12.
Breadth and depth requirement	You must complete a minimum of 20 units, which may include unit equivalents attained through VET and/or endorsed programs. This requirement must include at least: • a minimum of ten Year 12 units, or the equivalent • four units from an English course, post-Year 10, including at least one pair of Year 12 units from an English learning area course • one pair of Year 12 units from each of List A (arts/languages/social sciences) and List B (mathematics/science/technology) subjects.
Achievement standard requirement	You must achieve at least 14 C grades or higher (or equivalents) in Year 11 and Year 12 units, including at least six C grades (or equivalents) in Year 12 units.
Unit Equivalents	Unit equivalents can be obtained through VET qualifications and/or endorsed programs. The maximum number of unit equivalents available through VET and endorsed programs is four Year 11 units and four Year 12 units with a maximum of four units with endorsed programs – two in Year 11 and two in Year 12.

AUSTRALIAN TERTIARY ADMISSIONS RANK (ATAR)

Entry into the public universities in Western Australia is a matching process of the people who want to go to university and the number of places that are available. To assist in this process, Year 12 students are ranked and places offered on the basis of this ranking.

An ATAR ranges between 99.95 and zero and reports your rank position relative to all other students. It takes into account the number of students who sit the WACE examinations in any year and also the number of people of Year 12 school leaving age in the total population. The TEA is the sum of the best four scaled marks taking into account unacceptable subject combinations. The TEA is out of 400. Your TEA will be calculated and then converted to an ATAR, which tells you where you are ranked relative to other students. This will be the same position as a ranking based on your TEA, but the TEA is not able to convey this information directly to you. If you have an ATAR of 70.00, for example, it indicates that you have achieved as well as or better than 70% of the Year 12 school leaver age population.

For more information visit www.tisc.edu.au

UNIVERSITY ENTRY

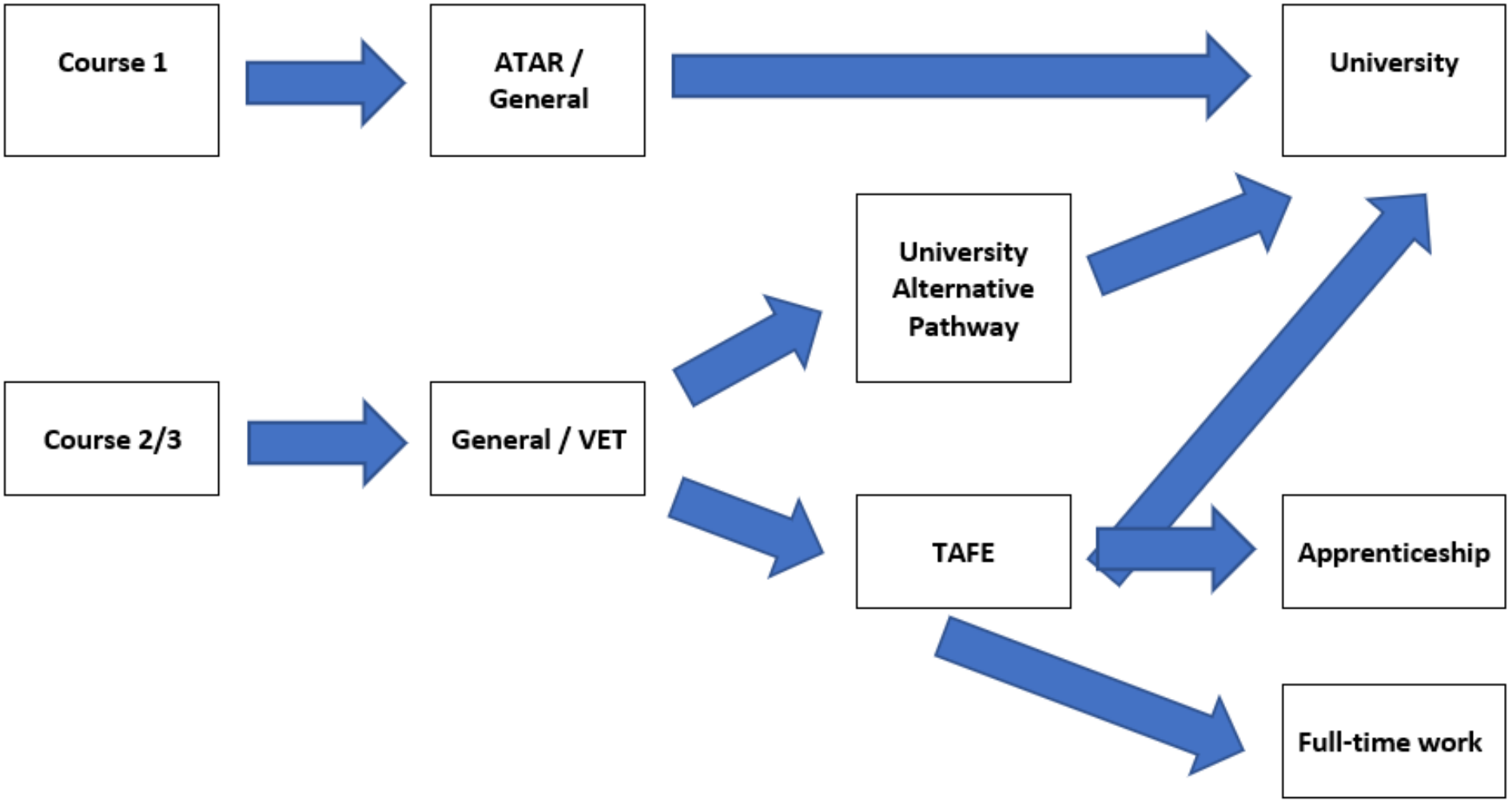
Students wishing to enter university must meet the following requirements:

- Obtain Western Australian Certificate of Education
- Obtain an ATAR score (best 4 ATAR subjects) high enough for entry
- Obtain a scaled score of 50% for ATAR English
- Met any prerequisites set by the university

* Please note that some universities/courses have slightly different entry requirements, and you should consult with the university for the most up-to-date information.

CAREER PATHWAYS

The pathway map below outlines common pathways students take through school and into post high school study or work



COURSES

Learning Area	2023 Year 12
English	English ATAR
	English General
Mathematics	Mathematics Methods ATAR
	Mathematics Applications ATAR
	Mathematics Essential (General)
Science	Biology ATAR
	Chemistry ATAR
	Human Biology ATAR
	Physics ATAR
	Integrated Science General
Humanities and Social Science	Business Management ATAR
	Modern History ATAR
	Business Management General
Health & Physical Education	Physical Education Studies ATAR
	Outdoor Education ATAR
	Outdoor Education General
	Elite Sports Performance Endorsed
Arts	Visual Art ATAR
	Visual Arts Endorsed
	Dance General
	Drama ATAR
	Drama General
	Design (Photography) General
	Music General
Technology	Computer Science ATAR
	Computer Science Endorsed
	Material Design Technology (Woodwork) General
	Hospitality Cert II/Cert III

* Courses running in 2023 are subject to sufficient student numbers

SUBJECT PREREQUISITES

Year 12 ATAR subjects have prerequisites. Students who obtain above 55% in the corresponding Year 11 ATAR subject will have automatically meet the prerequisite. Students who's scores are below this will need to seek approval from the Learning Area Coordinator for entry or have an average score above 55% by the end of the year.

The table below will need to be completed for anyone wishing to complete Year 12 ATAR subjects

Subject	Automatic Prerequisite	Year 11 Semester 1 percentage	Learning Area Coordinator Recommendation
Computer Science ATAR	Year 11 ATAR 55%		
Business Management ATAR	Year 11 ATAR 55%		
Biology ATAR	Year 11 ATAR 55%		
Chemistry ATAR	Year 11 ATAR 55%		
Drama ATAR	Year 11 ATAR 55%		
English ATAR	Year 11 ATAR 55%		
Human Biology ATAR	Year 11 ATAR 55%		
Mathematics Applications ATAR	Year 11 ATAR 55%		
Mathematics Methods ATAR	Year 11 ATAR 55%		
Modern History ATAR	Year 11 ATAR 55%		
Outdoor Education ATAR	Year 11 ATAR 55%		
Physical Education Studies ATAR	Year 11 ATAR 55%		
Physics ATAR	Year 11 ATAR 55%		
Visual Arts ATAR	Year 11 ATAR 55%		

SUBJECT SELECTION GRID

Line 1	Chemistry ATAR	Integrated Science General	Modern History ATAR	Phys Ed Studies ATAR	Dance General	Computer Science ATAR		
Line 2	English ATAR	English General						
Line 3	Maths Methods ATAR	Maths Applications ATAR	Maths Essential General	Design Photography General**				
Line 4	Business Management ATAR	Elite Sports Performance Endorsed	Drama ATAR	Drama General	Material Design Tech (Woodwork) General			
Line 5	Human Biology ATAR	Business Management General	Outdoor Education ATAR	Outdoor Education General	Visual Art Endorsed			
Line 6	Physics ATAR	Biology ATAR	Outdoor Education General	Elite Sports Performance Endorsed	Visual Art ATAR	Music General	Hospitality VET Cert II	

** Students taking Design must ensure they have met the requirements for List A and List B subjects.

SUBJECT INFORMATION

BIOLOGICAL SCIENCES ATAR

Through Biology we investigate and answer questions about the living world. Biology contributes to our understanding of the world from genes and DNA to the theory of evolution. Biological knowledge is continually refined in the light of new evidence. Research in biology impacts on diverse industries such as: biotechnology, forestry, fishing, agriculture, mining, and eco-tourism.

YEAR 12 ATAR
UNIT 3 – CONTINUITY OF SPECIES
In this unit, students investigate mechanisms of heredity and the ways in which inheritance patterns can be explained, modelled and predicted; they connect these patterns to population dynamics and apply the theory of evolution by natural selection in order to examine changes in populations.

UNIT 4 – SURVIVING IN A CHANGING ENVIRONMENT
In this unit, students investigate system change and continuity in response to changing external conditions and pathogens; they investigate homeostasis and the transmission and impact of infectious disease; and they consider the factors that encourage or reduce the spread of infectious disease at the population level.

BUSINESS MANAGEMENT AND ENTERPRISE ATAR & GENERAL

The Business Management and Enterprise course gives students the opportunity to understand how vital business is and how it impacts on every aspect of our lives. Business has a complex and dynamic organisational structure which requires a combination of skills, aptitude, creativity, initiative and enterprise to operate effectively. In a constantly changing world, individuals, businesses and nations must adapt their position in an increasingly global economy and generate the wealth to sustain economic growth. To do this, business requires people with strategic vision who are enterprising, innovative and creative. This course focuses on the development of these skills within the business cycle of establishment, day-to-day running and continuing viability. Exposure to a wide range of business activities, management strategies and an insight into the potential of entrepreneurship empowers students and helps them to appreciate the significance of their role as both participants and consumers in the business world**.**

YEAR 12 GENERAL
UNIT 3
The focus of this unit is on success in business at a national level. It explores what it takes to be successful beyond the initial start-up stage. Students investigate the features of successful marketing campaigns and report on how businesses succeed and prosper through methods, such as expansion in products, market share or diversification. The unit explores how the marketing plan contributes to the overall business plan.

UNIT 4
The focus of this unit is on business growth and the challenges faced by businesses expanding at a national level. The unit explores issues in the business environment, including the importance of intellectual property in protecting business ideas. The unit addresses the significance of employee motivation and the development of a business plan in the overall success of expansion.

YEAR 12 ATAR
UNIT 3
The focus of this unit is on strategic international business growth. The unit explores the need for global expansion and change management. It also addresses the opportunities provided by the global environment and the factors that drive international business development.

UNIT 4
The focus of this unit is on global business operations. The unit explores how businesses operate strategically and examines the features and traits of successful management. It addresses the significance of strategic planning and the concept of competitive advantage.

CHEMISTRY ATAR

Chemistry, the study of matter and its interactions, is an indispensable human activity that has contributed essential knowledge and understanding of the world around us. Chemical knowledge has enabled us to understand matter and devise processes for activities such as: cooking and preserving food; purifying air and water; recycling plastics; anaesthetising patients; creating and building computers; and communicating with others around the world about chemistry. It has also allowed people to design and produce materials for purposes that include: transport and fuels; cosmetic and beauty products; building products; medical treatments and pharmaceuticals; and cleaning agents. The significant achievements of chemistry stretch across every facet of our lives. However, some may come at a price if they are not used with the greatest of care. Chemical monitoring tells us that some materials, that may pose a threat to ourselves and other life forms, have entered the environment. Ongoing developments and improved understanding of chemistry can also be used to solve these problems.

YEAR 12 ATAR
UNIT 3 – EQUILIBRIUM, ACIDS AND BASES, AND REDOX REACTIONS
In this unit, students investigate the concept of reversibility of reactions and the dynamic nature of equilibrium in chemical systems; contemporary models of acid-base behaviour that explain their properties and uses; and the principles of oxidation and reduction reactions, including the generation of electricity from electrochemical cells.

UNIT 4 – ORGANIC CHEMISTRY AND CHEMICAL SYNTHESIS
In this unit, students develop their understanding of the relationship between the structure, properties and chemical reactions of different organic functional groups. Students also investigate the process of chemical synthesis to form useful substances and products and the need to consider a range of factors in the design of these processes.

COMPUTER SCIENCE ATAR & ENDORSED PROGRAM

YEAR 12 ATAR

Students learn about the design concepts and tools used to develop relational database systems. They consider the complex interactions between users, developers, the law, ethics and society when computer systems are used and developed. Students gain the knowledge and skills to create software. They use algorithms and structured programming to design and implement software solutions for a range of problems using the software development cycle (SDC). Students examine attitudes and values that lead to the creation and use of computer-based systems and their effect on society. They consider networks, communication systems, including security and protocols.

YEAR 12 ENDORSED PROGRAM

The Computer Science Endorsed Program focuses on the fundamental principles, concepts and skills within the field, and provides students with opportunities to develop flexibility and adaptability in the application of these in the roles of developers and users. The underpinning knowledge and skills in computer science are practically applied to the development of computer systems and software, while the connectivity between computers, peripheral devices and software used in the home, workplace and in education are examined. Students develop problem-solving abilities and technical skills as they learn how to diagnose and solve problems in the course of understanding the building blocks of computing.

DANCE GENERAL

UNIT 3 POPULAR CULTURE

Within the broad focus of popular culture, teachers select learning contexts that relate to the interests of their students and build upon the understandings that they have already acquired.

Through practical lessons, students use safe dance practices and improved physical competencies to acquire genre-specific technique. Performance qualities and etiquette are improved through increased opportunities for performance of popular styles. Students solve choreographic tasks to produce dance works incorporating dance element, choreographic processes, technologies and design concepts that reflect current popular trends.

The exploration of dance in popular culture leads to a wider understanding of the diverse contexts and functions of dance in our society.

UNIT 4 AUSTRALIAN DANCE

Within the broad focus of Australian dance, teachers select learning contexts that relate to the interests of their students and build upon the understandings that they have already acquired.

Through practical lessons, students incorporate safe dance practices and demonstrate consistent improvement in physical competencies in acquiring genre-specific technique. Opportunities to perform in increasingly formal environments enhance the ability to develop individual stage presence.

An understanding of the diverse range of functions and contexts of dance in Australia enables students to make relevant comparisons between their own dance and the dance of others. They analyse their own cultural beliefs and values in relation to traditional and contemporary dance forms and styles, and develop deeper understandings of their own dance heritage.

DESIGN (PHOTOGRAPHY) GENERAL

'Design is the human power to conceive, plan, and realise products that serve human beings in the accomplishment of any individual or collective purpose.' (Richard Buchanan, Carnegie Mellon University)

Design has its own set of theories and practices and incorporates a wide range of principles, methods and techniques drawn from a variety of different disciplines such as psychology, communication studies, digital design, technical graphics, art, engineering, architecture, sociology, cultural studies, marketing and economics. The disciplined application of these elements forms a design process that guides the development of creative and functionally effective solutions to identified possibilities or problems.

YEAR 12 GENERAL
UNIT 3
The focus of this unit is product design. Students learn that the commercial world is comprised of companies, requiring consumer products, services and brands for a particular audience. They are introduced to the concept of intellectual property. Using the design process, they create products/services, visuals and/or layouts with an awareness of codes and conventions. They use relevant and appropriate production skills and processes, materials and technologies relevant to the design.

- Photography: magazine design; fashion label design; fashion photography; design of a billboard; product advert; still life photography; advertising photography; product advertisements; product catalogue; landscape photography; food photography/styling

UNIT 4
The focus of this unit is cultural design. Students learn that society is made up of different groups of people who share diverse values, attitudes, beliefs, behaviours and needs, and that different forms of visual communication transmit these values and beliefs. Students are encouraged to create designs that link to a culture or sub-culture and are introduced to ethical issues concerning representation. Students develop a design process with an understanding of codes and conventions. They consider communication strategies and audience. They define and establish contemporary production skills and processes, materials and technologies.

DRAMA ATAR & GENERAL

YEAR 12 GENERAL
The focus for this unit is **representational, realist drama**. Students explore techniques of characterisation through different approaches to group based text interpretation, particularly those based on the work of Stanislavski and others. In this unit, students have the opportunity to research and collaboratively workshop, interpret, perform and produce texts in forms and styles related to representational, realistic drama that educate and present perspectives. The focus of this unit is **presentational, non-realist drama**. Students explore techniques of role and/or character through different approaches to group based text interpretation, particularly those based on the work of Brecht and others. In this unit, students have the opportunity to research and collaboratively workshop, interpret and perform drama texts related to presentational, non-realistic drama that challenge and question perspectives.

YEAR 12 ATAR
The focus for this unit is to reinterpret dramatic text, context, forms and styles for contemporary audiences through applying theoretical and practitioner approaches. This includes physical theatre approaches, such as Jacques Lecoq, Anne Bogart and Tadashi Suzuki and text-based approaches, such as Theatre of the Absurd, Asian theatre and Poor Theatre. In this unit, students work on the reinterpretation of text, subtext, context, form and style through in-depth study. The focus for this unit is interpreting, manipulating and synthesising a range of practical and theoretical approaches to contemporary and devised drama. This includes contemporary theatre approaches, such as Barrie Kosky and Robert Lepage and experimental approaches, such as Robert Wilson and VE Meyerhold. In this unit, students show their understanding of how a range of practical and theoretical approaches manipulate the elements of drama to devise and perform original work.

ELITE SPORTS PERFORMANCE ENDORSED PROGRAM

Elite Sports Performance is an Authority-developed endorsed program that enables a student engaged in representative or competitive elite sports activities to be recognised for the significant learning encompassed within such activities. The program requires that a student commits a minimum of 110 hours to the development of technical skills and knowledge of a specific sport through sports development programs such as those provided by the WA Institute of Sport, sporting associations' sports programs and state or national development squads. Typically, a student would have been through a selection process and identified as gifted or talented in a particular sport. The program must involve one or a series of sports performances or competitions at a high level. The program will also develop personal qualities such as commitment and discipline while building on a range of interpersonal skills.

ENGLISH ATAR & GENERAL

Language plays a central role in human life: it provides a vehicle for communication, a tool for thinking, a means of creativity and a source of pleasure. Through language people shape understandings of themselves and their world. An understanding of language and the ability to use it effectively empowers students. It gives them access to knowledge, enables them to play an active part in society and contributes to their personal growth.

YEAR 12 GENERAL
UNIT 3
Unit 3 focuses on exploring different viewpoints presented in a range of texts and contexts. Students:

- explore attitudes, text structures and language features to understand a text's meaning and purpose
- examine relationships between context, purpose and audience in different language modes and types of texts, and their impact on meaning
- consider how perspectives and values are presented in texts to influence specific audiences
- develop and justify their own interpretations when responding to texts
- learn how to communicate logically, persuasively and imaginatively in different contexts, for different purposes, using a variety of types of texts.

UNIT 4
Unit 4 focuses on community, local or global issues and ideas presented in texts and on developing students' reasoned responses to them. Students:

- explore how ideas, attitudes and values are presented by synthesising information from a range of sources to develop independent perspectives
- analyse the ways in which authors influence and position audiences
- investigate differing perspectives and develop reasoned responses to these in a range of text forms for a variety of audiences
- construct and clearly express coherent, logical and sustained arguments and demonstrate an understanding of purpose, audience and context
- consider intended purpose and audience response when creating their own persuasive, analytical, imaginative, and interpretive texts.

YEAR 12 ATAR
UNIT 3
Students explore representations of themes, issues, ideas and concepts through a comparison of texts. They analyse and compare the relationships between language, genre and contexts, comparing texts within and/or across different genres and modes. Students recognise and analyse the conventions of genre in texts and consider how those conventions may assist interpretation. Students compare and evaluate the effect of different media, forms and modes on the structure of texts and how audiences respond to them. Understanding of these concepts is demonstrated through the creation of imaginative, interpretive, persuasive and analytical responses.

UNIT 4
Students examine different interpretations and perspectives to develop further their knowledge and analysis of purpose and style. They challenge perspectives, values and attitudes in texts, developing and testing their own interpretations through debate and argument. Through close study of texts, students explore relationships between content and structure, voice and perspectives and the text and context. This provides the opportunity for students to extend their experience of language and of texts and explore their ideas through their own reading and viewing. Students demonstrate understanding of the texts studied through creation of imaginative, interpretive, persuasive and analytical responses.

HUMAN BIOLOGY ATAR

Human biology covers a wide range of ideas relating to the functioning human. Students learn about themselves, relating structure to function and how integrated regulation allows individuals to survive in a changing environment. They research new discoveries that are increasing our understanding of the causes of dysfunction, which can lead to new treatments and preventative measures. Reproduction is studied to understand the sources of variation that make each of us unique individuals. Through a combination of classical genetics, and advances in molecular genetics, dynamic new biotechnological processes have resulted. Population genetics is studied to highlight the longer term changes leading to natural selection and evolution of our species.

YEAR 12 ATAR
UNIT 3

The complex interactions between body systems in response to changes in the internal and external environments facilitate the maintenance of optimal conditions for the functioning of cells. Feedback systems involving the autonomic nervous system, the endocrine system and behavioural mechanisms maintain the internal environment for body temperature, body fluid composition, blood sugar and gas concentrations within tolerance limits. The structure and function of the endocrine system, including the glands, hormones, target organs and modes of action, can demonstrate the many interactions that enable the maintenance of optimal cellular conditions. The structure and function of the autonomic nervous system, and its relationship with other parts of the nervous system, can be linked to the roles each play in maintaining homeostasis of internal environmental conditions. Comparing and contrasting the endocrine and nervous systems can highlight the roles of each in homeostasis. Humans can intervene to treat homeostatic dysfunction and influence the quality of life for individuals and families.

UNIT 4
This unit explores the variations in humans in their changing environment and evolutionary trends in hominids Humans can show multiple variations in characteristics due to the effect of polygenes or gene expression. The changing environment can influence the survival of genetic variation through the survival of individuals with favourable traits. Gene pools are affected by evolutionary mechanisms, including natural selection, migration and chance occurrences. Population gene pools vary due to interaction of reproductive and genetic processes and the environment. Over time, this leads to evolutionary changes. Gene flow between populations can be stopped or reduced by barriers. Separated gene pools can undergo changes in allele frequency, due to natural selection and chance occurrences, resulting in speciation and evolution. Evidence for these changes comes from fossils and comparative anatomy and biochemical studies.

HOSPITALITY

The VET industry specific Hospitality course provides students with the opportunity to achieve national vocational qualifications under the Australian Qualifications Framework (AQF) and to gain Council developed course unit credit towards the Western Australian Certificate of Education (WACE).

The course is based on nationally endorsed training packages. It specifies the range of industry developed units of competency from the relevant training packages that are suitable for the WACE. To meet the course requirements and achieve course units towards a WACE, students must follow the course structure, attain required units of competency and fulfil work placement requirements.

INTEGRATED SCIENCE GENERAL

Science is a dynamic, collaborative human activity that uses distinctive ways of valuing, thinking and working to understand natural phenomena. Science is based on people's aspirations and motivations to follow their curiosity and wonder about the physical, biological and technological world. Scientific knowledge represents the constructions made by people endeavouring to explain their observations of the world around them. Scientific explanations are built in different ways as people pursue intuitive and imaginative ideas, respond in a rational way to hunches, guesses and chance events, challenge attitudes of the time, and generate a range of solutions to problems, building on existing scientific knowledge. As a result of these endeavours, people can use their scientific understandings with confidence in their daily lives. Scientific explanations are open to scrutiny; scientific knowledge may be tentative and is continually refined in the light of new evidence.

YEAR 12 GENERAL
UNIT 3
Water provides the Earth with the capacity of supporting life. Two-thirds of the Earth's surface is covered with water, which provides habitats for aquatic organisms, as well as valuable resources to support human activities. There is a wide variety of aquatic ecosystems ranging from salt water in the open ocean, coastal, estuarine ecosystems to fresh water ecosystems in surface catchments and ground water aquifers. Aquatic ecosystems are important to the Australian environment, society and economy. Increasing human populations are placing demands for resources and development that pose threats to our aquatic ecosystems. Research on the ecology of habitats is an important scientific area that allows scientists to monitor changes in ecosystems and implement best management practice.

UNIT 4
Students live in a modern society that is characterised by its reliance upon technology and high demands for energy. As a consequence, we are faced with a number of significant and global challenges: the enhanced greenhouse effect, climate change, resource availability and need to consider the efficient use of energy, and the development of alternative energy resources. Studies based on this crucial area will enable students to develop an awareness of the finite nature of non-renewable energy resources, and a concern for the implications for individuals and their communities. Students develop an appreciation of the consequences of harnessing, distributing and utilising energy, which will enable them to be informed citizens and develop personal, defensible positions with respect to these issues.

MATHEMATICS ATAR, GENERAL

There are strong, enduring reasons for the prominence of mathematics in the school curriculum. According to one leading mathematics educator these reasons are:

'to teach basic skills; to help children learn to think logically; to prepare students for productive life and work; and to develop quantitatively literate citizens.' – Lynn Arthur Steen

Others have commented on the true artistic nature of mathematics:
'Mathematics, rightly viewed, possesses not only truth, but supreme beauty… [it is] sublimely pure, and capable of a stern perfection such as only the greatest art can show.' – Bertrand Russell.

MATHEMATICS ESSENTIAL YEAR 12 GENERAL
UNIT 3
This unit includes the following four topics:
- Measurement
- Scales, plans and models
- Graphs in practical situations
- Data collection

UNIT 4
This unit includes the following three topics:
- Probability and relative frequencies
- Earth geometry and time zones
- Loans and compound interest

MATHEMATICS APPLICATIONS YEAR 12 ATAR
UNIT 3
Contains the three topics:
- Bivariate data analysis
- Growth and decay in sequences
- Graphs and networks

'Bivariate data analysis' introduces students to some methods for identifying, analysing and describing associations between pairs of variables, including using the least-squares method as a tool for modelling and analysing linear associations. The content is to be taught within the framework of the statistical investigation process.

'Growth and decay in sequences' employs recursion to generate sequences that can be used to model and investigate patterns of growth and decay in discrete situations. These sequences find application in a wide range of practical situations, including modelling the growth of a compound interest investment, the growth of a bacterial population, or the decrease in the value of a car over time. 'Graphs and networks' introduces students to the language of graphs and the way in which graphs, represented as a collection of points and interconnecting lines, can be used to analyse everyday situations, such as a rail or social network.

UNIT 4
Contains the three topics:
- Time series analysis
- Loans, investments and annuities
- Networks and decision mathematics.

'Time series analysis' continues students' study of statistics by introducing them to the concepts and techniques of time series analysis. The content is to be taught within the framework of the statistical investigation process. 'Loans, investments and annuities' aims to provide students with sufficient knowledge of financial mathematics to solve practical problems associated with taking out or refinancing a mortgage and making investments.

MATHEMATICS METHODS YEAR 12 ATAR
UNIT 3
Contains the three topics:

- Further differentiation and applications
- Integrals
- Discrete random variables.

The study of calculus continues by introducing the derivatives of exponential and trigonometric functions and their applications, as well as some basic differentiation techniques and the concept of a second derivative, its meaning and applications. The aim is to demonstrate to students the beauty and power of calculus and the breadth of its applications. The unit includes integration, both as a process that reverses differentiation and as a way of calculating areas. The fundamental theorem of calculus as a link between differentiation and integration is emphasised. Discrete random variables are introduced, together with their uses in modelling random processes involving chance and variation. The purpose here is to develop a framework for statistical inference.

UNIT 4
Contains the three topics:

- The logarithmic function
- Continuous random variables and the normal distribution
- Interval estimates for proportions.

The logarithmic function and its derivative are studied. Continuous random variables are introduced and their applications examined. Probabilities associated with continuous distributions are calculated using definite integrals. In this unit, students are introduced to one of the most important parts of statistics, namely, statistical inference, where the goal is to estimate an unknown parameter associated with a population using a sample of that population. In this unit, inference is restricted to estimating proportions in two-outcome populations. Students will already be familiar with many examples of these types of populations.

MODERN HISTORY ATAR

History is the study and practice of making meaning of the past with a view to understanding the present. It engages us with the ideas, beliefs and values that shape and influence our lives. At the same time it helps us clarify our own beliefs and values compared to those of others. Studying Modern History provides enjoyment and the knowledge gained reveals the background and some of the driving forces behind present local and global issues. Investigating the past helps students to understand why and how groups and/or societies changed or resisted changes.

YEAR 12 ATAR
UNIT 3 – MODERN NATIONS IN THE 20TH CENTURY
This unit examines the ‘nation’ as the principal form of political organisation in the modern world; the crises that confronted nations in the 20th century; their responses to these crises, and the different paths they have taken to fulfil their goals.

UNIT 4 – THE MODERN WORLD SINCE 1945
This unit focuses on the distinctive features of the modern world that emerged in the period 1945–2001. It aims to build students’ understanding of the contemporary world – that is, why we are here at this point in time.

MUSIC GENERAL

The Music General course encourages students to explore a range of musical experiences, developing their musical skills and understanding, and creative and expressive potential, through a selected musical context. The course consists of a written component incorporating Aural and Theory, Composing and arranging, Investigation and analysis, in addition to a practical component. The Aural and Theory content in the written component is generic, and can be adapted and extended to suit any selected context. The practical component consists of three different options and can be delivered in a different context, independent of the written component. Students select only one option, and can choose to perform on an instrument or voice, submit a composition portfolio, or complete a production/practical project. The Music General course provides opportunities for creative expression, the development of aesthetic appreciation, and understanding and respect for music and music practices across different times, places, cultures and contexts. Students listen, compose, perform and analyse music, developing skills to confidently engage with a diverse array of musical experiences both independently and collaboratively. Studying music may also provide a pathway for further training and employment in a range of professions within the music industry.

OUTDOOR EDUCATION ATAR & GENERAL

Through interaction with the natural world, the Outdoor Education ATAR course aims to develop an understanding of our relationships with the environment, others and ourselves. The ultimate goal of the course is to contribute towards a sustainable world.

The Outdoor Education ATAR course is based on the experiential learning cycle. This cycle is made up of three stages; plan, do and review. Students plan for outdoor experiences, participate in these experiences and reflect on their involvement.

The course lends itself to an integrated approach between practical experiences, the environment and conceptual understandings. Students develop self-awareness by engaging in a range of challenging outdoor activities. They enhance personal and group skills and build confidence, empathy and self-understanding. Working with others enables students to better understand group dynamics, and enhance their leadership qualities and decision-making abilities, while showing respect for self, others and the environment.

YEAR 12 ATAR
UNIT 3

The focus for this unit is outdoor program development. This provides the opportunity for students to address planning considerations, including risk assessment and management, emergency response and logistical planning in the outdoors. In this unit, students plan and then participate in an extended expedition. Students use theories and models to determine how these programs impact on personal and group development and understand leadership strategies to add value to outdoor experiences. They continue to develop a deeper understanding of the environment and its current state, examine how human relationships with the environment have changed over time, and develop strategies to encourage positive relationships with nature in others.

UNIT 4

The focus for this unit is developing and facilitating outdoor experiences. Students draw from their previous experiences and knowledge to synthesise a range of ideas, skills, technologies and processes to develop, manage, instruct and facilitate experiences in the outdoors. They explore applications of outdoor experiences that address issues and requirements of specific groups. Students continue to develop and apply theoretical understandings in facilitating experiential learning, and use instructional strategies to assist others to develop a positive relationship with nature. They understand the concepts related to outdoor leadership and provide meaningful experiences for people to explore values related to self, others and the environment.

YEAR 12 GENERAL
Students understand planning and organisational requirements necessary for them to participate in safe, short-duration excursions/expeditions. Students participate in outdoor adventure activities where they develop and improve their technical skills, apply appropriate practices to ensure safe participation, and begin to develop survival skills. Students develop personal skills related to flexibility in coping and adapting to change and in monitoring such things as the elements in an environment, or the participation of individuals in activities and expeditions. Features and relationships in natural environments are examined. Weather components, patterns and forecasting are introduced. Students develop a greater understanding of human interactions with nature, past and present. Sustainability is introduced and local issues are examined.

PHYSICAL EDUCATION STUDIES ATAR

Physical Education Studies contributes to the development of the whole person. It promotes the physical, social and emotional growth of students. Throughout the course emphasis is placed on understanding and improving performance in physical activities. The integration of theory and practice is central to studies in this course.

YEAR 12 ATAR
UNIT 3
The focus of this unit is to provide opportunities for students to build upon their acquired physical skills and biomechanical, physiological and psychological understandings to improve the performance of themselves and others in physical activity.

UNIT 4
The focus of this unit is to extend the understanding by students of complex biomechanical, psychological and physiological concepts to evaluate their own and others' performance.

PHYSICS ATAR

Physics is an experimental discipline involving the study of the properties of, and interrelationships between energy and matter. Physics helps us to construct models and explain physical phenomena. These, in turn, allow us to develop a deeper understanding of the world around us.

YEAR 12 ATAR
UNIT 3 – GRAVITY AND ELECTROMAGNETISM
Students investigate models of motion in gravitational, electric and magnetic fields to explain how forces act at a distance.

UNIT 4 – REVOLUTIONS IN MODERN PHYSICS
Students use the theory of electromagnetism to explain the production and propagation of electromagnetic waves and investigate how shortcomings in existing theories led to the development of the quantum theory of light and matter, the Special Theory of Relativity, and the Standard Model of particle physics.

MATERIAL DESIGN TECHNOLOGY (WOODWORK) GENERAL

YEAR 12 GENERAL

Unit 3
Students develop an understanding of the elements and fundamentals of design and consider human factors involved in the design, production and use of their projects. They develop creative thinking strategies and work on design projects within specified constraints. Students learn about the classification and properties of a variety of materials and make appropriate materials selection for design needs.

Students learn about manufacturing and production skills and techniques. They develop the skills and techniques appropriate to the materials being used and gain practice in planning and managing processes through the production of design project. They learn about risk management and ongoing evaluation processes.

Unit 4
Students learn about the nature of designing for a client, target audience or market. Students apply an understanding of the elements and fundamentals of design and consider human factors involved in their design projects. Students learn about the nature, properties and environmental impacts related to a variety of materials and production techniques. They develop creative thinking strategies, work on design projects within specified constraints and consider the environmental impacts of recycling of materials.

Students extend their understanding of safe working practices and contemporary manufacturing techniques and develop the knowledge, understanding and skills required to manage the processes of designing and manufacturing.

VISUAL ART ATAR

Art is a fundamental dimension of human life. Throughout history the visual arts have given form and meaning to ideas and feelings and provided ways for people to express and communicate experience. The Visual Arts course encompasses the practice and theory of the broad areas of art, craft and design. Students have opportunities to express their imagination and develop personal imagery, develop skills, and engage in the making and presentation of artworks. They develop aesthetic understandings and a critical awareness that assists them to appreciate and make informed evaluations of art.

YEAR 12 ATAR
UNIT 3 – COMMENTARIES
The focus for this unit is commentaries. In this unit, students engage with the social and cultural purposes of art making to produce a unique and cohesive body of work. Broad and innovative inquiry includes the conceptualisation and documentation of experiences within contemporary society. Students transform ideas and develop concepts using innovative approaches to art making and presentation. They document their thinking and working practices, having the flexibility to work across media and art forms.

Students research artwork providing critical comment on the meaning, purpose and values communicated. They examine their own beliefs and consider how the visual arts have reflected and shaped society in different times and places.

UNIT 4 – POINTS OF VIEW
The focus for this unit is points of view. Students identify and explore concepts or issues of personal significance in the presentation of a sustained, articulate and authentic body of work. They engage in sustained inquiry, exploring ideas and developing concepts to communicate a personal point of view.

Students investigate a range of solutions using visual language and document the progressive resolution of thinking and working practices. Skills, techniques and processes are combined in the pursuit of new art forms, innovation and personal style.

VISUAL ARTS Endorsed

Students develop artworks based on their lives and personal experiences, observations of the immediate environment, events and/or special occasions. They participate in selected art experiences aimed at developing a sense of observation.

Students acquire various skills using processes of experimentation and discovery. Imaginative picture making is primarily concerned with experiences of the self and of the immediate environment, including aspects of family life, social activities, communal occasions and other shared activities. Ample scope for free, imaginative interpretation and experimentation with materials is provided.

Students explore ways to generate and develop ideas using a variety of stimulus materials and explorations from their local environment. They use a variety of inquiry approaches, techniques and processes when creating original artworks.

When exploring ideas and approaches to art-making, students investigate the work of other artists. They learn to identify stylistic features of art forms from different times and places and explore ways to manipulate art elements and principles to generate, develop and produce their own artwork.

WORKPLACE LEARNING

All students undertaking an General pathway will be offered the opportunity for Workplace Learning during 3 block placements during the year. Only students who have demonstrated (via results on their reports) the ability to successfully manage their academic studies and workplace learning will be permitted to attend 1 day a week workplace learning.

OFF-CAMPUS VOCATIONAL EDUCATION & TRAINING

See separate VET Delivered to Secondary Schools booklet.

Disclaimer

The course information and Vocational Education and Training course codes and units of competency are correct at the time of printing. Course units and codes are subject to change and will be updated in periodic versions of this booklet.